New Mexico MSSA & ASR 2022 Technical Report

Grades 3–8 ELA and Mathematics

Grades 5, 8, and 11 Science

**Prepared by Cognia and the New Mexico
Public Education Department**

NM-MSSA

NM-ASR **NEW MEXICO ASSESSMENT
OF SCIENCE READINESS**

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Chapter 1. Introduction to the Assessment Programs

1.1 Purposes and Uses of the NM-MSSA and NM-ASR Assessment Programs

The New Mexico Measures of Student Success and Achievement (NM-MSSA—see Appendix A for a list of acronyms) is New Mexico's statewide summative assessment for English Language Arts (ELA) and Mathematics, administered at the end of grades 3–8. The NM-MSSA also includes the statewide summative assessments administered in Spanish for qualifying students, i.e., Spanish Language Arts (SLA) and Mathematics. The NM-MSSA is designed to provide evidence to determine a student's grade-level proficiency and progress toward college and/or career readiness, as defined by the State, by showing he or she has mastered the New Mexico Common Core State Standards. Similarly, the New Mexico Assessment of Science Readiness (NM-ASR—see Appendix A for a list of acronyms) is New Mexico's statewide summative assessment for science in grades 5, 8, and 11. The NM-ASR is designed to provide evidence to determine a student's grade-level proficiency and progress toward college and/or career readiness, as defined by the State, by showing he or she has mastered the New Mexico STEM Ready! Science Standards. Like NM-MSSA, the NM-ASR assessments have both English and Spanish forms. Both the NM-MSSA and NM-ASR are key components of New Mexico's ESSA (Every Student Succeeds Act) plan to meet ESSA's general assessment requirements.

As the NM-MSSA and NM-ASR is a single measure at the end of a grade, interpretations and uses of test scores should be supplemented with additional measures, including information from classroom summative, interim, and formative assessments in ELA and mathematics and science. In keeping with the practices set forth in *Standards for Educational and Psychological Testing*, each student's test score should be used as part of a body of evidence regarding mastery and should not be used in isolation to make high-stakes decisions (AERA, APA, & NCME, 2014). Hence, aggregation of student scores on the NM-MSSA and NM-ASR at the school, district, or state levels is generally a more reliable indicator of program success, particularly when monitored over the course of several years.

The New Mexico MSSA and ASR Assessments were administered statewide in an operational setting for the first time in spring 2022. As a result, standards could be set after administering the first operational test. Due to COVID-19, the standard setting could not happen earlier. The Standard Setting workshops were held in July 2022. As a result, we now have set performance standards and cut scores for MSSA and ASR. These cut scores determine the level of performance on each test that corresponds to the knowledge, skills, and abilities (KSAs) that students must demonstrate to be classified into each of the performance levels: Advanced, Proficient, Nearing Proficiency, and Novice.

The NM-MSSA and NM-ASR Assessments are part of New Mexico's Balanced Assessment System, designed to provide point-in-time information about the academic achievement and progress of New Mexico students. Student results are reported according to academic achievement descriptors utilizing scale scores for each of four performance levels: Advanced, Proficient, Nearing Proficiency, and Novice. The results from these assessments provide educators and the public with information to guide the creation of future educational practices to meet the needs of students, while monitoring the continuous improvement efforts of schools, districts, and the state in achieving a world-class education system for all students.

The NM-MSSA English Language Arts (ELA) and Spanish Language Arts (SLA) assessments focused on reading skills related to the comprehension and analysis of texts, the analysis of pieces of writing and knowledge of standard language conventions, and the production of writing while using standard language conventions. Mathematics assessments focused on applying skills and concepts and understanding multi-step problems that require abstract reasoning and modeling real-word problems, precision, perseverance, and strategic use of tools. In both content areas, students were to demonstrate their acquired skills and knowledge by answering various types of questions such as selected-response items, multiple-select items, evidence-based selected-response items, and open-response items. Given that the number of students per grade who took an SLA assessment was at most 35, a mode study comparing ELA to SLA assessments was not feasible. Additionally, a mode study comparing CBT to PBT was not feasible given the small number of PBTs (i.e., fewer than 15 per content area in grades 5, 7, and 8; fewer than 50 per content area in grades 4 and 6; and fewer than 150 per content area in grade 3).

The Assessment of Science Readiness focused on the integration and application of disciplinary core ideas, science and engineering practices, and crosscutting concepts in order to engage in sense-making around scientific phenomena and engineering design problems. Students were to demonstrate their acquired skills and ability by answering various types of questions such as multiple-choice items, multiple-select items, technology-enhanced items, and open-ended items. Many of the items were grouped together in clusters with a common stimulus, to allow for better assessment of the depth of the constructs in the standards.

1.2 Statements of Intended Score Interpretations and Uses (SIUs)

The phrase "intended score interpretations for uses" appears several times in *Standards for Educational and Psychological Testing* and is the core of the field's views on validity and validation. For the NM-MSSA, NM-ASR, and other assessment programs, the phrase refers broadly to test scores (e.g., total test scale scores, aggregations of test scores, the percentages of students at or above Standard), and other test performance information elements, such as the definition of "novice," "nearing proficiency," "proficient," and "advanced" in the performance level descriptors (PLDs). For a complete list of all PLDs for both programs, please see Appendix B.

1.2.1 Primary Intended NM-MSSA and ASR Score Interpretations and Uses

- Educators, administrators, and other stakeholders at the state, district, and school levels can use the NM-MSSA and ASR and their results to (a) monitor trends in student performance, (b) design professional development for teachers, and (c) drive accountability results.
- Teachers can use the NM-MSSA and ASR and their results to better integrate assessment with their instructional planning.
- Parents can use the NM-MSSA and ASR and their results to get information about what their child knows and can do in regard to the New Mexico Common Core State Standards and the New Mexico STEM Ready! Science Standards.

The intended score interpretation and uses stated here align with the original statements of intended score interpretations and uses in the National Center and State Collaborative 2015 Operational Assessment Technical Manual (see the "claim" and "uses" statements on page 8).

The NM-MSSA and ASR Assessments are designed, developed, and implemented to support three intended SIUs, according to the broad interpretation of the phrase above. These interpretations and uses

are applicable to assessments in general and to specific applications with individual students and groups of students, as described below.

SIU 1: Intended Score Interpretation

The NM-MSSA and ASR Assessments provide reliable and valid information about important knowledge and skills in grade-level reading, language usage, mathematics, and science attained by general education students.

- Claim 1.1: The content of the tests represents the content of the standards.
- Claim 1.2: The test items are construct-relevant.
- Claim 1.3: Test scores on the NM-MSSA and ASR Assessments provide reliable information about student performance and accurate classifications into performance levels.
- Claim 1.4: Item and test scoring are implemented accurately; approved scoring rules are implemented accurately.

SIU 2: Intended Score Use for Individual Students

Scale scores can be used to compare an individual student's performance to the performance of other students in the school, district, and state.

- Claim 2.1: Educators and school and district administrators can use results from the NM-MSSA and ASR Assessments to describe and monitor student achievement status with respect to mastery of the content standards.

SIU 3: Intended Score Use for Groups of Students

SIU statements for groups of students are applicable to aggregate reporting of school, district, and state performance and student subgroups (e.g., English learners, students with disabilities, racial/ethnic subgroups) within those levels of aggregation.

- Claim 3.1: Educators can use results from the NM-MSSA and ASR Assessments to support instructional planning for groups of students.
- Claim 3.2: Schools, districts, and state-level stakeholders can use results from the NM-MSSA and ASR Assessments to make comparisons between organizations (e.g., schools, districts).

Claims, subclaims, and evidence that support the intended interpretations and uses of NM-MSSA and ASR scores are provided in Chapter 11.

1.2.2 Unintended Score Interpretations and Uses

Where unintended interpretations and uses may be in use, it is the responsibility of that user to provide supporting evidence (as specified in *Standards for Educational and Psychological Testing*, 2014). The main concern for misinterpreting or misusing NM-MSSA and ASR scores is the potential negative consequences for individual students, subgroups of students, and schools, districts, and the state. If unintended interpretations and uses with potential negative consequences arise, PED will take steps to ameliorate the misinterpretations, misuses, and negative consequences. Some common misinterpretations and misuses that can arise include the following.

Interpreting Test Scores as 100% Accurate Indicators of Test Performance

All measurements in the real world, including test scores, are estimates. Test scores—for example, scale scores and proficiency-level classifications—are estimates accompanied by a standard error. Standard errors are often referred to as the "margin of error" (e.g., in political polling). Interpreting and using NM MSSA and ASR scores correctly requires considering the width of the margin of error around a score. For example, students with a scale score 2 points below the cut score for the Proficient level could, hypothetically, have scored above the Proficient cut score on a different day because the NM MSSA and ASR scale score standard errors are expected to be 2–3 points. Interpretations of NM MSSA and ASR scores should account for the margin of error around each score estimate.

Drawing Conclusions and Making Decisions Based Solely on NM MSSA and ASR Scores

There is wide agreement that conclusions and decisions based on a single piece of evidence can be risky. The risk is that the single piece of evidence can lead to less-than-optimal decisions, such as students failing to receive additional instruction based solely on their NM MSSA and ASR score or teacher teams not being eligible for additional professional development based solely on their students' NM MSSA and ASR scores. Interpretations and uses of NM MSSA and ASR scores should be supplemented with additional information.

Overinterpreting Subdomain Indicators and Item-Level Performance Information

Subdomain indicators (e.g., Literary Text, Operations and Algebraic Thinking, Practices and Crosscutting Concepts in Life Sciences) are based on fewer items than are NM MSSA and ASR total test scores. As a result, they are less-stable estimates of student achievement and learning needs in that subdomain. In addition, because the performance indicators for subdomains are highly correlated, differences in those performance indicators may be smaller than the proficiency level labels may suggest. Interpretations and uses of indicator scores should be supplemented with additional information.

Misinterpreting Current Performance as the Most Likely Predictor for Future Performance

A goal of education is to improve students' current achievement—that is, to bend their performance trajectory upward. We assume that students who currently are performing at the Proficient and Advanced levels will continue at these levels only with sustained effort and support. It would be unwise—and unfair—to assume that students who currently are performing at the Novice and Nearing Proficiency levels will perform at these levels in the future. In fact, our duty as educators is to help these students learn more and achieve higher.

Misinterpretations about students' current proficiency levels and future performance is not really a misinterpretation of NM MSSA and ASR scores. It is a logical error in concluding that current performance determines future performance.

Overinterpreting NM MSSA and ASR Scores as Indicators of College and Career Readiness

The New Mexico content standards are designed to prepare students to be able to benefit from college study and postsecondary training. The claim that performance on NM MSSA and ASR indicates readiness for college and career is supported only by the evidence contained in the content standards. NM MSSA and ASR scores can also be interpreted as predictors of future performance in college and

career training. However, until empirical prediction studies are completed, this interpretation should be made with caution and with attention to the strong, but limited, evidence in the content standards.

Claims, subclaims, and evidence that support the intended interpretations and uses of test scores are provided in Chapter 11. For additional information regarding the score interpretations and uses, refer to the published SIU statements in Appendix B.

1.3 Introduction to Validity Arguments for the Program: Rationales for the Approach

This report documents test development procedures and psychometric outcomes for the 2022 NM-MSSA and NM-ASR. These technical aspects of the 2022 NM-MSSA and NM-ASR programs contribute to the accumulation of validity evidence to support the NM-MSSA and NM-ASR score interpretations and uses. Because the intended interpretations and uses of test scores, not the test itself, are evaluated for validity, this report presents documentation to substantiate intended interpretations and uses (AERA et al., 2014). Subsequent chapters of this report discuss test development, test alignment, test administration, scoring, equating, item analyses, reliability, scale scores, performance levels, and reporting. Each of these topics contributes important information toward establishing the validity of intended score interpretations and uses of the reported scores from these assessment programs. *Standards for Educational and Psychological Testing* (AERA et al., 2014) also gives a framework for describing sources of evidence that should be considered when constructing a validity argument. These sources include evidence based on the following five areas: test content, response processes, internal structure, relationship to other variables, and consequences of testing. These sources address different aspects of supporting evidence for validity arguments; they are not distinct types of validity. Instead, each contributes to a body of evidence about the overall validity and supportability of intended score interpretations and uses. Moreover, these sources represent only a partial list of sources of evidence from the design, development, test administration, analysis, and reporting processes that are relevant to the overall validity arguments for intended interpretations and uses of NM-MSSA and NM-ASR scores and other information. This report does not include certain aspects of an even more comprehensive validity argument that could be important to consider when drawing conclusions about validity of interpretations and uses of NM-MSAA and NM-ASR scores. For example, additional sources of validity evidence might speak to the extent to which NM-MSSA and NM-ASR scores converge with other measures of the same or similar constructs and diverge from measures of different constructs and consequences that arise from scores at the student, school, district, and state levels.

Chapter 2. Overview of the Program

2.1 History of the Programs

This chapter provides a general overview of both NM-MSSA and NM-ASR assessment programs in the state of New Mexico that took place in school year 2021-2022.

2.1.1 NM-MSSA

The creation of the New Mexico Measures of Student Success and Achievement Balanced Assessment System began with the New Mexico Task Force for Student Success. In March 2019, The New Mexico Public Education Department (NM PED) convened 13 statewide community engagements followed by a taskforce made up of key stakeholders to gather public input to reimagine the state assessment system. This task force held a series of in-person and virtual meetings between April 2019 and June 2019 to deliberate over technical, policy, and practical issues associated with implementing an improved assessment system. The resulting recommendations and an overview of the proposed assessment system were published in a report that was shared with the public in October of 2019. That report can be found on the NM PED website: https://webnew.ped.state.nm.us/wp-content/uploads/2019/11/Student_Success_Task_Force_Report_Balanced_Assessment_System_-October_2019.pdf. Working together, the NM PED and Cognia™ have used these recommendations to create the current assessment system.

The NM-MSSA was scheduled to have its first administration in the spring of 2020. Due to the impact of COVID-19, that administration was canceled. This made the Spring 2021 administration the first one for NM-MSSA. With COVID-19 still impacting students' ability to be in school in-person, the NM PED implemented a flexible testing model in the state, allowing districts and schools the opportunity to opt into the spring summative testing administration. As such, student participation rates were much lower in Spring 2021 than in a typical spring administration (see section 2.3 below). The state was able to set standards for NM-MSSA ELA and mathematics, grades 3-8, in July 2022 for the first time after their first operational assessment in spring 2021.

2.1.2 NM-ASR

With the beginning of the four-year contract with the state in September 2018, Cognia (Measured Progress then, before the merger) developed a new summative science test starting with a Stand-Alone Field Test (SAFT) in spring 2019 when the Science Standards Based Assessment (SBA) had its last operational administration as the state was transitioning into the NGSS and NM STEM Ready! Science Standards. The NM-ASR was originally scheduled to have its first operational administration in the spring of 2020. However, the state was able to obtain a waiver from the Department of Education to extend the opportunity to learn and have a Census Field Test (CFT) in spring 2020 instead. The NM-ASR CFT was able to be administered until March 14, 2020, when the PED made the decision to stop all assessment activities due to COVID-19. With COVID-19 still impacting students' ability to be in school in-person for the 2020-2021 school year, the NM PED implemented a flexible testing model in the state, allowing districts and schools the opportunity to opt into the spring summative testing administration. As such, student participation rates were much lower in Spring 2021 than in a typical spring administration. Therefore, the spring 2021 NM-ASR testing administration remained a field test and the standard setting that was scheduled to happen in 2021, after the first extension, got moved to 2022 when the first operational NM-ASR test was administered. Although COVID-19 continued impacting schools across the state, NM PED was able to maintain the policy of requiring all schools to participate in the spring 2022 NM-ASR in grades 5, 8, and 11 and successfully completed its administration. There was a decision to use the same spring 2021 test for spring 2022; in other words, the test items and test forms were the same since very few took the test in 2021. Following the

spring 2022 administration, a standard setting was conducted that established the NM-ASR score scales for grades 5, 8, and 11 with three cut scores for each test that are used for classifying students into the four performance levels.

The administration window for both NM-MSSA and NM-ASR spring 2022 testing administrations was 3/28/2022–5/6/2022.

2.2 Stakeholder Involvement

Cognia and the NM PED work together on all aspects of the implementation of the NM-MSSA and NM-ASR programs. The NM PED also works with several stakeholder groups for input into the implementation of the NM-MSSA and NM-ASR programs.

2.2.1 AAAC

The AAAC is a group of district test coordinators from across the state who meet monthly to advise the Assessment and the Research, Evaluation and Accountability (REA) Bureaus on issues of policy and program matters related to assessment and accountability. The members of the 2022-23 AAAC are listed in Table 2-1.

Table 2-1. AAAC Members 2022–23

Member Name	Member Job Title	Organization
Melissa Adkins	School Counselor	Cloudcroft Municipal Schools
Sandy Beery	Executive Director	New Mexico Connections Academy
Kenneth Bewley	Director of Data Support, Assessment and Research	Roswell Independent School District
LaShawn Byrd	Deputy Director of Data Analysis and Assessment	Hobbs Municipal Schools
Samuel Constant	Coordinator for District Testing	Gadsden Independent School District
Rachell Lynn Hochheim	Associate Director of Assessment and Research	Las Cruces Public Schools
Linda Kerr	District Assessment Coordinator	Farmington Municipal Schools
Boyd Lewis	Director of Curriculum and Instruction	Zuni Public School District
Lea Leyba	District Coordinator and Liaison	Chama Valley Independent School District
Dr. Happy Miller	Executive Director, RADA	Rio Rancho Public Schools
Carrie Nigreville	Executive Director of Strategic Planning and School Support	Clovis Municipal School District
James Olivas	Director of Operations and Data	Bloomfield Schools
Danny Parker	Assistant Superintendent	Artesia Public Schools
Edward Pena	District Coordinator and High School Counselor	Cobre Consolidated Schools
Dr. Suchint Sarangarm	Chief Assessment for Learning & School Improvement Officer	Santa Fe Public Schools
Nina Smith	Continuous School Improvement Director	Santa Fe Indian School
Frank Telge	Senior Director of Assessment	Albuquerque Public Schools
Teri Trejo	Director of Assessment, Research and Student Success	Deming Public Schools
Leandro Venturina	Data & Assessment Coordinator	Central Consolidated School District
Sharon West	TriStar Coordinator and SRCL/CLSD Literacy Coordinator	Santa Rosa Consolidated Schools

2.2.2 Educator Committees

In Chapter 4 we will detail the different educator committees that were convened for the purpose of content development. The committees include those listed below, with the details of each committee found in chapter 4.

2.2.2.1 NM-MSSA

- Item-Writing Committees: A group of New Mexico educators convened for a virtual workshop to create unique writing prompts for the NM-MSSA ELA Assessment.
- National Item Review Committee: Cognia convened a national item review committee to review the content of the items that are created. New Mexico educators comprise two seats per grade/content span for those committees.

- International Bias Review Committee: Cognia convened an international bias committee to look for bias and sensitivity concerns in the content that is created. New Mexico educators comprise two seats on that committee.

2.2.2.2 NM-ASR

- Item Review Committee: A group of New Mexico educators convened in 2020 to review newly created items field tested in spring 2021 and spring 2022. (Note that for science, there was no development during the 21-22 development year and therefore no educator committees met for science item review.)

- Bias and Sensitivity Committee: A group of New Mexico educators convened in 2020 to review newly created items field tested in spring 2021 and spring 2022.

- Range Finding Committee: A group of New Mexico educators reviewed student responses to open-ended field test items from the spring 2022 assessment, to support the scoring of those items.

- Data Review Committee: A group of New Mexico educators reviewed field test item statistics from spring 2022 to determine what items would be eligible to use operationally in spring 2023 or beyond.

2.2.3 Technical Advisory Committee

The NM PED consults with their technical advisory committee (TAC) to provide feedback and recommendations on program implementation. The NM TAC includes the following members:

Edynn Sato, PhD (Chair)

Edynn Sato has more than 25 years of experience in education research and development, evaluation, training, technical assistance, and management. Her focus has been on making learning inclusive, accessible, and equitable, and her research, development, and consultation have affected practice and policy in the U.S. and abroad. Currently, she works as an independent consultant for her own company, Sato Education Consulting LLC. Additionally, she is a research faculty in the School of Education and Information Sciences at UCLA. Recent and current work include peer review of evidence for state assessment systems; management and development of English language proficiency standards for English learners with significant cognitive disabilities; facilitation and development of a Theory of Action, Logic Model, and technical manual related to English language development; and evaluation of accommodations for English learners.

Scott Marion, PhD

Scott Marion partners with Associate Director Chris Domaleski to manage the operations of the Center for Assessment, and he works closely with the Center Board of Directors to establish the long- and short-term strategic direction of the organization. He is also actively engaged with Center clients; his projects include designing and supporting states in implementing assessment and accountability reforms, developing and implementing educator evaluation systems, and designing and implementing high-quality, locally designed performance-based assessments. He is a national leader in designing innovative and comprehensive assessment systems to support instructional and accountability uses, including helping states and districts design systems of assessments for evaluating student learning of identified competencies. Scott coordinates and/or serves on five district or state Technical Advisory Committees (TACs).

Richard Brown, PhD

Richard S. Brown is the Founder and CEO of West Coast Analytics, a research and consulting firm, and the Chief Research Scientist with the National Math + Science Initiative. Formerly, he held faculty posts in the USC Rossier School of Education and the Department of Education, University of California, Irvine. At both USC and UCI, he taught courses in educational measurement, advanced statistics, and research methodology. Previously, he worked as Senior Researcher at the National Center for Research on Evaluation, Standards, and Student Testing

(CRESST) at UCLA. His work at CRESST involved providing technical expertise on two large-scale public school assessment initiatives, specifically in the areas of test development, measurement, and performance standard setting.

Suchint Sarangarm, PhD

Suchint Sarangarm has more than 30 years of experience encompassing instruction, research, evaluation, administration, and consultation from elementary level to graduate school, both in Thailand and the United States. At the collegiate level in Thailand, he was the Department Head for Research and Evaluation, where he also taught statistics, research, and evaluation to pre-service and in-service teachers. He worked in Las Cruces Public Schools (LCPS) as the Director of Assessment and Research for 12 years. After LCPS, he had an opportunity to serve the Roswell community for 14 years—eight years as an Assistant Superintendent for Assessment, Research and Technology and six years as a consultant for accountability, teacher evaluation, and data analysis. In 2012, he was employed with Hobbs Municipal Schools (HMS) as the Associate Superintendent of Assessment and Data Analysis. In 2015, he established a Data Dashboard to clearly communicate student achievement results with Hobbs' teachers and administrators, to give a clear understanding of New Mexico state standards, and to find a cost-effective way to get the information out to stakeholders in a quick and efficient manner.

Sheryl Lazarus, PhD

Sheryl Lazarus is Director of the National Center on Educational Outcomes (NCEO) at the University of Minnesota. She provides technical assistance to states and conducts research on issues related to the inclusion of all students, including students with disabilities, English learners (ELs), and ELs with disabilities in assessments. Her areas of focus include student participation, accessibility and accommodations, alternate assessments, technology-enhanced assessments, graduation policies, and diploma options. Her work covers the span of assessments in a comprehensive assessment system (e.g., large-scale assessments, interim/benchmark assessments, formative assessments). She has a PhD in Educational Policy and Administration from the University of Minnesota, with a minor in Agricultural and Applied Economics. Dr. Lazarus also holds a K–12 Minnesota principal's license. She has published numerous journal articles, book chapters, reports, and training materials. Dr. Lazarus serves on the assessment Technical Advisory Committees (TACs) of several states.

2.3 Student Participation

2.3.1 NM-MSSA & ASR

NM PED policy defines student participation on a NM-MSSA or ASR Assessment as attempting five or more items on the given assessment. Appendix C provides participation rates as a function of assessment content area (ELA, Mathematics, and Science), test form language (English and Spanish), accommodation/accessibility feature, and background/demographic variable.

The number of students participating in NM-MSSA and ASR in Spring 2022 per content area and grade ranged from approximately 20,000 to 23,700. In 2019, the number of students participating in New Mexico's Transitional Assessment for Math and ELA (TAMELA) ranged from approximately 24,000 to 26,500. As such, the NM-MSSA and ASR participation rates in Spring 2022 were similar to the TAMELA participation rates in Spring 2019.

The NM-MSSA and ASR Assessments were administered in either computer-based or paper-based formats. Most students utilized the computer-based administration as paper-based is reserved as an accommodation. Tables containing the number of students utilizing accommodation(s)/accessibility feature(s), as a function of content area and grade are available in Appendix D. Only students who met the attemptedness rule (i.e., attempted 5 or more items) contributed to the frequencies in the aforementioned tables.

Of the students that participated in the Spring 2022 administration, Table 2-2 indicates numbers of students who were assessed in each mode.

Table 2-2. Number of Participating Students, as a Function of Content Area, Grade, Administration Format, and Test Form Language, NM-MSSA & NM-ASR

Grade	English-Language Forms		Spanish-Language Forms	
	Computer-Based	Paper-Based	Computer-Based	Paper-Based
ELA				
3	20583	263	691	2
4	20815	243	559	2
5	21720	275	208	2
6	21858	274	215	3
7	23077	304	225	0
8	23627	226	233	0
Mathematics				
3	20608	264	702	2
4	20837	243	564	1
5	21720	275	216	0
6	21872	273	226	0
7	23081	302	238	1
8	23633	226	240	0
Science				
5	21773	222	216	0
8	23707	180	222	0
11	19604	123	192	0

Chapter 3. Test Content

3.1 Content Standards

Test content, including items and passages, for the New Mexico MSSA Assessment was developed according to the college- and career-readiness standards for each content area and grade. Content area standards are the basis for the test designs developed for each content area and are used to inform the development of items. Each item is designed to measure a specific standard; however, many Mathematics items assess a mathematical practice standard in addition to a conceptual or procedural standard.

Test content, including items and stimuli, for the New Mexico ASR Assessment was developed according to the New Mexico STEM Ready! Science Standards for grades 5, 8, and 11, which are comprised of the Next Generation Science Standards and a small number of New Mexico-specific standards. These standards are the basis for the test designs developed for each grade and are used to inform the development of items. Each item is designed to measure a specific standard, or performance expectation, and align to multiple dimensions of the standard (Disciplinary Core Idea, Science and Engineering Practice, Crosscutting Concept).

The specific content standards were subsequently grouped into categories for the purpose of communicating with students, families, and educators. The content standards that are eligible to be included in the ELA and Mathematics portions of the NM-MSSA Assessment, as well as the Spanish Language Arts and Spanish Mathematics assessment, and the NM-ASR assessment, are described in the following sections.

3.1.1 Eligible Standards

3.1.1.1 NM-MSSA

Mathematics

The NM-MSSA Mathematics assessment and Spanish Mathematics assessment may assess any of the Common Core State Standards for Mathematics at each grade level, 3–8. While all grade-level standards are eligible to be used on the assessment in their respective grade, not all standards are included in every administration of the assessment. Cognia content specialists strive to include a breadth of standards within and across test administrations while still meeting the reporting category constraints outlined in the test blueprints. This approach allows for the test to meet the requirements of various stakeholders while also maintaining a reasonable test length, and thus testing time.

English Language Arts

The NM-MSSA assesses the Common Core State Standards for English Language Arts. On the Reading portion of the ELA test, at all grade levels, the Reading standards for Literature that may be assessed include RL.1–7 and RL.9, and the Reading standards for Informational Text that may be assessed include RI.1–RI.9. On the Writing and Language portion of the test, the Writing standards that may be assessed at Grades 3–5 are W.2 and W.3 (including all associated sub-standards) and the Writing standards that may be assessed at Grades 6–8 are W.1 and W.2 (including all associated sub-standards). The Language standards that may be assessed at all grade levels are L.1–6 (including all associated sub-standards).

Spanish Language Arts

The Spanish Language Arts (SLA) Assessment may assess the Common Core State Standards for English Language Arts and/or the Common Core State Standards en Español. The items on the SLA are transadapted from the English Language Arts assessment, so the eligible standards for both tests are the same.

3.1.1.2 NM-ASR

Science

The NM-ASR Science assessment and Spanish Science assess the New Mexico STEM Ready! Science Standards at grades 5, 8, and 11. Almost all standards are eligible for assessment as noted below:

- Grade 5: All standards in grades 3, 4, and 5, *except* 5-SS-1 NM.
- Grade 8: All standards in the middle school grade band (6-8), **including** MS-ESS3-3 NM.
- Grade 11: All standards in the high school grade band (9-12), *except* HS-LS2-7 NM and HS-SS-1 NM (but **including** HS-SS-2 NM).

Because of the number of standards per grade, not all standards can be tested every year. The design of the NM-ASR allows for all assessable standards to be included on the NM-ASR at least once within a three-year time period.

3.2 Assessment Design

3.2.1 NM-MSSA Assessment Summary

Tables 3-1 and 3-2 provide a summary of the number of items and points by item type, usage (i.e., operational items or field-test items), and estimated testing time for each grade level and content area of the NM-MSSA Assessment.

Each NM-MSSA content-area test is administered in two sessions. Test forms contain both core operational items and matrix field-test items. Matrix field-test items are items administered to subsets of students to "try out" performance (with different students receiving different field-test items), and therefore do not count toward student score.

English Language Arts

The types of items on the ELA portion of the NM-MSSA Assessment are 1–point machine-scored items (MS-1), 2–point machine-scored items (MS-2), and 7–point writing prompts (WP). Additional item-type descriptions can be found in section 3.2.4.

Table 3-1. Student Testing Experience—ELA (Full Form)

Grades 3–8	Discrete Items				Total Items	Total Points	
	Passage Sets	MS-1	MS-2	WP		Min	Max
Core Operational Items	6	32	6	0	38	44	44
Matrix Operational Items	0	0	0	0	0	0	0
Matrix Field-Test Items	2	5	1	1	7	14	14
Total Student Experience	8	37	7	1	45	58	58
				Estimated Test Time (min)			150 (60/90)

Mathematics

The types of items on the mathematics portion of the NM-MSSA Assessment are 1-point machine-scored items (MS–1), 3–point constructed-response items (CR-3), and 6–point constructed-response items (CR-6). Additional item-type descriptions can be found in section 3.2.4.

Table 3-2. Student Testing Experience—Mathematics (Full Form)

| Grades 3–5 | Discrete Items | | | Total Items | Total Points | |
	MS-1	CR-3	CR-6		Min	Max
Core Operational Items	33	2	2	37	51	51
Matrix Operational Items	0	0	0	0	0	0
Matrix Field-Test Items	5		1	6	8	11
Total Student Experience	38	5		43	59	62
				Estimated Test Time (min)		120

| Grades 6, 7 | Discrete Items | | | Total Items | Total Points | |
	MS-1	CR-3	CR-6		Min	Max
Core Operational Items	36	2	2	40	54	54
Matrix Operational Items	0	0	0	0	0	0
Matrix Field-Test Items	5		1	6	8	11
Total Student Experience	41	5		46	62	65
				Estimated Test Time (min)		120

| Grade 8 | Discrete Items | | | Total Items | Total Points | |
	MS-1	CR-3	CR-6		Min	Max
Core Operational Items	37	2	2	41	55	55
Matrix Operational Items	0	0	0	0	0	0
Matrix Field-Test Items	5		1	6	8	11
Total Student Experience	42	5		47	63	66
				Estimated Test Time (min)		120

3.2.2 NM-ASR Assessment Summary

Table 3.3 provides a summary of the number of items and points by item type, usage (i.e., operational items or field-test items), and estimated testing time for each grade level and content area of the NM-ASR Assessment. The NM-ASR test is administered in three sessions. Test forms contain core operational items, matrix operational items, and matrix field-test items. All operational items count toward student score, with the core operational items being common across all forms and the matrix operational items being administered across different operational forms. Matrix field-test items are items administered to subsets of students to "try out" performance (with different students receiving different field-test items), and therefore do not count toward student score.

The types of items on the NM-ASR Assessment are 1-point machine-scored items (MS–1), 2-point machine scored items (MS-2), and 4–point constructed-response items (OE-4). Additional item-type descriptions can be found in section 3.2.4.

Table 3-3. Student Testing Experience—Science (Full Form)

Grades 5, 8	Cluster/Passage Items			Standalone Items		Total Items	Total Points
	Stimulus/Passage	MS-1	MS-2	MS-2	OE		
Core Operational Items	6	12	12	0	3	27	48
Matrix Operational Items	0	0	0	8	0	8	16
Matrix Field Test Items	2	4	4	4	1	13	24
Total Student Experience	**8**	**16**	**16**	**12**	**4**	**48**	**88**
					Estimated Testing Time (min)		150 (50/50/50)

Grade 11	Cluster/Passage Items			Standalone Items		Total Items	Total Points
	Stimulus/Passage	MS-1	MS-2	MS-2	OE		
Core Operational Items	6	12	12	0	3	27	48
Matrix Operational Items	0	0	0	10	0	10	20
Matrix Field Test Items	2	4	4	5	1	14	26
Total Student Experience	**8**	**16**	**16**	**15**	**4**	**51**	**94**
					Estimated Testing Time (min)		165 (55/55/55)

3.2.3 NM-MSSA Assessment Specifications

The reporting categories for the NM-MSSA Assessment are based on the clusters of standards found in the Common Core State Standards. Target percentages for the distribution of operational (core) test points for each of the reporting categories reflect the distribution in the standards, so as not to overrepresent or underrepresent content. These percentages are shown in the tables in the next two sections.

English Language Arts

Specifications for the full test blueprints for the construction of the core forms reflect the reporting category specifications, as well as percentage requirements for each cluster. These constructs represent key aspects of the standards to which items are aligned; as such, the percentage of operational (core) test points for each should be maintained from year to year. Note that percentages in Reading for (a) text type and (b) reading strategy are calculated independently. An individual item may contribute to multiple parts of the blueprint.

For the English Language Arts assessment, there are a total of 17 forms. The operational items are common across all forms, and then sets of field test items are embedded to create 17 matrix forms. The operational items in Form 1 are modified for students who require a PBT form, Large-Print form, or Braille. Form 1 is also the form that is transadapted into Spanish for the SLA assessment and administered under the various allowed accommodations including ASL (see Appendix E for more information about accommodations). Additionally, Form 1 is the form used for Text-To-Speech for the computer-based test for students with that specific accommodation.

Table 3.4. ELA Operational Test Blueprint

	English Language Arts		Grades 3–5		Grades 6–8	
			Ideal # of Core Pts	Ideal % of Core Pts	Ideal # of Core Pts	Ideal % of Core Pts
Reading	Text Type	Literary Text	15	65%	8	35%
		Informational Text	8	35%	15	65%
	Reading Strategy	Comprehension	12–14	52–60%	9–12	39–52%
		Analysis and Interpretation	9–11	39–47%	13–16	56–70%
	Cluster	Key Ideas and Details	9–11	7–11%	7–11	9–13%
		Craft and Structure	7–9	30–39%	6–10	26–43%
		Integration of Knowledge & Ideas	4–6	17–26%	4–6	17–26%
		Total	**23***	**100%***	**23***	**100%**
Writing & Language	Language & Writing Passage Sets	Writing Analysis	13–17	62–80%	13–17	62–80%
		English Language Conventions	4–8	19–38%	4–8	19–38%
	Writing Prompt**	Production of Writing	0	0%	0	0%
		Use of Conventions	0	0%	0	0%
		Total	**21**	**100%**	**21**	**100%**

All items align to a text type (Literary, Informational), reading strategy (Comprehension, Analysis, and Interpretation) and a cluster (Key Ideas and Details, Craft and Structure, and Integration of Knowledge and Ideas).
**Writing prompts will not contribute to the student's score in Spring 2022.*

Mathematics

Specifications for the full test blueprints for the construction of the core forms reflect the reporting category specifications, as well as percentage requirements for each cluster. These constructs represent key aspects of the standards to which items are aligned; as such, the percentage of operational (core) test points for each should be maintained from year to year. Note that percentages for (a) content clusters and (b) mathematical practices are calculated independently. An individual item may contribute to multiple parts of the blueprint.

Most multiple-choice (MC) Mathematics items are dually coded to both a Concepts and Procedures (CP) standard as well as a Mathematical Practice (MP). While the MC items are coded to both CP and MP, each MC item is scored as 1 point toward the student's overall score in CP. Each constructed-response (CR) item is scored on a rubric in which points are assigned to both CP and MP. Across all CR items, there are a total of 12 points for CP and a total of 6 points for MP.

For the Mathematics assessment, there are a total of 16 forms. The operational items are common across all forms, and then sets of field test items are embedded to create 16 matrix forms. The operational items in Form 1 are modified for students who require a PBT form, Large-Print form, or Braille. Form 1 is also the form that is translated into Spanish and administered under the various allowed accommodations including ASL (see Appendix E for more information about accommodations). Additionally, Form 1 is the form used for Text-To-Speech for the computer-based test.

Table 3-5. Mathematics Grades 3–5 Operational Test Blueprint

	Mathematics Grades 3–5	Grade 3		Grade 4		Grade 5	
		Ideal # of Core Pts	Ideal % of Core Pts	Ideal # of Core Pts	Ideal % of Core Pts	Ideal # of Core Pts	Ideal % of Core Pts
Concepts & Procedures	Operations & Algebraic Thinking	12–18	27–40%	10–16	22–36%	7–11	16–24%
	Number & Operations in Base Ten	5–7	11–16%	8–10	17–22%	7–13	16–29%
	Number & Operations – Fractions	8–10	18–22%	10–16	22–36%	11–15	24–33%
	Measurement & Data	11–15	24–33%	6–10	13–22%	10–14	22–31%
	Geometry	3–5	7–11%	3–5	7–11%	4–8	9–18%
	Subtotal	**45**	**100%**	**45**	**100%**	**45**	**100%**
Mathematical Practices	Problem Solving* Reasoning* & Argument	≥ 8	≥ 17%	≥ 8	≥ 17%	≥ 8	≥ 17%
	Modeling Structure & Repeated Reasoning*	≥ 8	≥ 17%	≥ 8	≥ 17%	≥ 8	≥ 17%
	Total	**51****		**51****		**51****	

All or most items are dually coded to Concepts and Procedures and Mathematical Practice Standards.
**Constructed-response items are scored for both Concepts and Procedures and Mathematical Practices. A total of 6 points from the Mathematical Practices rubric contributes to a student's overall score.*

Table 3-6. Mathematics Grades 6–8 Operational Test Blueprint

	Mathematics Grades 6 & 7	Grade 6		Grade 7		Mathematics Grade 8	Grade 8	
		Ideal # of Core Pts	Ideal % of Core Pts	Ideal # of Core Pts	Ideal % of Core Pts		Ideal # of Core Pts	Ideal % of Core Pts
Concepts & Procedures	Ratios & Proportional Relationships	8–12	17–25%	8–12	17–25%	Functions	10–16	20–33%
	The Number System	8–12	17–25%	6	13%	The Number System	4	8%
	Expressions & Equations	8–12	17–25%	8–16	17–33%	Expressions	11–17	22–35%
	Geometry	6–10	13–21%	6–10	13–21%	Geometry	10–16	20–33%
	Statistics & Probability	6–10	13–21%	10–12	21–25%	Statistics & Probability	10–12	20–24%
	Subtotal	**48**	**100%**	**48**	**100%**	**Subtotal**	**49**	**100%**
Mathematical Practices	Problem Solving* Reasoning* & Argument Modeling*	≥ 8	≥ 16%	≥ 8	≥ 16%	Problem Solving* Reasoning* & Argument Modeling*	≥ 8	≥ 16%
	Structure & Repeated Reasoning*	≥ 8	≥ 16%	≥ 8	≥ 16%	Structure & Repeated Reasoning*	≥ 8	≥ 16%
	Total	**54****		**54****		**Total**	**55****	

All or most items are dually coded to Concepts and Procedures and Mathematical Practice Standards.
**Constructed-response items are scored for both Concepts and Procedures and Mathematical Practices. A total of 6 points from the Mathematical Practices rubric contributes to a student's overall score.*

3.2.4 NM-ASR Assessment Specifications

The reporting categories for the NM-ASR Assessment are based on the science domains in the New Mexico STEM Ready! Science Standards. Target percentages for the distribution of operational test points for each of the reporting categories reflect the distribution in the standards, so as not to overrepresent or underrepresent content. These percentages are shown in the tables in this section.

Specifications for the full test blueprints for the construction of the operational forms reflect the reporting category specifications. These constructs represent key aspects of the standards to which items are aligned; as such, the percentage of operational test points for each should be maintained from year to year. Note that some of the points for each reporting category come from clusters (a grouping of four

items—2 MS-1 and 2 MS-2—all associated with a common stimulus), and some points come from standalone/discrete items.

Table 3-7. Grades 5, 8, 11 – NM-ASR Operational Test Blueprint

Grade 5 NM-ASR					
Reporting Category	Ideal # of Clusters	Ideal # of Standalone MS-2	Ideal # of Standalone OE	Ideal # of Core Points	Ideal % of Core Points (+/- 4%)
Practices and Crosscutting Concepts in Physical Sciences	2	4-6	1	24-28	40%
Practices and Crosscutting Concepts in Life Sciences	2	1-3	1	18-22	30%
Practices and Crosscutting Concepts in Earth and Space Sciences	2	1-3	1	18-22	30%
Grade 8 NM-ASR					
Reporting Category	Ideal # of Clusters	Ideal # of Standalone MS-2	Ideal # of Standalone OE	Ideal # of Core Points	Ideal % of Core Points (+/- 4%)
Practices and Crosscutting Concepts in Physical Sciences	2	2-4	1	20-24	35%
Practices and Crosscutting Concepts in Life Sciences	2	2-4	1	20-24	35%
Practices and Crosscutting Concepts in Earth and Space Sciences	2	1-3	1	18-22	30%
Grade 11 NM-ASR					
Reporting Category	Ideal # of Clusters	Ideal # of Standalone MS-2	Ideal # of Standalone OE	Ideal # of Core Points	Ideal % of Core Points (+/- 4%)
Practices and Crosscutting Concepts in Physical Sciences	2	3-5	1	22-26	35%
Practices and Crosscutting Concepts in Life Sciences	2	3-5	1	22-26	35%
Practices and Crosscutting Concepts in Earth and Space Sciences	2	1-3	1	18-22	30%

Note that items aligned to standards in Engineering, Technology, and Applications of Science as well as the NM-specific content domain of Science and Society are reported under the reporting category domain that matches the context of the phenomenon or design problem presented.

For the Science assessment, there are a total of 7 forms. There are two sets of operational items, set A and set B, differing in the standalone MS-2 items that are in the set (but still following the same content blueprint), in order to support sufficient assessment of all content standards over time. Three sets of field-test items are embedded with one of the operational sets, and then another three sets of field-test items are embedded with the other operational set, for a total of 6 matrix forms. A seventh matrix form, Form AX, is also created by modifying the set A operational items for students who require a PBT form. This Form AX is administered not only as PBT but also in CBT, to allow for calibration of the modified operational items.

Additionally, for NM-ASR, Form 1 is the form used for Text-To-Speech for both English and Spanish versions of the computer-based test. Form AX is the form that is specifically used for the paper version of the test as it modifies the TEI items that are seen on the computer-based test version. Form AX is the form used to produce both the English and Spanish PBT, Large Print, and Braille. As noted in the previous paragraph, Form AX is also included in the computer-based testing to see comparability of the same form between online and paper test mode. (See Appendix E for more information about NM state assessment accommodations.)

3.2.5 Content Coverage Blueprint

NM-MSSA

The distribution of emphasis for NM-MSSA content strands in English Language Arts is shown in Table 3-8; Mathematics for the Spring 2022 assessment is shown in Table 3-9.

Table 3-8. Distribution of Emphasis Across Content Strands in Terms of Percentage of Total Test Points by Grade—ELA Grades 3–8—Spring 2022

		Grade 3		Grade 4		Grade 5		Grade 6		Grade 7		Grade 8	
		Total Points	% of Total Core Points	Total Points	% of Total Core Points	Total Points	% of Total Core Points	Total Points	% of Total Core Points	Total Points	% of Total Core Points	Total Points	% of Total Core Points
Reading Clusters	Key Ideas and Details	9	39%	13	57%	11	48%	11	48%	13	57%	10	43%
	Craft and Structure	9	39%	7	30%	8	35%	7	30%	8	35%	9	39%
	Integration of Knowledge and Ideas	5	22%	3	13%	4	17%	5	22%	2	9%	4	17%
	Total	**23**	**100%**	**23**	**100%**	**23**	**100%**	**23**	**100%**	**23**	**100%**	**23**	**100%**
Writing & Language Strands	Writing	14	67%	14	67%	14	67%	14	67%	15	71%	15	71%
	Language	7	33%	7	33%	7	33%	7	33%	6	29%	6	29%
	Total	**21**	**100%**	**21**	**100%**	**21**	**100%**	**21**	**100%**	**21**	**100%**	**21**	**100%**

Table 3-9. Distribution of Emphasis Across Content Strands in Terms of Percentage of Total Test Points by Grade—Mathematics Grades 3–8—Spring 2022

Content Strand	Grade 3		Grade 4		Grade 5		Grade 6		Grade 7		Grade 8	
	Total Points	% of Total Core Points	Total Points	% of Total Core Points	Total Points	% of Total Core Points	Total Points	% of Total Core Points	Total Points	% of Total Core Points	Total Points	% of Total Core Points
Operations and Algebraic Thinking	18	35%	12	24%	7	14%						
Number & Operations in Base 10	5	10%	8	16%	7	14%						
Number & Operations – Fractions	8	16%	16	31%	13	25%						
Measurement & Data	11	22%	6	12%	13	25%						
Geometry 3–5	3	6%	3	6%	5	10%						
Ratios & Proportional Relationships							10	19%	8	15%		
The Number System							12	22%	6	11%	4	7%
Expressions & Equations							12	22%	16	30%	13	24%
Geometry 6–8							6	11%	8	15%	10	18%
Statistics & Probability							8	15%	10	19%	10	18%
Functions											12	22%
Problem Solving	0	0%	0	0%	1	2%	0	0%	0	0%	0	0%
Reasoning & Argument	4	8%	4	8%	5	10%	5	9%	4	7%	3	5%
Modeling	0	0%	1	2%	0	0%	1	2%	2	4%	0	0%
Patterns & Structure	2	4%	1	2%	0	0%	0	0%	0	0%	3	5%
Total	**51**	**100%**	**51**	**100%**	**51**	**100%**	**54**	**100%**	**54**	**100%**	**55**	**100%**

NM-ASR

The distribution of emphasis for NM-ASR content standards in Science for the Spring 2022 assessment is shown in Table 3-10. Assessable standards cover physical science, life science, earth and space science, and engineering, technology, and applications of science (ETS), as well as science and society in the NM-specific portion of the standards in grades 8 and 11.

Table 3-10. Distribution of Emphasis Across Content Standards in Terms of Percentage of Total Test Points by Grade—Science Grades 5, 8, 11—Spring 2022

Standards Category	Grade 5		Grade 8		Grade 11	
	Total Points	% of Total Core Points	Total Points	% of Total Core Points	Total Points	% of Total Core Points
Physical Science	24	37.50%	22	34.38%	22	32.35%
Life Science	20	31.25%	22	34.38%	24	35.29%
Earth and Space Science	20	31.25%	20	31.25%	22	32.35%
ETS and Science and Society	0	0%	0	0%	0	0%
Grand Total	**64**	**100.00%**	**64**	**100.00%**	**68**	**100.00%**

3.2.6 Operational Section

NM-MSSA

Table 3-11 shows the reporting categories for English Language Arts in the NM-MSSA test design, and the maximum possible number of raw-score points students could earn in each reporting category. Note: Because only operational items are counted toward students' scale scores, only operational items are reflected in this table. The Production of Writing and Use of Conventions reporting categories are tied to the writing-prompt items, which will not be operational until the 2023 administration. The number of items and item types that are used to achieve these distributions are provided in the tables at the beginning of section 3.2.

Table 3-11 Distribution of Raw-Score Points Across Reporting Categories by Grade—English Language Arts Grades 3–8—Spring 2022

Reporting Category	Grade 3		Grade 4		Grade 5		Grade 6		Grade 7		Grade 8	
	Total Points	% of Total Core Points	Total Points	% of Total Core Points	Total Points	% of Total Core Points	Total Points	% of Total Core Points	Total Points	% of Total Core Points	Total Points	% of Total Core Points
English Language Arts	44	100%	44	100%	44	100%	44	100%	44	100%	44	100%
Reading	23	100%	23	100%	23	100%	23	100%	23	100%	23	100%
Literary Text	15	65%	15	65%	15	65%	8	35%	8	35%	8	35%
Informational Text	8	35%	8	35%	8	35%	15	65%	15	65%	15	65%
Comprehension	12	52%	12	52%	14	61%	10	43%	9	39%	10	43%
Analysis and Interpretation	11	48%	11	48%	9	39%	13	57%	14	61%	13	57%
Writing & Language	21	100%	21	100%	21	100%	21	100%	21	100%	21	100%
Writing Analysis & Language Conventions	21	100%	21	100%	21	100%	21	100%	21	100%	21	100%
Production of Writing	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Use of Conventions	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%

Table 3-12 shows the reporting categories for Mathematics in the NM-MSSA test design, and the maximum possible number of raw-score points students could earn in each reporting category on the Spring 2022 assessment. Note: Because only operational items are counted toward students' scale scores, only operational items are reflected in this table. The number of items and item types that are used to achieve these distributions are provided in the tables at the beginning of section 3.2.

Table 3-12. Distribution of Raw-Score Points Across Reporting Categories by Grade—Mathematics Grades 3−8—Spring 2022

Reporting Category	Grade 3 Total Points	Grade 3 % of Total Core Points	Grade 4 Total Points	Grade 4 % of Total Core Points	Grade 5 Total Points	Grade 5 % of Total Core Points	Grade 6 Total Points	Grade 6 % of Total Core Points	Grade 7 Total Points	Grade 7 % of Total Core Points	Grade 8 Total Points	Grade 8 % of Total Core Points
Operations and Algebraic Thinking	18	22%	12	14%	7	9%						
Number & Operations in Base 10 / Number & Operations – Fractions	13	16%	24	29%	20	24%						
Measurement & Data / Geometry	14	17%	9	11%	18	22%						
Ratios & Proportional Relationships							10	11%	8	9%		
The Number System / Expressions & Equations							24	27%	22	25%	17	19%
Geometry / Statistics & Probability							14	16%	18	20%	20	22%
Functions											12	13%
Problem Solving / Reasoning & Argument	22	27%	17	20%	18	22%	22	25%	24	27%	17	19%
Modeling / Patterns & Structure	15	18%	22	26%	19	23%	19	21%	17	19%	25	27%
Total	**82**	**100%**	**84**	**100%**	**82**	**100%**	**89**	**100%**	**89**	**100%**	**91**	**100%**

NM-ASR

Table 3-13 shows the reporting categories for Science in the NM-ASR test design, and the maximum possible number of raw-score points students could earn in each reporting category on the Spring 2022 assessment. Note: Because only operational items are counted toward students' scale scores, only operational items are reflected in this table. The number of items and item types that are used to achieve these distributions are provided in the tables at the beginning of section 3.2. Any items aligned to standards in Engineering, Technology, and Applications of Science as well as the NM-specific content domain of Science and Society are reported under the reporting category domain that matches the context of the phenomenon or design problem presented. The distribution of raw-score points in the table is applicable for both operational forms, as each of the two operational forms for the NM-ASR were built to the same specification for reporting categories.

Table 3-13 Distribution of Raw-Score Points Across Reporting Categories by Grade—Science Grades 5, 8, 11—Spring 2022

Reporting Category	Grade 5		Grade 8		Grade 11	
	Total Points	% of Total Core Points	Total Points	% of Total Core Points	Total Points	% of Total Core Points
Practices and Crosscutting Concepts in Physical Sciences	24	37.50%	22	34.38%	22	32.35%
Practices and Crosscutting Concepts in Life Sciences	20	31.25%	22	34.38%	24	35.29%
Practices and Crosscutting Concepts in Earth and Space Sciences	20	31.25%	20	31.25%	22	32.35%
Grand Total	64	100.00%	64	100.00%	68	100.00%

3.2.7 Field-Test Sections

All NM-MSSA and NM-ASR items are appropriately field tested prior to operational use. The NM-MSSA and NM-ASR Assessments employ a matrix design that embeds field-test items within each form. Matrix field-test items are items administered to subsets of students to "try out" performance (with different students receiving different field-test items), and therefore do not count toward student scores.

The ELA portion of the NM-MSSA Assessment contains a total of two field-test passage sets and seven field-test items per grade-level form: five MS-1, one MS-2, and one WP. The mathematics portion contains a total of six field-test items per grade-level form: five MS-1 items and one CR-3 or 1 CR-6.

For Science, the NM-ASR Assessment contains a total of 13 field-test items for grades 5 and 8 per form: two clusters (with four items each), four MS-2 standalones, and one OE-4. The grade 11 test contains 14 field-test items per form: two clusters (with four items each), five MS-2 standalones, and one OE-4.

3.2.8 Item Types

Item types are chosen to best balance the desires for making efficient use of limited testing time and providing coverage of a broad range of knowledge and skills. The item types used on the NM-MSSA and NM-ASR Assessments and the functions of each are listed below.

English Language Arts

The Reading portion of the NM-MSSA ELA Assessment includes SR, MS, and evidence-based selected-response (EBSR) items.

SR and MS items each require students to demonstrate a wide range of knowledge and skills. MS items consist of a single prompt, much like standard SR items, but include up to a maximum of six answer choices. Of these answer choices, two or three choices make up the key. Students in grades 3–8 are directed to select a given number of answer choices. The MS items are scored correct only; partial credit is not awarded for partially correct responses.

EBSR items are selected-response items with two parts. The second part of an EBSR item asks students to select evidence that supports the response in the first part. Each part of an EBSR item is worth one point; however, students will only receive partial credit (one point) if they answer Part A correctly. Students will not receive a point for answering only Part B correctly.

Each type of item is worth a specific number of points in the student's total reading score, as shown in Table 3-14.

Table 3-14. Reading Item Types

Item Type	Maximum Number of Points Available
SR/MS	1
EBSR	2

The Writing and Language portion of the NM-MSSA ELA Assessment includes SR, MS, and EBSR items. Grades 3–8 Writing and Language passages feature an embedded-error format, in which deliberate errors are identified or introduced into passage text. Items associated with the passages are developed to address the specific errors identified or introduced into the passage text.

The Writing and Language portion of the NM-MSSA also includes a writing prompt (WP). Writing prompts require students to write an extended response to a single prompt. These items are hand-scored, with scorers using a multi-trait rubric and scoring notes to evaluate responses. The WP items are evaluated using a "Production of Writing" rubric on a scale from 1–4 and a "Use of Conventions" rubric on a scale from 1–3.

Each type of item is worth a specific number of points in the student's total Writing and Language score, as shown in Table 3-15. (The WP items were strictly field-test items and did not count toward a student score in 2022.)

Table 3-15. Writing and Language Item Types

Item Type	Maximum Number of Points Available
SR/MS	1
EBSR	2
WP	7

Mathematics

The NM-MSSA Mathematics tests include selected-response (SR), multi-select selected-response (MS), and constructed-response (CR) items.

SR and MS items each require students to demonstrate a wide range of knowledge and skills. MS items consist of a single prompt, much like standard SR items, but include at least five answer choices. Of these five+ answer choices, at least two choices make up the key. Students in grades 3–5 are directed to select a given number of answer choices for their response. Students in grades 6–8 are sometimes directed to select a given number of answer choices, but also may be asked to "select all that apply" instead as their response. The MS items are scored correct only; partial credit is not awarded for partially correct responses.

There are two varieties of CR items: 3-point and 6-point items. These CR items require students to write an extended response to a prompt. The prompt may be a single prompt, or more typically, the items are written with multiple, scaffolded parts for students to respond to. The items are hand-scored, with scorers using a multi-trait rubric, scoring notes, and anchor exemplars to evaluate responses.

The 3–point items (CR-3) require students to perform a computation, write an expression, equation, or inequality, and/or solve a simple problem, and may include having the student provide written evidence of the understanding of the standard(s) being assessed. The CR-3 items are evaluated using a concepts and procedures rubric on a scale from 0–2 and a mathematical practices rubric on a scale from 0–1. The 6–point items (CR-6) are more complex and require students to provide written evidence of the

understanding of the standard(s) being assessed. The CR-6 items are evaluated using a concepts and procedures rubric on a scale from 0–4 and a mathematical practices rubric on a scale from 0–2.

Each type of item on the assessment is worth a specific number of points in the student's total Mathematics score, as shown in Table 3-16.

Table 3-16. Mathematics Item Types

Item Type	Maximum Number of Points Available
SR/MS	1
CR	3 or 6

Science

The NM-ASR tests include machine-scored 1-point items (MS-1), machine-scored 2-point items (MS-2), and open-ended items (OE4). Some of the MS-1 and MS-2 items are grouped together in clusters.

MS-1 items may be multiple-choice, multiple select, or technology-enhanced (e.g., drag-and-drop, hot spot, drop-down selections). MS-1 items are only found in clusters. They are all machine-scored as correct only; partial credit is not awarded.

MS-2 items have two parts (Part a and Part b) for students to answer. These items may combine multiple choice, multiple select, and/or technology-enhanced interactions across the two parts. MS-2 items are included in clusters and as standalone items. They are all machine scored, and students may earn 2, 1, or 0 points across Part a and Part b.

An item cluster is a set of items all associated with a common stimulus. Clusters contain four items, with two of the items being worth 1 point (MS-1) and two of the items being worth 2 points (MS-1). The clusters typically align to two PEs, and all clusters measure all three dimensions of the PEs being assessed.

Open-ended items are worth 4 points. These items require students to write an extended response to a prompt. The prompt may be a single prompt, or more typically, the items are written with multiple, scaffolded parts for students to respond to. These items are hand-scored, with scorers using a rubric and scoring notes to evaluate responses on a scale from 0–4.

Each type of item on the assessment is worth a specific number of points in the student's total Science score, as shown in Table 3-17.

Table 3-17. Science Item Types

Item Type	Maximum Number of Points Available
MS-1	1
MS-2	2
OE-4	4

3.2.9 Passage Types

All NM-MSSA ELA items, for both Reading and Writing and Language, are based on passages. The configuration of texts on the ELA assessment seeks to balance national high-quality assessment guidance (e.g., NAEP, CCSSO) with considerations around test length.

Some NM-ASR items are connected to an extended, rich stimulus that presents a phenomenon or design problem to frame the set of items. The content of the Science stimuli reflects best practice as recommended by the CCSSO SACI, NRC, and Achieve.

Reading

The reading comprehension portion of the ELA test design incorporates as much of a 50/50 split of literary and informational texts as possible in the elementary grades while still maintaining a limited summative test footprint. Beginning at grade 6, there is a shift in emphasis to informational texts at the upper grade band. For grades 3–5, item sets are based on single literary passages, paired literary passages, and paired informational passages. For grades 6–8, item sets are based on paired literary passages, single informational passages, and paired informational passages.

The reading passages on the NM-MSSA assessment are selected from the following categories:

- Literary passages, representing a variety of forms, including drama, poetry, excerpts from novels, short stories, and traditional narratives such as fables and folktales.
- Informational passages, often about science- and social studies-related topics. These passages are often from news sources, magazines, and book excerpts. The passages are authentic texts selected from grade-level-appropriate reading sources that students would be likely to encounter in the classroom and when reading independently.

All passages are collected from published works.

Writing and Language

The Writing and Language embedded-error passages on the NM-MSSA Assessment are developed to conform to the following categories:

- Narrative passages, representing a variety of forms including short stories and traditional narratives such as fables and folktales. Narrative passages succinctly and lucidly describe a fictional event and feature many or all the hallmarks of the narrative form—plot/conflict, climax/epiphany, conclusion, dialogue, characters' thoughts, action, and description.
- Informative/explanatory passages, representing one of three content areas: social studies/history; science/social science/technical subjects; and, to a lesser extent, the humanities. Although written with the general reader in mind, passages strive to present compelling information that responds to relevant issues in each field—a new interpretation of an event or phenomenon; an examination of an overlooked (or misunderstood) movement, moment, or figure; an introduction to foundational knowledge in any of the three disciplines; etc.
- Argument passages, representing cogent argumentation. Argument passages tend to be informed by issues in the social sciences or current events. Argument passages establish a position; provide claims, supported by evidence, which develop that position; introduce and rebut a counterclaim (in grades 7 and 8); and, throughout, use rhetorical techniques (persuasive transitions, rhetorical questions, appeals to reason or personal experience, etc.) to advance the position.

All embedded-error passages are commissioned texts, which are passages developed specifically for the purpose of the assessment.

Writing Prompts

The passages paired with the NM-MSSA writing prompts were developed by educators from across the state of New Mexico to support student writing for each of the three purposes for writing: narrative, informative/explanatory, and opinion (grades 3–5) or argument (grades 6–8). The teachers selected passage topics that would be engaging and culturally relevant for New Mexico students.

All writing prompts are partnered with one to three brief text stimuli. These may be complete texts or excerpts from a more extended text. Some possible text types include stories, memoirs, biographies, articles, websites, letters, and brochures.

The number of text stimuli varies depending on the purpose for writing. Narrative prompts are associated with one or two text stimuli, while informative/explanatory and opinion/argument prompts are associated with two or three text stimuli. The passages may be either previously published texts or commissioned texts composed by New Mexico educators specifically for the associated writing prompts and grade levels.

Science

On the NM-ASR, all clusters are written with an extended, rich stimulus. The stimulus must present a single, rich science phenomenon or engineering design problem aligned to the standards/performance expectations being assessed. The phenomenon or problem must launch and support a single storyline, or sequence of sense-making, which is carried out in the items.

The stimulus may present any variety of elements to provide the necessary information related to the phenomenon or problem and the storyline: text paragraphs, passages, graphs, data tables, models, drawings, etc. All information in the stimulus should be necessary, but not conceptually sufficient, for students to respond (i.e., students must also use their own knowledge of the constructs in the standards to answer the items, rather than simply identify given information), and the stimulus must provide enough information to allow students to engage in the SEPs, DCIs, and CCCs of the targeted standards as they respond to items.

Chapter 4. Test Development

4.1 Overview of General Approach

This chapter provides an overview of the development of the NM-MSSA and NM-ASR Assessments, including test and item specifications, item reviews, and test construction.

According to *Standards for Educational and Psychological Testing* (AERA, APA, & NCME, 2014), "important validity evidence can be obtained from an analysis of the relationship between a test's content and the construct it is intended to measure" (p. 14). Accordingly, the descriptions of the test development procedures included in this chapter provide evidence that supports both the content and construct validity of the assessments.

4.2 Item Specifications

English Language Arts

The English Language Arts portion of the NM-MSSA Assessment comprises two categories: Reading and Writing and Language.

Each Reading item is designed to measure either students' comprehension of what they have read or their ability to analyze and/or interpret what they have read. The items are organized into three main clusters as further described by the New Mexico Common Core State Standards:

- **Key Ideas and Details** (comprehension or analysis/interpretation): In grades 3–8, students refer to texts solely to demonstrate understanding. At increasing levels of complexity as they advance through the grades, students also draw inferences from texts; show their ability to comprehend or analyze the central events, central ideas, and/or themes of texts; and analyze and interpret the relationships between aspects of a text (e.g., causes and effects in informational texts, or character traits and the plot of literary texts).
- **Craft and Structure** (comprehension or analysis/interpretation): At increasing levels of complexity through the grades, students demonstrate the ability to comprehend and analyze the meanings of words and phrases in texts (including figurative language in grades 5–8), as well as analyze the impact of an author's words (in grades 6–8); identify and analyze the structure of texts, including how certain portions of text affect meaning; and identify and analyze how point of view and purpose shape the content and style of a text.
- **Integration of Knowledge and Ideas** (analysis/interpretation): At increasing levels of complexity through the grades, students integrate knowledge and ideas in texts. Specifically, students integrate:
  - visual information (e.g., pictures) and textual information;
  - evidence provided in informational texts to support ideas and/or claims; and
  - important aspects (e.g., main ideas, characters, settings, themes, structures) of paired texts.

Each Writing and Language item is designed to measure students' ability to evaluate the content and context of text in order to correctly apply the targeted writing skill or language convention. The items are organized into two main categories. Each category contains a unique set of clusters:

Writing
- **Text Types and Purposes**: In grades 3–8, students interact with a variety of texts to demonstrate increasing sophistication with demanding content and sources. At increasing levels of complexity across the grades, students analyze and revise informative/explanatory texts to examine a topic and convey ideas and information clearly or analyze and revise argumentative or opinion pieces on topics or texts to help support a point of view with reasons and information or analyze and revise narrative texts to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences.

Language
- **Conventions of Standard English**: In grades 3–8, students demonstrate command of the conventions of standard English grammar and usage. At increasing levels of complexity across the grades, students move from simple identification of conventions (e.g., identifying uppercase and lowercase letters or applying the rules of capitalization) to more complex applications of conventions (e.g., recognizing and correcting inappropriate shifts in pronoun number or recognizing and correcting misplaced and dangling modifiers).
- **Knowledge of Language**: In grades 3–8, students apply knowledge of language and conventions to convey ideas or to create a specific effect. At increasing levels of complexity across the grades, students move from conveying ideas or creating a desired effect to focusing on developing and maintaining style and tone by choosing language that expresses ideas precisely and concisely.
- **Vocabulary Acquisition and Use**: In grades 3–8, students apply knowledge of vocabulary structure (e.g., affixes and roots) to understanding the meaning of grade-level vocabulary. At increasing levels of complexity across the grades, students use the context of passage text to determine the concrete and inferred meaning of vocabulary. Additionally, students move from using basic reference materials (e.g., glossary and dictionary) to using more complex references (e.g., thesaurus).

Mathematics

The test designs for Mathematics address the standards within the mathematics domains, or concepts and procedures, as well as the mathematical practices standards.

The mathematics items at grades 3–5 are organized into three concepts and procedures reporting categories:

- **Operations and Algebraic Thinking**: Students represent and solve problems, understand and apply the properties of operations, and generate and analyze patterns and relationships.
- **Number and Operations in Base Ten and Fractions**: Students understand and demonstrate a sense of what whole numbers, fractions, and decimal numbers mean and how they are used. Students understand and demonstrate computation skills.
- **Measurement and Data and Geometry**: Students understand and demonstrate measurement skills, including geometric measurement, by accurately measuring and estimating, solving problems, and converting between units within a measurement system. Students represent and interpret data using picture graphs, bar graphs, and line plots. Students reason with shapes and their attributes, classify shapes based on their properties, and graph points on the coordinate plane to solve problems.

The mathematics items at grades 6 and 7 are organized into three concepts and procedures reporting categories:

- **Ratios and Proportional Relationships**: Students understand ratio concepts and proportional relationships and use them to solve real-world problems.
- **The Number System and Expressions and Equations**: Students extend their previous number sense and computation of whole numbers, fractions, and decimal numbers to the entire system of rational numbers. Students write and evaluate expressions, apply the properties of operations to generate equivalent expressions, and solve problems using algebraic expressions, equations, and inequalities.
- **Geometry and Statistics and Probability**: Students solve problems involving area, surface area, volume, and angle measures. Students draw, construct, and describe geometric figures and describe the relationships between figures. Students understand statistical variability, summarize and describe distributions, and use random sampling to draw inferences about a population or comparative inferences between populations. Students develop an understanding of probability and use and evaluate probability models.

The mathematics items at grade 8 are organized into three concepts and procedures reporting categories:

- **Functions**: Students define, evaluate, and compare functions and use functions to model relationships between quantities.
- **The Number System and Expressions and Equations**: Students extend their previous number sense to include the system of irrational numbers. Students work with radicals and integer exponents. Students understand the connections between proportional relationships, lines, and linear equations, and analyze and solve linear equations and pairs of simultaneous linear equations.
- **Geometry and Statistics and Probability**: Students understand congruence and similarity, understand and apply the Pythagorean Theorem, and solve problems involving volume of three-dimensional figures. Students investigate the patterns of association in bivariate data.

Additionally, the Mathematics items at each of the grades 3–8 have embedded in them the processes and proficiencies associated with the following mathematical practice standards:

- **Problem Solving/Reasoning and Argument**: Students apply grade-level appropriate mathematical concepts and procedures and quantitative and logical reasoning to solve standard and nonstandard real-world and mathematical problems. Students critique the mathematical reasoning of others and construct viable arguments.
- **Modeling/Structure and Repeated Reasoning**: Students use grade-appropriate quantitative reasoning to interpret mathematical representations, represent real-world mathematical situations using mathematical models, and use mathematical models to solve real-world and mathematical problems. Students look for and make use of mathematical structure. Students look for and make use of repeated reasoning in mathematics.

Mathematics Content Supports and Considerations

Calculators

While the team of assessment content specialists who designed the mathematics test acknowledge the importance of mastering arithmetic algorithms, they understand that the use of calculators is a necessary and important skill. Calculators can save time and prevent errors in the measurement of some higher-order thinking skills, allowing students to work on more sophisticated and intricate problems. For these reasons, it was decided that, at grades 3–8, calculators should be prohibited in the first of the two sessions of the NM-MSSA Assessment mathematics tests and permitted in the second session. Students in grades 3–6 who are taking the paper-pencil test can use their own four-function calculator with a

square root key during Session 2. Students in grades 7 and 8 who are taking the paper-pencil test can use their own scientific calculator during Session 2. Students taking the online test use the calculator tools provided in the online platform.

Reference Sheets

Reference sheets are not provided to students at grades 3–8. To properly assess the applicable standards, some items are written so that students will need to know the formulas to answer the question, whereas other items are written so that knowledge of the formula is not being assessed, and thus the formulas may be provided within the item. Guidance from grade-level mathematics educators is used to help guide the inclusion or exclusion of formulas.

A ruler or protractor will be embedded within a graphic for items that require students to measure lengths of objects or angles.

Science

The NM-ASR test design is based on the three content domains of Physical Sciences, Life Sciences, and Earth and Space Sciences. Items are expected to align to the multiple dimensions of the standards (Disciplinary Core Ideas, Science and Engineering Practices, Crosscutting Concepts) in each domain, such that every item is at least two-dimensional, if not three-dimensional. To emphasize this multi-dimensional nature of the items, the names of the reporting categories incorporate the three dimensions (Practices and Crosscutting Concepts in Physical Sciences, Practices and Crosscutting Concepts in Life Sciences, Practices and Crosscutting Concepts in Earth and Space Sciences). Students are expected to demonstrate sense-making by using core ideas, practices, and crosscutting concepts together to respond to items.

Items assessing Engineering, Technology, and Applications of Science as well as the New Mexico-specific content domain of Science and Society are reported within the Physical, Life, or Earth and Space Sciences category, depending on the content match of the design problem presented in the item.

As content support, students taking the Grade 11 test are provided with a Periodic Table reference sheet. No items on the assessment require a calculator or other mathematical tools to answer.

Cognitive Complexity

In addition to being created according to content-area content standards, each item on the NM-MSSA Assessment is assigned a Depth of Knowledge (DOK) level according to the cognitive demand of the item, as influenced by the standard being assessed. DOK is not synonymous with difficulty but rates the complexity of the mental processing a student must use to successfully respond to an item.

The Reading items are mainly categorized as DOK level 2, with a smaller percentage making up DOK levels 1 and 3. The DOK level 1 items generally assess basic comprehension and recall of text. The DOK level 2 items generally assess processing of text using some analysis and low-level inferencing. The DOK level 3 items require a deeper analysis or synthesis of ideas in one or more texts.

The Writing and Language items also mainly fall in DOK level 2, with a smaller percentage making up DOK levels 1 and 3. It is of note that items aligned to Writing standards will not generally be designated as DOK level 1 and items assigned to Language standards will not generally be designated as DOK level 3. The DOK level 1 items require communication of simple ideas and application of basic language conventions. DOK level 2 items generally assess the connection of ideas using a simple organizational structure as well as the application of more complex language conventions. The DOK level 3 items require some higher-level processing skills such as synthesis and analysis, as well as a deeper awareness of audience and purpose, while using complex language conventions to communicate effectively.

In Mathematics, SR and MS items lend themselves best to DOK levels 1 and 2, while CR items may reach the complexity required for DOK level 3 (particularly at the upper grade levels). The DOK level 1 items generally assess basic recall and procedural fluency. The DOK level 2 items generally assess application of skills, modeling, and conceptual understanding. The DOK level 3 items require more strategic thinking and reasoning for more complex problems or questions requiring mathematical justification.

Target percentages for the distribution of operational (core) test points across the cognitive complexity levels (DOK classification) per content area are noted in Tables 4-1 through 4-3.

Table 4-1. Depth of Knowledge Distribution—Reading

DOK	Grade					
	3	4	5	6	7	8
Level 1	0–20%	0–20%	0–20%	0–20%	0–20%	0–20%
Level 2	50–70%	50–70%	50–70%	50–70%	50–70%	50–70%
Level 3	20–40%	20–40%	20–40%	20–40%	20–40%	20–40%
Total	100%	100%	100%	100%	100%	100%

Table 4-2. Depth of Knowledge Distribution—Writing and Language

DOK	Grade					
	3	4	5	6	7	8
Level 1	15–35%	15–35%	15–35%	15–35%	15–35%	15–35%
Level 2	40–60%	40–60%	40–60%	40–60%	40–60%	40–60%
Level 3	15–35%	15–35%	15–35%	15–35%	15–35%	15–35%
Total	100%	100%	100%	100%	100%	100%

Table 4-3. Depth of Knowledge Distribution—Mathematics

DOK	Grade					
	3	4	5	6	7	8
Level 1	5–25%	5–25%	5–25%	5–25%	0–20%	0–30%
Level 2	50–80%	50–80%	50–80%	50–80%	50–80%	50–80%
Level 3	5–30%	5–30%	5–30%	5–30%	5–30%	5–30%
Total	100%	100%	100%	100%	100%	100%

For Science, because the New Mexico STEM Ready! Science Standards are NGSS-aligned, the cognitive complexity of the items is evaluated with a different framework than Depth of Knowledge. This framework, Cognitive Complexity Framework for SSIB, is based on Achieve's *A Framework to Evaluate Cognitive Complexity in Science* (September 2019).

Under the Cognitive Complexity Framework for SSIB, four indicators are used to classify the cognitive complexity of each item: stimulus, science and engineering practice, disciplinary core idea, and crosscutting concept. For each indicator, the classification in terms of high, medium, or low complexity is based on how the students are using the indicator to respond to the item – specifically, to what degree does students' engagement with the indicator contribute to the level of sense-making required by the item.

The evaluation of cognitive complexity is done at the individual item level. For an operational NM-ASR test form, after summing the operational points that reflect cognitive complexity at each complexity level

across all four indicators, the target distribution is that at least 10% of the total test points should be high cognitive complexity and no more than 35% of the total test points should be low cognitive complexity.

4.3 Item Writer Training

ELA and Mathematics items on the NM-MSSA Assessment and science items on the NM-ASR Assessment were primarily developed by Cognia content specialists using item development best practices outlined in section 4.4.1. In addition, Cognia content specialists incorporated the *New Mexico Instructional Scope* and *New Mexico Bias and Sensitivity Guidelines* into their item development and subsequent content reviews.

The writing prompts on the NM-MSSA Assessment were primarily developed by New Mexico educators, who received training as part of an Item-Writing Workshop. In May of 2020, NM PED invited teachers from across New Mexico to participate in an Item-Writing Workshop in which they would help develop stimuli and writing prompts for the NM-MSSA Assessment. Approximately 50 teachers from a diverse range of school districts were able to participate. The New Mexico participants were all licensed educators with a variety of experience and expertise, including language arts teachers, special education teachers, EL teachers, instructional leads and coaches, and educators who worked on the committees to develop the NM Instructional Scope documents. See Appendix F for additional details.

In June, the New Mexico teachers received an initial training session facilitated by Cognia and PED. The training included:

- An overview of the vision and goals associated with New Mexico's Balanced Assessment System
- The purpose of the new writing assessment and its role in the NM-MSSA summative assessment
- The components and structure of the writing prompts
- The specifications associated with the writing-prompt stimuli
- An overview of the writing-prompt rubrics

The participants then worked with Cognia content specialists over several weeks in a series of virtual sessions to study the processes of writing passages and associated writing tasks. Out of precaution during the pandemic all sessions were held virtually. Specific training sessions addressed:

- Understanding the Writing standards and three purposes for writing
- Selecting an appropriate, culturally relevant topic
- Moving from a topic to an outline for a passage(s) and associated writing prompt
- Writing the passage or set of passages
- Developing and finalizing a writing task

Throughout the workshop teachers met with Cognia content specialists to draft, refine, and revise their ideas and writing. They met with each other in small peer groups, as well as with Cognia content specialists, while they developed writing prompts specifically designed for students across the state of New Mexico.

Overall, the teachers developed approximately 90 writing prompts, which included over 100 passages and/or stimuli. A total of 54 writing prompts were field-tested on the NM-MSSA 2020–21 Assessment. Additional writing prompts were field-tested on the NM-MSSA 2021–22 Assessment.

4.4 Item Review Committees and Processes

Items used on NM-MSSA and NM-ASR Assessments are developed to measure achievement on the New Mexico Common Core State Standards and the New Mexico STEM Ready! Science Standards in

the assessed content areas, respectively. Cognia content specialists, in collaboration with NM PED, ensure this alignment, and ongoing independent evaluations are held to verify alignment. In addition, independent reviews are scheduled to ensure that items and passages conform to bias and sensitivity guidelines.

4.4.1 Content and Item Reviews

The test developers at Cognia review newly developed items for:

- alignment to the intended content standard;
- item integrity, including content and structure, format, clarity, and possible ambiguity;
- desired correct responses;
- appropriateness and quality of graphics;
- appropriateness of scoring-guide descriptions and distinctions;
- completeness of associated item documentation (e.g., scoring guide, content codes, key, grade level, DOK/cognitive complexity); and
- appropriateness for the designated grade level.

Newly developed passages and items for the NM-MSSA and NM-ASR Assessment also undergo review by nationally representative panels of content and assessment experts, including educators from across the state of New Mexico. The purpose of these reviews is to evaluate items and determine their suitability for assessment by answering the following four questions:

- Does the item align with the assigned content standard(s)?
- Is the content accurate?
- Are the content and context grade-level appropriate?
- Does the item provide maximum accessibility for all students?

(Note that for the newly developed items that were field tested in the 2022 NM-ASR tests, however, the educator committee that previously reviewed the content of the items was comprised completely of NM educators, as Science was not using a national model at that time.)

4.4.2 Bias and Sensitivity Review

Bias and sensitivity review is an essential component of the passage- and item-review process. All Cognia content specialists receive training in bias and sensitivity issues. Controversial and biased topics are avoided in the test development process. Internal reviews include review of not only content but context, with a particular awareness of bias and sensitivity issues that are specific to New Mexico.

Since no one person is well versed in the full spectrum of possible concerns, the bias and sensitivity review committee helps to ensure that all potential issues are identified. All passages and items undergo bias and sensitivity review prior to field-testing.

The bias and sensitivity review committee comprises a diverse group of people who represent a variety of national and international student subgroups, including New Mexican panelists from diverse backgrounds. The people currently serving on this committee include business professionals, educators, a school administrator, an ESL tutor, graduate school students, and retired professionals. United States racial and ethnic groups represented on this committee include African American, Asian American, Hispanic/Latino/Latina, Native American, and White. These representatives have varied experiences with urban/suburban/rural environments and economically disadvantaged students. International populations represented on this committee currently include South American, Middle Eastern, South Asian, and East

Asian. We have summarized in the tables below the specific information we have regarding committee member demographics. See Appendix G for lists of New Mexican committee members.

Table 4-4. Number of Bias & Sensitivity Panelists by Gender

Gender	Number
Male	3
Female	6

Table 4-5. Number of Bias & Sensitivity Panelists by Race/Ethnicity

Race/Ethnicity	Number
American Indian	0
Asian	3
Black/African American	2
Hispanic or Latino	2
White (non-Hispanic)	2

Again, note that for the newly developed items that were field tested in the 2022 NM-ASR tests, however, the committee that reviewed the items for any bias/sensitivity issues was comprised completely of NM representatives, as Science was not using a national model at that time.

4.5 Test Forms Construction

The Cognia content specialists and psychometricians work collaboratively to produce operational test forms using sequential and iterative procedures that support both the content and construct validity of the assessments.

4.5.1 Item and Stimulus Selection

Subsequent to field-testing and item data review, Cognia test developers carefully select the items that will appear in the operational tests. In consultation with Cognia psychometricians, test developers consider the following criteria in selecting sets of items for the operational tests:

- **Content coverage/match to test design and blueprints.** The test designs and blueprints stipulate a specific number of items by item type and content distribution.
- **Item difficulty and complexity.** Item statistics are evaluated to ensure quality psychometric characteristics, as well as similar levels of difficulty and complexity from year to year.
- **"Cueing" items.** Items are reviewed for any information that might "cue" or provide information that would help to answer another item.

Test developers sort and lay out passages and items into test forms. During assembly of the test forms, the following criteria are considered:

- **Key patterns.** The sequence of keys (correct answers) is reviewed to ensure that their order appears random.
- **Option balance.** Selected-response items are balanced across forms so that key options are not markedly disproportionate.

- **Page fit.** Items always appear one per screen for online testing. ELA passages and, when applicable, common Mathematics and Science stimuli always appear to the left of the associated item.
- **Visual appeal.** Every effort is made to make each item as accessible as possible. Each item's presentation may differ slightly depending on the delivery method and size of the screen.

A reviewer designated by the NM PED per grade level and content area reviews the test form and, prior to approval, specifically considers the following criteria:

- **Construct validity.** The test content is evaluated to determine the degree to which the test measures what it claims, or purports to be measuring, and items/tasks are aligned to the appropriate indicator/standard/measurable outcome.
- **Key accuracy.** Item keys (and the number of designated keys) are reviewed to ensure accuracy.
- **Positive phrasing in item stems.** Items are checked to ensure that negative words such as "not" and/or "except" are rarely, if ever, used.
- **Specific determiners.** Words such as "always," "never," "totally," and "absolutely" are avoided whenever possible to prevent inadvertent cueing of correct or incorrect answers.
- **Clueing/clanging item associations.** The items on the test are reviewed to ensure that the answer to an item is not given away within another item on the same form (clueing) or that an item's context is too similar to another item on the same form (clanging).
- **Bias/sensitivity concerns.** The test is reviewed by all appropriate stakeholders within the NM PED and assessment bureaus to ensure that the content is appropriate for New Mexico students.
- **Errors or typos.** The test is reviewed to verify that the content and metadata are accurate and there appear to be no obvious human errors.

4.5.2 Selection Specifications to Meet Blueprint Requirements

All NM-MSSA and NM-ASR Assessment items are appropriately field-tested prior to operational use. Once stimuli have been field-tested with a set of items, content specialists evaluate the statistics from the items associated with each stimulus. Often, items associated with a stimulus demonstrate a range of student performance, which is largely dependent upon factors inherent to each item. However, if a circumstance is encountered where many items associated with a stimulus are not performing as expected, this is evaluated carefully. While this scenario does not automatically mean the stimulus contains content that is not comprehensible or accessible, it does signal the need to thoroughly review the stimulus in relation to the item content and reevaluate the acceptability of the stimulus. Cognia assessment content specialists can also review all the aspects of item content, and this is especially important when data indicate that further scrutiny is warranted.

The process for item data includes the following information for all field-tested items:

- classical item difficulty for all items (i.e., *p*-value)
- score distributions for polytomous items
- item option selection distribution for multiple-choice items
- 10 most frequent student responses for multi-select items and technology-enhanced items
- item-total and option-total correlations
- Item Response Theory (IRT) statistics

- Differential item functioning (DIF) using the standardization DIF procedure (Dorans & Kulick, 1986)[1] to produce classifications for female versus male, economically disadvantaged versus non-disadvantaged, Asian versus White, Black versus White, Hispanic versus White, Native American versus White, Multi-racial versus White, and Native Hawaiian/Pacific Islander versus White.

The flags listed in Tables 4-6 and 4-7 are used to identify those items that require an additional level of scrutiny.

Table 4-6. Criteria for Flagged Items Based on Classical Test Theory (CTT) Statistics

Item-Flagging Criteria	Concern
If *p*-value of keyed response < 0.10	Item too difficult
If *p*-value of keyed response > 0.90	Item too easy
If *p*-value of distractor* > *p*-value of keyed response	Possible mis-key
If *p*-value of distractor* > 0.35	Possible second correct option
If item-total correlation < 0.15	Poorly discriminating item
If item-total correlation < 0.00	Non-discriminating or negatively discriminating item
If DIF analysis is B or C	Possible bias in item (B, B-, C, C-)

Note: These analyses examine item score and item option selection distribution for polytomous and selected-response items, respectively.

Table 4-7. Criteria for Flagged Items Based on Item Response Theory (IRT) Statistics

Item-Flagging Criteria	Concern
If IRT *a*-parameter < 0.50	Poorly discriminating
If IRT *b*-parameter < -3.00	Easy item
If IRT *b*-parameter > 3.00	Hard item
If IRT *c*-parameter > 0.35	Low-ability students answer correctly (i.e., guessing)
If IRT standard error of estimation > 0.10	Possible issue with item fit

In ELA and Mathematics, the item content of each flagged item is reviewed and discussed by at least two content specialists before a decision is made regarding acceptability of the item. At the end of the process, all field-tested items are designated with a status of "Accept," "Rework," or "Reject." Accepted items become eligible for operational testing. Rework items are eligible to be edited and field-tested again so new item data can be generated. Rejected items are removed from the pool of items eligible for operational testing.

Cognia understands that item-level data review must be conducted thoroughly and carefully because of the impacts on test construction, which need to be consistent from administration to administration. Being experts in their respective content areas, Cognia's content specialists also understand that some assessed standards are typically more challenging for students than others, and the specialists are able to simultaneously make good decisions about both content and data in accepting or rejecting items for

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[1] *DIF occurs when an item has difficulty measures that vary across contexts for similarly able subgroups of examinees. DIF procedures are designed to identify items on which the performances of certain subgroups of interest differ from each other after controlling for construct-relevant achievement. In order to ensure meaningful results, DIF statistics are not computed for populations containing less than 200 students in both subgroups. Analysis was conducted using field-test data to detect potential DIF at the item level. The standardizations DIF procedure (Dorans & Kulick, 1986) was employed to evaluate subgroup differences. The computed DIF indices have a theoretical range of -1.0 to 1.0 for multiple-choice items. Critical values are defined as 0.05 and 0.10 and the values are flagged as statistically significant, alpha = 0.05. If the absolute value of standardized DIF is equal to or greater than 0.10, the item is classified "C" DIF; items with absolute values greater than or equal to 0.05 are classified as "B" DIF; otherwise, items are classified as "A" DIF.*

operational use based on the item statistics. Finally, Cognia understands that items with DIF statistic flags need to be scrutinized for potential sources of bias. While a flag does not automatically mean the item contains biased content, it does signal the need to thoroughly review the item content and evaluate the ways in which the different focal groups would have access and ability to answer the item to ensure it is fair for all students.

In Science, in addition to the type of content specialist review described above, field test items were also reviewed by NM PED and a committee of New Mexico educators, to provide additional feedback on the performance of the items.

Chapter 5. Test Administration

Orderly and secure test administrations are necessary to protect secure test content and ensure that test data are validity-interpretable to meet score reporting and accountability reporting requirements.

5.1 Roles and Responsibilities

As indicated in the Test Coordinator's Manual, District Assessment Coordinators are the primary source of assessment information for district staff, school staff, parents, and community. It is the District Test Coordinator's (DTC) responsibility to keep the local educational agency (LEA) informed about current assessment policy and changes, and to provide teachers with available resources for content area assessments. Manuals are used to ensure the uniformity of administration procedures from school to school. These manuals—the Test Coordinator's Manual and the Test Administration Manual—stress the importance of test security and ethical administration while the tests are in the schools and contain explicit directions and scripts for test administrators to read aloud to test-takers. These documents may be accessed on the New Mexico Help and Support Website at:
https://newmexico.onlinehelp.cognia.org/combined-manuals-summatives/

Roles of additional staff are listed below.

5.1.1 Test Administrators

Test Administrators are vital to the success of both the NM-MSSA and NM-ASR Assessments. The Test Administrator (TA) must administer the assessment to students by following the procedures provided in the Test Administration Manual. All TAs involved in test administration, preparation, and security are required to attend training provided by the DTC in accordance with the PED regulation 6.10.7 NMAC. TAs must hold one of the following valid PED licenses from the State of New Mexico:

- school instructor;
- administrator;
- school counselor;
- student success advisor; or
- instructional support providers (e.g., educational diagnostician, psychologist, social worker).

Only long-term substitutes who hold one of the above PED licenses may serve as TAs. Short-term substitutes, educational assistants (EAs), school nurses, and coaches may not serve as TAs unless they also hold one of the valid licenses listed above.

In the event that schools require additional staff to administer either the NM-MSSA or the NM-ASR, other staff members (who have received the necessary training and who have signed the PED Confidentiality Agreement) may be used to provide one-to-one accommodations.

5.1.2 School Test Coordinators

The School Test Coordinator (STC) is appointed at the local level. The STC's point of contact for matters relating to assessment is the DTC. In some smaller districts, the DTC serves as STC for one or more schools in the district.

5.1.3 Proctors

Proctors assist TAs but may not administrate a test without a TA present. Proctors are generally Educational Assistants (EAs) but can be any school employee who does not otherwise hold one of the approved PED licenses. No proctor should assist with a group that includes a child who is a close relative (child, grandchild, niece/nephew, etc.).

5.2 Test Administrator Manual

For Spring 2022, the Test Administrator Manual (TAM) outlined the steps to follow before, during, and after administration of the Spring 2022 New Mexico MSSA and New Mexico Assessment of Science Readiness (NM-ASR) Assessments. Understanding of and compliance with each of these steps is vital for successful administration.

The TAM covers administration policies such as security guidelines and administration information, accessibility features and accommodations including requirements for computer-based tests (CBT) and paper-based tests (PBT), preparing for CBTs and PBTs, administering CBTs and PBTs, directions and scripts for use during CBT and PBT administrations, and what to do at the completion of CBTs and PBTs.

5.3 TA and Proctor Training Requirements and 2022 Test Administrations

All TAs and proctors involved in test administration, preparation, and security are required to attend training provided by the DTC in accordance with the PED regulation 6.10.7 NMAC. Trainings should include information on test security policies and procedures, test administration procedures, documentation and provision of testing accommodations, and the importance of strictly following all directions in the manuals.

5.4 Testing Irregularity Reports

During the Spring 2022 NM-MSSA and NM-ASR testing administration window, the NM PED received 23 testing irregularity reports. Test administrators and coordinators are trained to report test administration irregularities. The NM PED defines a testing irregularity as any incident in the handling or administration of a test that results in questioning the accuracy of the data or security of the test that may or may not result in an invalidation.

Of the 23 reports, 18 were from the Lordsburg school district. In this district, 18 third and fourth graders were administered the assessment remotely. Remote administration of the statewide summative NM-MSSA is against PED policy but is allowed for the interim assessments. After consultation with Cognia's psychometric team the PED determined that these student scores would be reported.

Five other irregularities were submitted for the following reasons:

- While taking the NM-MSSA Mathematics assessment, a student was provided a submit –and-complete option on the second question of the assessment. The student clicked to submit, and the test was over. It was requested that the test be voided and started again. This request was granted, and the student retested.
- A student clicked through the test and then submitted without answering any questions. This test was invalidated, and the student retested.

- A student did not complete session 1 before starting session 2. Session 2 was then not completed. Eventually another test administrator was able to get the student to finish. The DTC recommended invalidating the scores and this request was approved.
- A student did not click submit at the end of the test. A test administrator brought the student in later to log on and submit the completed test. This successfully submitted this test for scoring.
- A student taking the Reading test had no pencil for scratch paper during a computer-based test administration. It was reported as an irregularity and the scores were submitted.

5.5 Test Security

The New Mexico Statewide Assessment Program requires that the NM-MSSA and NM-ASR tests be treated with the highest level of test security and accountability. The security of NM-MSSA and NM-ASR materials must be maintained before, during, and after the test administration. TAs, proctors, and school and district test coordinators are required to follow the guidelines in the TAM for distributing, collecting, and returning testing materials. All testing personnel are required to have access to a central, locked storage space for safekeeping of test materials until print materials are returned to Cognia.

To maintain the validity of the tests administered in the statewide assessment program, keeping all test questions secure is absolutely necessary. If security is breached or compromised, the assessment results may not be valid. If one student, school, or district has advantages not awarded to another, the test administration is no longer standardized and loses the important distinction of being appropriate for program accountability.

TAs must follow these security guidelines before, during, and after testing:

- Receive training on test security and administration by the STC or the DTC.
- Complete the New Mexico Confidentiality Agreement and return it to the STC. (The Confidentiality Agreement form is available on the PED website).
- Follow the testing schedule established by the school.
- Ensure TA is not assigned to a classroom in which a relative is being tested.
- Carry out standard examination procedures.
- Ensure secure test materials are secured in a central and locked area when not in use.
- Use the security checklist or a similar tracking tool daily, as provided by the STC, during test administration to check in and check out all test materials.
- Report any possible breaches of security to the STC immediately. Examples of security breaches include but are not limited to

  o improper handling of test materials, such as
    ▪ someone reproducing any student responses,
    ▪ allowing any unauthorized access to test materials before, during, or after testing, or
    ▪ leaving test materials (including computers being used for CBTs) unsecured when the TA or a proctor is not in the classroom, and

  o improper test administration procedures, such as
    ▪ coaching students during testing,
    ▪ altering student responses in any way, or
    ▪ stray mark cleanup, including but not limited to erasing double-marks, lightly erased, or lightly marked answers.

School and district staff members are prohibited from studying or discussing online test questions in any manner, either among themselves or with students before, during, or after testing.

5.5.1 Prevention and Detection Measures and Procedures

The NM PED has a process in place for on-site technical assistance and monitoring of schools to ensure that proper testing administration procedures are being followed. During monitoring visits, the staff member has a checklist of questions to ask and evidence to gather. The monitoring covers the following key topics:

- Communication: This includes how School Test Coordinators receive information from the PED and vendors about the assessments and how information is shared with others.
- Staff Training: This section includes verification of a process to ensure all required staff have completed training prior to testing.
- Test security: Questions in this section are focused on the storage of materials and accurate administration of the assessments.
- Test environment observations: In this section of the checklist, the observer makes note of how many assessments are being administered and observes at least two rooms to ensure protocols are being followed.
- Participation and verification: This section focuses on determining eligibility of students for ACCESS and DLM testing.
- There is also a section to note any other observations and follow-up needed.

Chapter 6. Scoring: Scope of Work, Processes, and Procedures

6.1 Scope of Work

The 2021–22 New Mexico MSSA, ASR, and SBA consist of operational and field-test, multi-point open-ended response items in ELA, SLA, SBA, mathematics, and science. Table 6-1 outlines the number and type of each item per grade.

Table 6-1. Overview of NM Scope-of-Work 2021–2022

Content Area	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Grade HS
ELA	FT–15 / OE–4, 3	FT–15 / OE–4, 3	FT–15 / OE–4, 3	FT–15 / OE–4, 3	FT–15 / OE–4, 3	FT–15 / OE–4, 3	--
SLA	FT–1 / OE–4, 3	FT–1 / OE–4, 3	FT–1 / OE–4, 3	FT–1 / OE–4, 3	FT–1 / OE–4, 3	FT–1 / OE–4, 3	
SBA							OP-3 / OR-4 OP-4 / SR-2
Mathematics	OP–2 / OE–2, 1 OP–2 / OE–4, 2 FT–6 / OE–2, 1 FT–6 / OE–4, 2	OP–2 / OE–2, 1 OP–2 / OE–4, 2 FT–7 / OE–2, 1 FT–5 / OE–4, 2	OP–2 / OE–2, 1 OP–2 / OE–4, 2 FT–7 / OE–2, 1 FT–5 / OE–4, 2	OP–2 / OE–2, 1 OP–2 / OE–4, 2 FT–6 / OE–2, 1 FT–6 / OE–4, 2	OP–2 / OE–2, 1 OP–2 / OE–4, 2 FT–6 / OE–2, 1 FT–6 / OE–4, 2	OP–2 / OE–2, 1 OP–2 / OE–4, 2 FT–6 / OE–2, 1 FT–6 / OE–4, 2	-- -- -- --
Science			OP-3 / OE 4 FT-5 / OE 4			OP-3 / OE 4 FT-5 / OE 4	OP-3 / OE 4 FT-5 / OE 4

OP=Operational, FT=Field Test, OE#, #= multi-point open-ended response item, SR = Short Response

6.2 NM-MSSA and ASR Operational Scoring: Processes and Procedures

6.2.1 Score Verification of Multiple-Choice Items

For both computer-based tests (CBT) and paper-based tests (PBTs), responses to multiple-choice items were compared to scoring keys using item analysis software. This robust software compared each student response to multiple-choice items to the respective answer key and assigned a maximum score of 1 point for correct responses and 0 points for incorrect answers. In PBTs, if students filled in multiple bubbles in response to one item, the response was assigned 0 points. At the end of an administration, a second independent validation of all the student responses was conducted to compare and validate results to ensure accurate machine scoring.

6.2.2 Scoring of Open-Ended Response Items

6.2.2.1 Personnel Structure

Cognia's personnel structure for scoring responses consisted of four hierarchical levels as shown in Figure 6-1.

Figure 6-1. Cognia Scoring Staff

	Scoring Content Specialist	▪ Supervises temporary scoring staff ▪ One Scoring Content Specialist oversees range-finding and scoring activities for a content area
	Scoring Supervisors	▪ Train scorers on the tasks ▪ Respond to scorer questions ▪ Perform read-behinds of Scoring Team Leaders
	Scoring Team Leaders	▪ Verify the accuracy of scoring by performing read-behinds ▪ Smaller pod sizes allow for more time to perform read-behinds
	Scorers	▪ Typically assigned in pods of 10 to a Scoring Team Leader ▪ Smaller pods are used for complex scoring assignments

All responses were scored by fully vetted scorers who were supervised by Scoring Team Leaders (STLs). The Scoring Supervisors monitored the work of the STLs assigned to them. The Scoring Content Specialist monitored the work of the Scoring Supervisors, STLs, and scorers. Scoring Content Specialists are full-time Cognia staff who report to the Scoring Content Group Manager, who in turn reports to the Director for Content and Quality in the Scoring Services department. This hierarchical structure whereby each level monitors the one below ensures reliable quality and consistency in scoring.

Scoring Content Specialist

The Scoring Content Specialist functioned as the primary lead for his or her designated content area and as a liaison between scoring activities and the Scoring Project Manager to ensure that established quality standards and production schedules were met.

During scoring, the Scoring Content Specialist was responsible for supervising all scoring staff working on the project, including Scoring Supervisors and STLs. The Scoring Content Specialist was also responsible for assuring the consistency and accuracy of scoring work performed by individual scorers and across groups of scorers.

Scoring Supervisors

Scoring Supervisors managed the scorer training and supervised the STLs and scorers working on a designated item and/or content. Scoring Supervisors worked closely with the STLs to ensure consistency and provide counsel and retraining to scorers as necessary. In addition, Scoring Supervisors engaged in supervisory oversight and performed quality-control checks to ensure the consistency and accuracy of the STLs. Scoring Supervisors who were responsible for monitoring training and conducted the retraining of scorers were selected for their ability to instruct and for their level of expertise in their respective disciplines.

Scoring Team Leaders

The STLs were responsible for supervising and monitoring the group of scorers assigned to them. STLs worked closely with their scorers to maintain consistently accurate scoring. They provided quality checks, and they counseled scorers as necessary. STLs were responsible for monitoring and maintaining

accurate scoring of their assigned scorers. This included performing read-behinds on scorers and monitoring other quality-control measures. STLs were responsible for arbitrating responses scored by multiple scorers when the assigned scores varied by more than one score point. The arbitration process ensured that such responses received the necessary attention by providing an additional review before assigning a third and final resolution score. In addition to the essential quality control, the arbitration process provided continued opportunities for scorer training.

Because the read-behinds that the STLs performed moderated the scoring process and thus maintained the integrity of the scores, individuals chosen to fill STL positions were selected for their accuracy and content knowledge.

Scorers

Scorers are individuals who evaluate student responses and assign scores.

6.2.2.2 Scorer Recruitment and Qualifications

Cognia actively sought a diverse pool of scorers with a broad range of backgrounds: teachers, scientists, business professionals, graduate school students, retired educators, and the like. To verify this diversity, scorer demographic information such as gender, race, and educational background—among other information—was collected. Information on educational background is provided below. Other demographic information is available upon request.

Tables 6-2 through 6-4 present information on educational background. The minimum requirement to assume a position as a scorer or Scoring Team Leader is 48 college credits, which include classes related to the content area being scored. Scoring Supervisors must hold a bachelor's degree with classes related to the content area being scored. In addition, screened bilingual applicants had to demonstrate proficiency in both English and Spanish. Each bilingual applicant must be able to speak, read, write, and translate to and from English and Spanish to carry out their responsibilities in both English and Spanish. All potential scorers and leadership staff submitted documentation (e.g., résumés and/or transcripts) as evidence of meeting the education and experience requirements. Each scorer and leadership staff member signed a binding non-disclosure/confidentiality agreement as well. See Appendix H for scorer qualification rates.

Table 6-2. Educational Background of Scorers and Scoring Leadership for NM ELA

Education	Scorers		Leadership	
	Total	Percentage	Total	Percentage
Associate degree	3	1%	0	0%
Bachelor's degree	135	61%	24	71%
Master's degree	70	31%	10	29%
Doctorate	15	5%	7	10%

Table 6-3. Educational Background of Scorers and Scoring Leadership for NM Mathematics

Education	Scorers		Leadership	
	Total	Percentage	Total	Percentage
Associate degree	7	3%	0	0%
Bachelor's degree	165	56%	44	65%
Master's degree	106	36%	17	25%
Doctorate	15	5%	7	10%

Table 6-4. Educational Background of Scorers and Scoring Leadership for NM Science

Education	Scorers		Leadership	
	Total	Percentage	Total	Percentage
Associate degree	7	3%	0	0%
Bachelor's degree	165	56%	44	65%
Master's degree	106	36%	17	25%
Doctorate	15	5%	7	10%

6.2.2.3 Scoring Platform

iScore is the proprietary image-based scoring system used by Cognia to view and record scores submitted by scorers for each open-ended item. As explained in the following sections, the iScore system ensures the security of student responses and test items. During scoring, no student names or schools/districts associated with viewed student work are visible to scorers, and all Scoring Services temporary associates are subject to the same non-disclosure requirements as full-time Cognia staff. Cognia maintained security during scoring by using a highly secure server-to-server interface, ensuring that access to all student response images was limited only to scorers and appropriate Cognia staff.

Scorers evaluated most student responses from images rendered by the online testing platform and a small number of responses from scanned images of paper-based tests. Whether administered in an online or a paper/pencil environment, all responses were scored applying the same scoring criteria.

Prior to the beginning of image scoring, Cognia's iScore operational management created contract databases that included scanned images of student responses for each item to be scored. There are separate databases for each content area. Once each database was created, student responses were uploaded into the iScore system. To provide maximum security for all test and scoring materials, scorers were asked to download the iScore Kiosk onto their computers. The iScore Kiosk is a security feature that locks down the user's operating system such that no other application outside of iScore can run during scoring. Scorers and scoring leadership were given unique user authorization passwords as an additional component of Cognia's stringent security procedures. Each scorer was required to log on to the image scoring system using a unique combination of an assigned username, a password, and a 6-digit code that was delivered via text or email.

6.2.2.4 Leadership Training

Scoring Supervisors and select STLs were given a separate training session one day before scorer training. Scoring staff, including Scoring Supervisors and STLs, responsible for scoring student responses in iScore were required to achieve the same standard as scorers on item qualification sets: a minimum accuracy scoring rate of 70 percent exact, and 90 percent exact plus adjacent agreement (70/90).

6.2.2.5 Scorer Training

For the scoring of NM-MSSA Mathematics and NM-ASR common operational items, all scorer training was conducted using pre-recorded, interactive training modules.

These modules allowed for self-paced, individual training. Modules were produced by experienced Scoring Supervisors who prepared all training materials for an image slide-show presentation which was overlaid with sound. The format of this training process replicated the traditional face-to-face group training led by a Scoring Supervisor. Each recording started with a discussion of the item and the rubric followed by a detailed discussion of each anchor paper and its rubric-based scoring rationale. After the conclusion of anchor paper training, scorers would gain access to a set of practice papers, to which they

would apply the scoring standards as detailed in the rubric and as exemplified in the anchor papers to determine the correct score. For all items that appeared on a prior year's Mathematics or Science test and that had been trained via pre-recorded training modules, the same modules were used to train scorers this year. In doing so, Cognia provides a consistent training experience across the years.

After submitting the score of each practice paper, scorers would get immediate feedback as to whether their score was accurate, and they would receive the justification as to why the response received the score it did. The system is set up such that even if scorers assigned the correct score to the practice paper, they would still receive further explanation of the scoring rationale. For any questions that were not covered by the modules, Scoring Supervisors were available to further elaborate and provide clarification. The modules are designed such that scorers can go back and replay the training on specific papers as needed. This allowed scorers who required more training to review at their own pace, while scorers who were faster in absorbing the scoring standards could move on and proceed with their first attempt to qualify. After module training, scorers continued to have access to electronic versions of the training material in PDF format, so that they could consistently refer to the exemplars during qualification or live scoring.

Scorers were given two opportunities to qualify. If scorers were unable to attain a score match of at least 70 percent exact and 90 percent adjacent agreement on the first qualifying set, they were retrained by discussing the responses contained in the first qualification set with respect to the score-point descriptions of the rubric and by comparing them to the responses of the anchor set. Following this retraining, scoring leadership would administer a second qualification set. If scorers achieved a scoring accuracy rate of at least 70 percent exact and 90 percent adjacent agreement on the second qualification set, then they were allowed to score student responses. Since student responses for Mathematics assessments are assessing two traits (Concepts and Procedures and Mathematical Practices) the minimum threshold of 70% must be achieved on each trait. For ELA, which is also scored on two traits, the 70% threshold applied to both traits combined. Scorers who failed to pass the minimum threshold were not allowed to score that item. They were either trained on another item or they were dismissed from the project.

6.2.2.6 Monitoring Scoring Quality

Scorers were required to demonstrate and maintain their ability to score student responses accurately and consistently throughout the scoring process. The iScore image scoring system enabled scoring leadership to measure and monitor individual and group performance on each scored item in terms of accuracy and consistency, and in terms of read rate (scoring speed) and overall production rate on a constant, real-time basis. The iScore scoring tools employed to measure scoring quality were as follows:

- Read-behind scoring
- Double-blind scoring
- Embedded validity responses
- Recalibration sets

Each scorer's performance on the above procedures was monitored and recorded by iScore and scoring leadership could review data related to the accuracy, consistency, and overall quality of scoring. Scoring leadership was always available to answer scorer questions. They also counseled and retrained scorers as needed to determine whether a scorer should continue scoring. If a scorer's performance did not meet the prescribed quality standards, scoring leadership initiated a process through which that scorer's work was invalidated and returned to the scoring queue of unscored responses to be re-scored by those scorers who demonstrated scoring accuracy at or above standard.

Read-Behind Scoring

Read-behind scoring allowed scoring leadership to monitor each scorer's scoring performance by way of an immediate real-time snapshot of the scorer's accuracy. The data that were generated by read-behind scoring presented leadership with opportunities to answer questions and to provide counsel to scorers who may have had trouble maintaining the scoring standards. iScore is designed such that the selection of any scored student responses for read-behind scoring was done without a scorer knowing which response was selected for a read-behind. The STL would, at various points throughout the scoring session, instruct the system to assign the next grouping of responses for read-behinds. The STL could instruct the system to pull responses for all scorers who were assigned to him or her, or only for certain scorers. Each read-behind response was scored blindly by the STL; that is, each scorer's submitted score to a student response was only revealed to the STL after the STL had submitted his or her score to the system. The STL would then have an opportunity to compare his or her score against the score assigned by the scorer. If the scores were discrepant (more than one score point apart) or if there were a significant number of adjacent scores (one score point apart) between the scorer and the STL, scoring leadership then counseled and retrained the scorer. Scoring leadership determined when or whether these scorers were given access to resume operational scoring. Retrained scorers were subject to additional monitoring and read-behinds.

The number of read-behinds for each scorer varied depending on the accuracy of the scorer. New Mexico scoring specifications require a minimum of two read-behinds per item per hour per scorer, or 10 read-behinds per scorer per full scoring day. Consistently accurate scorers would only receive the minimum number of read-behinds whereas scorers who exhibited difficulties in maintaining accuracy or consistency received additional read-behinds.

In addition to scorers, scoring leadership was also subject to quality assurance reviews, which were administered by the Scoring Content Specialists. They monitored scoring leadership's accuracy and consistency by reviewing the read-behind results and by performing read-behinds on their STLs.

For the Spanish versions of the NM-MSSA Mathematics and the NM-ASR Assessments, Cognia applied the consensus scoring method. Under this method, two scorers would review student work in tandem and consult with each other on the appropriate score for each student response. This method is particularly effective when the n-count of student work is very low. Scoring accuracy and consistency were maintained via the internal calibration that each scorer provided on the other. Instead of read-behinds, scorers who were selected for consensus scoring the mathematics Spanish responses were constantly monitored by scoring leadership via intermittent participation in the consensus process. This live interaction provided a real-time snapshot of group accuracy.

Double-Blind Scoring and Arbitration Resolution

Double-blind scoring refers to the process of two scorers independently scoring the same response. During this process, neither scorer has any knowledge of the other scorer's score. The double-blind process helps inform scoring leadership about the consistency of scoring among peer scorers who actively score an item. All responses in Mathematics and Science had a minimum of 2 percent of responses double-blind scored. In ELA, a 100% double-blind percentage was applied to the FT items that were identified and scored during batch 1 scoring in Spring 2022. Due to the much lower n-count of students responding to batch 2 items, a 2% double-blind rate will be applied during Fall 2022 scoring.

During double-blind scoring, the iScore system distributes randomly selected responses assigned for double-blind scoring to different scorers without alerting either scorer. iScore then records each scorer's score and routes any scoring discrepancies of more than one point between the two scores to an iScore arbitration response queue for resolution by the STL. As described above, the arbitration resolution

scoring performed by STLs was blind and did not reveal the previously assigned scorer's scores prior to the STLs entering their score into the system.

The percentage of double-blind responses sent to arbitration by a scorer as a result of a difference in actual scores (i.e., not including blank or unreadable responses) should not have exceeded 10 percent. If a scorer's arbitration percentage exceeded this threshold, scoring leadership counseled, retrained, and/or dismissed the scorer.

Embedded Validity Responses

Validity responses are prescored responses that serve calibration purposes at the onset of scoring an item. Ten validity responses were embedded in the first one hundred live student responses and distributed to each scorer in randomized order. Scorers were not aware when they were scoring an embedded validity response as compared to a live student response. Scorers who demonstrated an accuracy rate of less than 70% exact on each composite score were counseled and the STL increased the number of read-behinds to ensure accuracy.

Recalibration Sets

A set of five calibration papers was administered starting with the second day of scoring an item. This set of five responses, selected by scoring leadership, served as a refresher, and was used to gauge the scorers' ability to maintain accurate scoring of the item on days following their initial item training. Scorers who demonstrated inaccurate scoring on the recalibration set were retrained by the STL or Scoring Supervisor before they could resume live scoring of student responses.

Interrater Reliability

Table 6-5. Summary of Interrater Reliability Statistics for NM-MSSA Mathematics across all OP and FT items by Grade

Grade	Total # of Responses Scored	Total # of Double - Blind Responses Scored	Total % Double-Blind Responses Scored	Score Categories	Score Point Ranges	% Exact	% Adjacent	% Third Reads
3	98,877	3,430	3.4	2	0-2 & 0-4	89.4	6.4	4.2
4	99,572	3,210	3.2	2	0-2 & 0-4	88.4	7.3	4.3
5	104,232	3,864	3.7	2	0-2 & 0-4	84.0	9.0	7.0
6	106,203	4,350	4.1	2	0-2 & 0-4	87.7	7.5	4.8
7	111,647	4,229	3.8	2	0-2 & 0-4	88.4	7.6	4.0
8	114,798	5,666	4.8	2	0-2 & 0-4	90.6	5.8	3.6

Table 6-6. Summary of Interrater Reliability Statistics for NM-ASR Science across all OP and FT items by Grade

Grade	Total # of Responses Scored	Total # of Double - Blind Responses Scored	Total % Double-Blind Responses Scored	Score Categories	Score Point Ranges	% Exact	% Adjacent	% Third Reads
5	77,956	2,617	3.2	1	0-4	72.8	20.7	6.5
8	84,563	3,768	4.3	1	0-4	81.2	15.4	3.3
11	71,840	3,467	4.7	1	0-4	84.5	12.3	3.2

6.2.2.7 Score-of-Record Rules

Per scoring specifications, the final score-of-record was determined as follows:

- If there was an exact agreement between the scorer and the STL scores, no action was taken—the scorer's original score remained.
- If there was a difference between the scores, either adjacent or discrepant, the STL's score became the score-of-record. Adjacent scores differ by 1 point, while discrepant scores differ by more than 1 point.

6.3 NM-MSSA ELA/Writing Field Test: Review of Student Work

Expert scoring staff reviewed all student work submitted in response to the field test of the newly developed writing tasks. Grades 3–5 included tasks in the narrative, informative, and opinion modes. Grades 4–6 included tasks in the narrative, informative, and argumentative modes. A total of 15 tasks were administered in each grade. The following table shows the number of student responses received in each grade and across all tasks.

Table 6-7. Number of Student Responses to Writing Tasks per Grade during Field Test Administration

Grade	Total Number of Responses	Number of Responses/Task
3	16,319	Between 944 and 2,321
4	14,572	Between 965 and 2,336
5	15,001	Between 968 and 2,549
6	17,073	Between 991 and 2,563
7	15,477	Between 1,057 and 2,691
8	15,659	Between 1,080 and 2,709

Following the FT administration of the writing prompts, range-finding meetings were conducted. The original range-finding plan called for identifying six NM educators to participate in two concurrently running meetings. However, only three NM educators could be identified. Therefore, only one committee was created, and fewer tasks were reviewed. Tasks were divided into batch 1 and batch 2. Batch 1 consisted of two to three tasks per grade, and they underwent rangefinding whereas all remaining tasks were moved into batch 2. Batch 2 tasks were reviewed internally at Cognia as part of benchmarking meetings in which Scoring staff met with their colleagues in Content Development to review each task and associated student work. The results of both the batch 1 rangefinding meeting with NM educators and the batch 2 benchmarking meetings with Cognia content development staff provided the foundation for the creation of scorer training materials.

6.4 NM-MSSA Mathematics Field Test: Internal Review of Student Work

Due to the low n-count of students who participated in the NM-MSSA Mathematics Field Test, expert scoring staff reviewed student work to determine whether students interacted with the items as expected. Scoring leadership staff provided a written report related to observed trends and student engagement to their colleagues in Content Development to share their observations.

6.5 NM-MSSA SLA Field-Test and SBA Operational Scoring

Due to the low number of students participating in the SLA Field Test and the SBA HS Operational, all scoring was conducted by expert scoring leadership staff applying a consensus scoring approach, whereby two staff members would review student work in tandem and consult with each other on the appropriate score for each student response. Instead of applying the above-mentioned quality control tools used during NM-MSSA Mathematics and NM-ASR Science operational scoring, scoring accuracy and consistency were maintained via the internal calibration that each staff member provided on the other.

6.6 NM-ASR Operational and Field-Test Scoring

The scoring of student work in response to the NM-ASR operational administration followed the procedures as described in section 6.2 above. All field test items underwent rangefinding activities with NM educators who defined the scoring standards as expressed in the scoring guides and exemplified in the scorer training materials. All rangefinding activities were conducted in a virtual environment.

Chapter 7. Classical Item and Test Analysis

As noted in *Principles of Educational and Psychological Testing* (Brown, 1983), "A test is only as good as the items it contains." A complete evaluation of a test's quality must include an evaluation of each item. Both *Standards for Educational and Psychological Testing* (AERA et al., 2014) and *Code of Fair Testing Practices in Education* (Joint Committee on Testing Practices, 2004) include standards for identifying quality items. Items should assess only knowledge or skills that are identified as part of the domain being tested and should avoid assessing irrelevant factors. Items should also be unambiguous and free of grammatical errors, potentially insensitive content or language, and other confounding characteristics. In addition, items must not unfairly disadvantage students in particular racial, ethnic, or gender groups.

Cognia conducts quantitative analyses to help ensure that test items meet these standards. These include statistical evaluations of (1) difficulty indices, (2) item-test correlations, and (3) dimensionality. The details and results for (1) and (2) are presented in this chapter, while the details and results for the dimensionality analyses are presented in section 8.2. All these analyses are based on the administration of NM-MSSA and NM-ASR assessments in spring 2022. Note that the information presented for all these analyses is based on operational items (the items on which student scores are calculated).

7.1 Classical Item Statistics

All operational items were evaluated in terms of classical item difficulty, which under classical test theory practices is defined as the average scored response on an item, divided by the maximum possible score for the item. Although this index is traditionally described as an estimate of item difficulty, it is properly interpreted as an easiness index. The greater in value a classical item difficulty is, the easier the item.

Items that are answered correctly by almost all students provide little information about differences in student abilities, but they do indicate knowledge or skills that have been mastered by most students. Similarly, items that are correctly answered by very few students provide little information about differences in student abilities, but they may indicate knowledge or skills that have not yet been mastered by most students. In general, to provide adequate measurement, classical difficulty indices should range from near-chance performance (e.g., 0.25 for four-option multiple-choice items) to 0.90, with a majority of items generally falling around 0.4 to 0.7. However, on standards-referenced assessments such as the NM-MSSA and NM-ASR, it is appropriate to include items with very low or very high item difficulty values to ensure sufficient content coverage.

A desirable characteristic of an item is for higher-ability students to perform better on the item than lower-ability students do. The correlation between student performance on a single item and total test score is a commonly used measure of this characteristic of the item. Within classical test theory, the item-total correlation is referred to as the item's classical discrimination because it indicates the extent to which successful performance on an item discriminates between high and low scores on the test. Each of the item-total correlations reported here is the Pearson correlation between scored responses on a given item and total raw scores. This Pearson correlation is commonly referred to as the point-biserial correlation (for a dichotomously scored item) and a point-polyserial correlation (for a polytomously scored item). The theoretical range of these correlations is –1.0 to +1.0, with a typical observed range from 0.2 to 0.6. Discrimination indices can be thought of as measures of how closely an item assesses the same

knowledge and skills assessed by other items contributing to the criterion total score. That is, the discrimination index can be thought of as a measure of construct consistency. Tables 7-1 and 7-2 listed summary classical statistics of all the operational items in English forms.

A comparison of indices across grade levels is complicated because these indices are population-dependent. Direct comparisons would require that either the items or the students were common across groups. Since that is not the case, it cannot be determined whether differences in these classical indices across grade levels are due to differences in student abilities, differences in item difficulties, or both. Classical item difficulties and item-total correlations are provided in Appendix I.

Table 7-1. Summary Classical Item Statistics for Dichotomous Items

Content Area	Grade	Mean	SD	Mean P-Value	Mean Correlation with Total
ELA	3	0.54	0.48	0.54	0.48
	4	0.53	0.48	0.53	0.45
	5	0.51	0.48	0.51	0.40
	6	0.52	0.48	0.52	0.36
	7	0.51	0.47	0.51	0.38
	8	0.52	0.48	0.52	0.39
Mathematics	3	0.44	0.47	0.44	0.40
	4	0.40	0.46	0.40	0.38
	5	0.42	0.47	0.42	0.35
	6	0.38	0.46	0.38	0.36
	7	0.39	0.46	0.39	0.38
	8	0.40	0.46	0.40	0.31
Science	5	0.39	0.47	0.39	0.33
	8	0.38	0.47	0.38	0.36
	11	0.37	0.47	0.37	0.31

Table 7-2. Summary Classical Item Statistics for Polytomous Items

Content Area	Grade	Mean	SD	Mean P-Value	Mean Correlation with Total
ELA	3	0.78	0.84	0.39	0.49
	4	0.84	0.87	0.42	0.53
	5	0.81	0.87	0.41	0.46
	6	0.84	0.87	0.42	0.49
	7	0.78	0.80	0.39	0.46
	8	0.93	0.89	0.47	0.50
Mathematics	3	0.61	0.84	0.23	0.66
	4	0.51	0.73	0.18	0.63
	5	0.74	0.91	0.26	0.67
	6	0.61	0.82	0.21	0.64
	7	0.47	0.76	0.17	0.65
	8	0.23	0.55	0.09	0.55
Science	5	0.97	0.75	0.47	0.49
	8	0.82	0.74	0.39	0.46
	11	0.81	0.74	0.39	0.47

7.2 Total Test and Subscore Intercorrelations

When subscores are strongly related to each other, it implies a high internal consistency between subscores. The Pearson correlation matrices among the individual reporting categories (i.e., subscores) are shown in Tables 7-3 and 7-4 for Reading and Mathematics, respectively. The Spring 2022 Writing and Language assessment had only total test scores, without any additional reporting categories. As

such, no subscore correlations are reported here for Writing and Language. Results generally indicate that the subscores correlate well with one another and with overall total scores.

Table 7-3. Pearson Correlations of Total Test and Subtest Raw Scores on NM-MSSA ELA Forms Per Grade

Grade	Subtest	Number of Items	Total Test	Subtest 1	2	3	4	5	6
3	Total Test	38	1.000	--	--	--	--	--	--
	1.Reading	20	0.948	1.000	--	--	--	--	--
	2.Reading Strategy - Analysis and Interpretation	9	0.866	0.914	1.000	--	--	--	--
	3.Reading Strategy - Comprehension	11	0.880	0.928	0.697	1.000	--	--	--
	4.Text Type - Informational Text	7	0.761	0.815	0.747	0.755	1.000	--	--
	5.Text Type - Literary Text	13	0.921	0.965	0.882	0.896	0.635	1.000	--
	6.Writing & Language	18	0.950	0.801	0.732	0.743	0.630	0.783	1.000
4	Total Test	38	1.000	--	--	--	--	--	--
	1.Reading	20	0.952	1.000	--	--	--	--	--
	2.Reading Strategy - Analysis and Interpretation	9	0.860	0.911	1.000	--	--	--	--
	3.Reading Strategy - Comprehension	11	0.906	0.946	0.728	1.000	--	--	--
	4.Text Type - Informational Text	7	0.841	0.880	0.848	0.796	1.000	--	--
	5.Text Type - Literary Text	13	0.914	0.962	0.849	0.931	0.716	1.000	--
	6.Writing & Language	18	0.928	0.769	0.685	0.739	0.684	0.735	1.000
5	Total Test	38	1.000	--	--	--	--	--	--
	1.Reading	20	0.926	1.000	--	--	--	--	--
	2.Reading Strategy - Analysis and Interpretation	8	0.787	0.852	1.000	--	--	--	--
	3.Reading Strategy - Comprehension	12	0.868	0.935	0.611	1.000	--	--	--
	4.Text Type - Informational Text	7	0.772	0.830	0.837	0.688	1.000	--	--
	5.Text Type - Literary Text	13	0.870	0.941	0.724	0.933	0.593	1.000	--
	6.Writing & Language	18	0.919	0.704	0.595	0.661	0.590	0.658	1.000
6	Total Test	38	1.000	--	--	--	--	--	--
	1.Reading	20	0.915	1.000	--	--	--	--	--
	2.Reading Strategy - Analysis and Interpretation	12	0.822	0.895	1.000	--	--	--	--
	3.Reading Strategy - Comprehension	8	0.793	0.870	0.557	1.000	--	--	--
	4.Text Type - Informational Text	13	0.815	0.910	0.795	0.813	1.000	--	--
	5.Text Type - Literary Text	7	0.785	0.831	0.769	0.694	0.526	1.000	--
	6.Writing & Language	18	0.923	0.690	0.623	0.594	0.596	0.617	1.000
7	Total Test	38	1.000	--	--	--	--	--	--
	1.Reading	20	0.922	1.000	--	--	--	--	--
	2.Reading Strategy - Analysis and Interpretation	12	0.860	0.934	1.000	--	--	--	--
	3.Reading Strategy - Comprehension	8	0.784	0.848	0.603	1.000	--	--	--
	4.Text Type - Informational Text	13	0.879	0.943	0.873	0.810	1.000	--	--
	5.Text Type - Literary Text	7	0.699	0.778	0.739	0.640	0.523	1.000	--
	6.Writing & Language	18	0.921	0.699	0.651	0.596	0.677	0.511	1.000
8	Total Test	38	1.000	--	--	--	--	--	--
	1.Reading	20	0.927	1.000	--	--	--	--	--
	2.Reading Strategy - Analysis and Interpretation	11	0.846	0.922	1.000	--	--	--	--
	3.Reading Strategy - Comprehension	9	0.828	0.882	0.630	1.000	--	--	--
	4.Text Type - Informational Text	13	0.881	0.946	0.921	0.775	1.000	--	--
	5.Text Type - Literary Text	7	0.745	0.810	0.658	0.822	0.577	1.000	--
	6.Writing & Language	18	0.913	0.695	0.624	0.632	0.664	0.550	1.000

Table 7-4. Pearson Correlations of Total Test and Subtest Raw Scores on NM-MSSA Mathematics English Forms Per Grade

Grade	Subtest	Number of Items	Total Test	Subtest 1	2	3	4	5
	Total Test	41	1.000	--	--	--	--	--
	1.Measurement & Data/Geometry	12	0.935	1	--	--	--	--
	2.Modeling/Structure & Repeated Reasoning	12	0.876	0.729	1	--	--	--
3	3.Operations & Algebraic Thinking	13	0.870	0.730	0.681	1	--	--
	4.Problem Solving/Reasoning & Argument	21	0.938	0.855	0.868	0.801	1	--
	5.Number & Operations in Base Ten/Number & Operations – Fractions	14	0.902	0.809	0.785	0.852	0.763	1
	Total Test	41	1.000	--	--	--	--	--
	1.Measurement & Data/Geometry	9	0.873	1.000	--	--	--	--
	2.Problem Solving/Reasoning & Argument	19	0.944	0.731	1.000	--	--	--
4	3.Operations & Algebraic Thinking	9	0.755	0.551	0.616	1.000	--	--
	4.Modeling/Structure & Repeated Reasoning	15	0.898	0.786	0.843	0.672	1.000	--
	5.Number & Operations in Base Ten/Number & Operations – Fractions	22	0.934	0.800	0.881	0.764	0.731	1.000
	Total Test	41	1.000	--	--	--	--	--
	1.Number & Operations in Base Ten/Number & Operations – Fractions	6	0.771	1.000	--	--	--	--
5	2.Modeling/Structure & Repeated Reasoning	17	0.903	0.617	1.000	--	--	--
	3.Problem Solving/Reasoning & Argument	14	0.909	0.616	0.697	1.000	--	--
	4.Measurement & Data/Geometry	16	0.905	0.599	0.871	0.789	1.000	--
	5.Operations & Algebraic Thinking	19	0.892	0.791	0.782	0.830	0.688	1.000
	Total Test	44	1.000	--	--	--	--	--
	1.Ratios & Proportional Relationships	9	0.842	1.000	--	--	--	--
	2.Problem Solving/Reasoning & Argument	18	0.951	0.725	1.000	--	--	--
6	3.The Number System/Expressions & Equations	13	0.802	0.570	0.658	1.000	--	--
	4.Modeling/Structure & Repeated Reasoning	20	0.938	0.784	0.877	0.767	1.000	--
	5.Geometry/Statistics & Probability	19	0.884	0.759	0.831	0.767	0.727	1.000
	Total Test	44	1.000	--	--	--	--	--
	1.The Number System/Expressions & Equations	8	0.783	1.000	--	--	--	--
	2.Ratios & Proportional Relationships	16	0.938	0.649	1.000	--	--	--
7	3.Problem Solving/Reasoning & Argument	16	0.910	0.631	0.760	1.000	--	--
	4.Geometry/Statistics & Probability	22	0.943	0.780	0.892	0.830	1.000	--
	5.Modeling/Structure & Repeated Reasoning	17	0.890	0.708	0.783	0.878	0.743	1.000
	Total Test	44	1.000	--	--	--	--	--
	1.Geometry/Statistics & Probability	9	0.815	1.000	--	--	--	--
	2.Modeling/Structure & Repeated Reasoning	14	0.763	0.484	1.000	--	--	--
8	3.Functions	17	0.864	0.577	0.461	1.000	--	--
	4.Problem Solving/Reasoning & Argument	16	0.764	0.676	0.727	0.535	1.000	--
	5.The Number System/Expressions & Equations	23	0.920	0.714	0.621	0.895	0.518	1.000

Table 7-5. Pearson Correlations of Total Test and Subtest Raw Scores on NM-ASR Science Grade 5 as a Function of Operational Sets

Subtest	Number of Items	Total Test	1	2	3
Operational Set A					
Total Test	54	1.000	--	--	--
1. Earth and Space Sciences	11	0.784	1.000	--	--
2.Life Sciences	11	0.822	0.737	1.000	--
3.Physical Sciences	13	0.791	0.641	0.703	1.000
Operational Set B					
Total Test	54	1.000	--	--	--
1.Earth and Space Sciences	11	0.767	1.000	--	--
2.Life Sciences	11	0.832	0.755	1.000	--
3.Physical Sciences	13	0.787	0.717	0.764	1.000

Table 7-6. Pearson Correlations of Total Test and Subtest Raw Scores on NM-ASR Science Grade 8 as a Function of Operational Sets

Subtest	Number of Items	Total Test	1	2	3
Operational Set A					
Total Test	50	1.000	--	--	--
1.Earth and Space Sciences	11	0.836	1.000	--	--
2.Life Sciences	12	0.802	0.679	1.000	--
3.Physical Sciences	12	0.831	0.700	0.700	1.000
Operational Set B					
Total Test	50	1.000	--	--	--
1.Earth and Space Sciences	11	0.836	1.000	--	--
2.Life Sciences	12	0.780	0.718	1.000	--
3.Physical Sciences	12	0.805	0.719	0.729	1.000

Table 7-7. Pearson Correlations of Total Test and Subtest Raw Scores on NM-ASR Science Grade 11 as a Function of Operational Sets

Subtest	Number of Items	Total Test	1	2	3
Operational Set A					
Total Test	54	1.000	--	--	--
1.Earth and Space Sciences	12	0.811	1.000	--	--
2.Life Sciences	13	0.844	0.715	1.000	--
3.Physical Sciences	12	0.771	0.638	0.680	1.000
Operational Set B					
Total Test	54	1.000	--	--	--
1.Earth and Space Sciences	12	0.782	1.000	--	--
2.Life Sciences	13	0.829	0.727	1.000	--
3.Physical Sciences	12	0.721	0.677	0.687	1.000

Chapter 8. Psychometrics: Item Response Theory (IRT) Scaling and Equating

This chapter describes the procedures used to scale the NM-MSSA and NM-ASR tests. For the Spring 2022 administration, the NM-MSSA operational tests were (mostly) pre-equated while the NM-ASR operational tests were administered operationally for the first time.

8.1 IRT Models

All NM-MSSA and NM-ASR items were calibrated using item response theory (IRT). IRT uses mathematical models to define a relationship between an unobserved measure of student proficiency, usually referred to as theta (θ), and the probability (p) of getting a dichotomous item correct or of getting a particular score on a polytomous item. In IRT, all items are assumed to be independent measures of the same construct (i.e., of the same θ). Another way to think of θ is as a mathematical representation of the latent trait of interest. Several common IRT models are used to specify the relationship between θ and p (Hambleton & van der Linden, 1997; Hambleton & Swaminathan, 1985). The process of determining the specific mathematical relationship between θ and p is called item calibration. After items are calibrated, they are defined by a set of parameters that specify a nonlinear, monotonically increasing relationship between θ and p. Once the item parameters are known, an estimate of θ for each student can be calculated. This estimate, $\hat{\theta}$, is considered to be an estimate of the student's performance. It has characteristics that may be preferable to those of raw scores for equating and scaling purposes.

For the NM-MSSA and NM-ASR Assessments, the three-parameter logistic (3PL) model was used for dichotomous (selected-response) items and the Graded-Response Model (GRM) was used for polytomous (constructed-response) items. The 3PL model for dichotomous items can be defined as:

$$P_i\left(\theta_j\right) = P\ \left(U_i = 1 | \theta_j\right) = c_i + (1 - c_i)\frac{\exp[Da_i(\theta_j - b_i)]}{1 + \exp[Da_i(\theta_j - b_i)]},$$

Where

U indexes the scored response on an item,

i indexes items,

j indexes students,

a represents item discrimination,

b represents item difficulty,

c is the lower asymptote parameter, and

D is a normalizing constant equal to 1.701.

In the GRM for polytomous items, an item is scored in a $k + 1$ graded category that can be viewed as a set of k dichotomies. At each point of dichotomization (i.e., at each threshold), a two-parameter model can be used. This implies that a polytomous item with a $k + 1$ category can be characterized by k Item Category Threshold Curves (ICTCs) of the two-parameter logistic form:

$$P_{ik}^*(k|\theta_j) = P\ (U_i \geq k|\theta_j) = \frac{\exp[Da_i(\theta_j-b_i+d_{ik})]}{1+\exp[Da_i(\theta_j-b_i+d_{ik})]},$$

Where

U indexes the scored response on an item,

i indexes the items,

j indexes students,

k indexes threshold,

a represents item discrimination,

b represents item difficulty,

d represents item category threshold, and

D is a normalizing constant equal to 1.701.

After computing k ICTCs in the GRM, $k+1$ Item Category Characteristic Curves (ICCCs) are derived by subtracting adjacent ICTCs:

$$P_{ik}(\theta_j) = P(U_i = k|\theta_j) = P_{i(k-1)}^*(\theta_j) - P_{ik}^*(\theta_j),$$

where P_{ik} represents the probability that the score on item i falls in category k, and

P_{ik}^* represents the probability that the score on item i falls at or above the threshold k

Note that $P_{i0}^* = 1$ and $P_{i(m+1)}^* = 0$.

The GRM is also commonly expressed as:

$$P_{ik}(k|\theta_j) = \frac{\exp[Da_i(\theta_j-b_i+d_k)]}{1+\exp[Da_i(\theta_j-b_i+d_k)]} - \frac{\exp[Da_i(\theta_j-b_i+d_{k+1})]}{1+\exp[Da_i(\theta_j-b_i+d_{k+1})]}.$$

The Item Characteristic Curve (ICC) for polytomous items is computed as a weighted sum of ICCCs, where each ICCC is weighted by a score assigned to a corresponding category:

$$E\ (U_i|\theta_j) = \sum_k^{m+1} w_{ik}P_{ik}(\theta_j)$$

See Lord and Novick (1968), Hambleton and Swaminathan (1985), and Baker and Kim (2004) for more information about item calibration and parameter estimation.

8.2 Dimensionality Analysis

Tests are constructed with multiple content-area subcategories and their associated knowledge and skills. Hence, the potential exists for dimensions being invoked beyond the common primary dimension. Generally, the content-area subcategories are highly correlated with each other, and the primary dimension they share typically explains an overwhelming majority of the variance in test scores. The presence of just such a dominant primary dimension is the psychometric assumption that provides the foundation for the unidimensional item response theory (IRT) models that are used for scaling and equating of the NM-MSSA and NM-ASR tests.

The purpose of the dimensionality analysis presented in this report is to investigate whether violation of the assumption of test unidimensionality is statistically detectable and, if so, the degree to which unidimensionality is violated. Findings from dimensionality analyses performed on the NM-MSSA operational items for ELA and Mathematics and NM-ASR for science are reported below. (Note: Only operational items were analyzed since they are used for score reporting.)

The dimensionality analyses were conducted using the nonparametric IRT-based methods DIMTEST (Stout, 1987; Stout, Froelich, & Gao, 2001) and DETECT (Zhang & Stout, 1999). Both methods use the estimated average conditional covariances for item pairs as their basic statistical building block. A conditional covariance is the covariance between two items conditioned on expected total score for the rest of the test, and the average conditional covariance is obtained by averaging across every possible conditioning score. When a test is strictly unidimensional, all conditional covariances are expected to take on values within random noise of zero, indicating statistically independent item responses for examinees with equal expected total test scores. Nonzero conditional covariances are essentially violations of the principle of local independence, and local dependence implies multidimensionality. Thus, nonrandom patterns of positive and negative conditional covariances indicate multidimensionality.

DIMTEST is a hypothesis-testing procedure for detecting violations of local independence. The data are first divided into a training sample and a cross-validation sample. Then an exploratory analysis of the conditional covariances is conducted on the training sample data to find the cluster of items that displays the greatest evidence of local dependence. The cross-validation sample is then used to test whether the conditional covariances of the selected cluster of items display local dependence, conditioned on total score on the non-clustered items. The DIMTEST statistic follows a standard normal distribution under the null hypothesis of unidimensionality.

The DETECT statistic is an effect-size measure of multidimensionality. As with DIMTEST, the data are first divided into a training sample and a cross-validation sample. The training sample is used to find a set of mutually exclusive and collectively exhaustive clusters of items that best fit a systematic pattern of positive conditional covariances for pairs of items from the same cluster and negative conditional covariances from different clusters. Next, the clusters from the training sample are used with the cross-validation sample data to average the conditional covariances: within-cluster conditional covariances are summed; from this sum the between-cluster conditional covariances are subtracted; this difference is divided by the total number of item pairs; and this average is multiplied by 100 to yield an index of the average violation of local independence for an item pair. DETECT values less than 0.2 indicate very weak multidimensionality (or near unidimensionality); values of 0.2 to 0.4, weak multidimensionality; values of 0.4 to 1.0, moderate multidimensionality; and values greater than 1.0, strong multidimensionality (e.g., Roussos & Ozbek, 2006).

DIMTEST and DETECT were separately applied to the NM-MSSA reading, writing and language, and mathematics tests per grade. First, each dataset was split into a training sample and a cross-validation sample.

DIMTEST was then applied to each sample, and the DIMTEST null hypothesis was rejected at a significance level of 0.05 for every grade level per content area. Next, DETECT was used to estimate the effect size for the violations of local independence for all the tests. Table 8-1 displays the multidimensional DETECT effect size estimates, which indicate very weak to weak levels of multidimensionality for every test.

Table 8-1. DETECT Multidimensional Effect Size, as a Function of Content Area and Grade*

Content Area	Grade	Multidimensional Effect Size	Interpretation
ELA	3	0.249	Small
	4	0.252	Small
	5	0.244	Small
	6	0.234	Small
	7	0.213	Small
	8	0.242	Small
Mathematics	3	0.175	Negligible
	4	0.187	Negligible
	5	0.221	Small
	6	0.193	Negligible
	7	0.170	Negligible
	8	0.289	Small
Science (operational Set A)	5	0.255	Small
	8	0.184	Negligible
	11	0.164	Negligible
Science (operational Set B)	5	0.212	Small
	8	0.225	Small
	11	0.177	Negligible

*Calculations based on those students attempting five or more items on the English forms of the given NM-MSSA assessment. Multidimensional effect size < 0.20 interpreted as negligible, 0.20 to 0.40 as small, 0.40 to 1.00 as moderate, and greater than 1.00 as strong.

8.3 Item Response Theory Results

The tables in Appendix J give the IRT item parameters of all common items on the 2021–22 New Mexico MSSA tests by grade and content area.

Test characteristic curves (TCCs) are based on the IRT item parameters and display the expected (average) raw score associated with each θ_j value between –4.0 and 4.0, or equivalently the expected (average) raw score associated with each observable scale score (see Section 8.4 for details on scale scores). Mathematically, the TCC is computed by summing the ICCs of all items that contribute to the raw score. Using the notation introduced in Section 7.1, the expected raw score at a given value of θ_j is

$$E\big(X\big|\theta_j\big) = \sum_{i=1}^{n} E\ (U_i|\theta_j),$$

where i indexes the items (and n is the number of items contributing to the raw score),

j indexes students (here, θ_j runs from –4 to 4), and

$E\big(X\big|\theta_j\big)$ is the expected raw score for a student of ability θ_j.

U indexes the scored response on an item,

The expected raw score monotonically increases with θ_j, consistent with the notion that students of high ability tend to earn higher raw scores than do students of low ability. Most TCCs are "S-shaped"—flatter at the ends of the distribution and steeper in the middle.

Test information functions (TIFs) display the amount of statistical information the test provides at each value of θ_j, or equivalently display the amount of statistical information the test provides at each observable scale score. TIFs depict test score precision across the entire latent trait continuum. There is an inverse relationship between the information from a test and its conditional standard error of measurement (CSEM). The CSEM at a given θ_j [$CSEM(\theta_j)$] is equal to the inverse of the square root of the statistical information at θ_j (e.g., Hambleton, Swaminathan, & Rogers, 1991). That is, the $CSEM(\theta_j)$ is

equal to the inverse of the square root of the TIF at a given θ_j [$TIF(\theta_j)$], the expression for which can be written as follows:

$$CSEM(\theta_j) = \frac{1}{\sqrt{TIF(\theta_j)}}$$

Compared to the tails, TIFs are often higher near the middle of the θ distribution, where most students are located and where most items are sensitive by design.

Appendix K contains graphs of the TCC and CSEM, for each content area and grade. Each TCC graph displays the expected raw score (on the vertical axis) for each scale score (on the horizontal axis). Each TCC graph also has a set of vertical lines that indicate the values of the scale score cut scores for the given content area and grade. Each CSEM graph displays the scaled CSEM (see Section 8.4 below) value (on the vertical axis) at each scale score (on the horizontal axis). Each CSEM graph also has a set of vertical lines that indicate the values of the scale score cut scores for the given content area and grade.

8.4 Equating

The purpose of equating is to ensure that scores obtained from different forms of a test are equivalent to each other. Equating may be used if multiple test forms are administered in the same year or to equate one year's forms to those given in the previous year.

The NM-MSSA Spring 2022 test forms were pre-equated. The pre-equating process uses item bank values of the IRT item parameters to place the pre-equated test form onto the established IRT scale. Equating ensures that students are not given an unfair advantage or disadvantage because the test form they took is easier or harder than those taken by other students.

8.5 Reported Total Test and Subtest Scale Scores

The θ scale used in IRT calibrations is not readily understood by most stakeholders. As such, reporting scales are used for NM-MSSA reporting. The reporting scales are linear transformations of the underlying θ scale. To obtain a student's scale score on a given assessment, the student's raw score (i.e., total number of points earned) is translated into a value on the underlying θ scale using TCC mapping. The student's θ value is translated into a scale score (*SS*) using the following linear equation:

$$SS = \beta_0 + \beta_1\theta$$

where β_0 is an intercept constant and

β_1 is a slope constant,

m is the slope, and

b is the intercept.

The CSEM can also be translated into a scaled CSEM. Whereas values of the CSEM are on the θ scale, values of the scaled CSEM are on the reporting scale. The scaled CSEM is obtained via the following equation:

$$Scaled\ CSEM = \beta_1 \times CSEM(\theta)$$

Table 8-2 shows the slope and intercept terms used for the Spring 2022 NM-MSSA and NM-ASR Assessments to calculate the scale scores. See Appendix L for Raw to Scale score Lookup Tables.

Table 8-2. Spring 2022 Scale score Slopes and Intercepts by Content Area and Grade

Content Area	Grade	Slope	Intercept
ELA	3	20.0	352.9284
	4	20.0	457.0876
	5	20.0	556.8048
	6	20.0	654.6874
	7	20.0	755.6362
	8	20.0	857.1212
Mathematics	3	17.5	352.3373
	4	17.5	452.2669
	5	17.5	555.0977
	6	17.5	661.6597
	7	17.5	759.2391
	8	17.5	852.6808
Science	5	12.5	553.5668
	8	10.0	855.1012
	11	7.5	1159.7213

It is important to note that converting from raw scores to θ values to scale scores does not change students' achievement-level classifications. Given the relative simplicity of raw scores, it is fair to question why scale scores are reported instead of raw scores. Scale scores make the reporting of grade-level results consistent across test forms and administrations. It is this uniformity across scale scores that facilitates the understanding of student performance. The psychometric advantage of scale scores over raw scores comes from their being linear transformations of θ. Since the θ scale is used for pre- or post-equating, scale scores are comparable from one year to the next. Raw scores are not.

8.6 Performance Levels

The cut scores used for the Spring 2022 NM-MSSA Assessments are the cut scores that were originally established for the Cognia Interim Assessment, on which New Mexico iMSSA is based (see Appendix M for the NM iMSSA 2021–22 Technical Report Addendum).The interim cut scores were used for the Spring 2022 NM-MSSA Assessments, given the need to report performance level results coupled with the decision to delay setting performance standards for NM-MSSA until 2022. The decision to delay NM-MSSA standard setting was based on the effect of disruption of the COVID-19 pandemic on student instruction and student learning, as well as the impact of the pandemic on Spring 2022 NM-MSSA participation rates.

The cut scores on the theta scale and the reporting scale, used for the Spring 2022 NM-MSSA and NM-ASR Assessments, are presented in Table 8-3.

Table 8-3. Spring 2022 Cutpoints on the Theta Metric and Reporting Scale by Content Area and Grade

Content Area	Grade	Theta Cut Score			Scale score Cut Score		
		1	2	3	1	2	3
ELA	3	-0.84070	0.35358	0.87096	336	360	370
	4	-0.84036	0.14562	0.80754	440	460	473
	5	-0.67811	0.15976	0.84779	543	560	573
	6	-1.12288	0.26563	0.95086	632	660	673
	7	-1.20560	0.21819	0.99071	731	760	775
	8	-0.82541	0.14394	0.71275	840	860	871
Mathematics	3	-0.59939	0.43787	1.46087	341	360	377
	4	-0.42244	0.44189	1.61624	444	460	480
	5	-0.38771	0.28013	1.05367	548	560	573
	6	-0.85783	-0.09484	1.00975	646	660	679
	7	-0.59970	0.04348	0.65422	748	760	770
	8	-0.63353	0.41824	1.48261	841	860	878
Science	5	-0.75048	0.51466	1.70117	544	560	574
	8	-0.96101	0.48988	2.73095	845	860	882
	11	-0.76114	0.03716	2.91134	1154	1160	1181

8.6.1 Percentages of Students in Each Performance Level

The performance level distributions for both English and Spanish forms of the Spring 2022 administration of NM-MSSA and NM-ASR Assessments are shown in Table 8-4.

Table 8-4. Performance Level Distribution on NM-MSSA and ASR English Forms, as a Function of Content Area and Grade*

Grade	Number of Students	Frequency of Students				Percentage of Students			
		Novice	Nearing Proficiency	Proficient	Advanced	Novice	Nearing Proficiency	Proficient	Advanced
ELA									
3	20,846	5,611	8,462	3,371	3,402	26.9	40.6	16.2	16.3
4	21,058	6,404	7,083	4,545	3,026	30.4	33.6	21.6	14.4
5	21,995	7,587	6,522	4,870	3,016	34.5	29.7	22.1	13.7
6	22,132	4,909	9,878	4,457	2,888	22.2	44.6	20.1	13.0
7	23,381	4,632	10,558	4,849	3,342	19.8	45.2	20.7	14.3
8	23,853	7,970	7,895	3,906	4,082	33.4	33.1	16.4	17.1
Mathematics									
3	20,872	9,679	6,403	3,881	909	46.4	30.7	18.6	4.4
4	21,080	10,129	5,782	4,214	955	48.1	27.4	20.0	4.5
5	21,995	9,764	5,450	4,680	2,101	44.4	24.8	21.3	9.6
6	22,145	9,115	5,743	5,673	1,614	41.2	25.9	25.6	7.3
7	23,383	11,409	6,108	3,351	2,515	48.8	26.1	14.3	10.8
8	18,646	7,267	8,002	3,036	341	39.0	42.9	16.3	1.8
Science									
5	21,995	6,202	8,843	5,350	1,600	28.2	40.2	24.3	7.3
8	23,887	4,598	12,237	6,746	306	19.2	51.2	28.2	1.3
11	19,727	6,034	5,661	7,851	181	30.6	28.7	39.8	0.9

Calculations based on those students attempting five or more items on the given NM-MSSA and ASR Assessments. Statistical values are suppressed for those content areas/grades with fewer than 50 students.

Table 8-5. Performance Level Distribution on NM-MSSA and ASR Spanish Forms, as a Function of Content Areas and Grade*

Grade	Number of Students	Frequency of Students				Percentage of Students			
		Novice	Nearing Proficiency	Proficient	Advanced	Novice	Nearing Proficiency	Proficient	Advanced
					SLA				
3	693	283	319	65	26	40.8	46.0	9.4	3.8
4	561	295	190	56	20	52.6	33.9	10.0	3.6
5	210	96	83	22	9	45.7	39.5	10.5	4.3
6	218	102	104	8	4	46.8	47.7	3.7	1.8
7	225	79	122	20	4	35.1	54.2	8.9	1.8
8	233	116	88	20	9	49.8	37.8	8.6	3.9
					SMA				
3	704	490	147	63	4	69.6	20.9	8.9	0.6
4	565	352	142	60	11	62.3	25.1	10.6	1.9
5	216	144	49	18	5	66.7	22.7	8.3	2.3
6	226	176	32	15	3	77.9	14.2	6.6	1.3
7	239	189	38	11	1	79.1	15.9	4.6	0.4
8	194	127	62	5	0	65.5	32.0	2.6	0.0
					Science				
5	216	110	90	15	1	50.9	41.7	6.9	0.5
8	222	77	125	20	0	34.7	56.3	9.0	0.0
11	192	110	55	27	0	57.3	28.6	14.1	0.0

*Calculations based on those students attempting five or more items on the given NM-MSSA and ASR Assessments. Statistical values are suppressed for those content areas/grades with fewer than 50 students.

Chapter 9. Score Reliability

9.1 Classical Reliability Analyses

Although an individual item's performance is an important focus for evaluation, a complete evaluation of an assessment must also address the way items function together and complement one another. Tests that function well provide a dependable assessment of the student's level of ability. Unfortunately, no test can do this perfectly. A variety of factors can contribute to a given student's score being either higher or lower than his or her true ability. For example, a student may misread an item, or mistakenly fill in the wrong bubble when he or she knew the answer. Collectively, extraneous factors that affect a student's score are referred to as "measurement error." Any assessment includes some amount of measurement error; that is, no measurement is perfect. This is true of all academic assessments—some students will receive scores that underestimate their true ability, and other students will receive scores that overestimate their true ability. When tests have a high amount of measurement error, student scores are very unstable. Students with high ability may get low scores, or vice versa. Consequently, one cannot reliably measure a student's true level of ability with such a test. Assessments that have less measurement error (i.e., errors made are small on average and student scores on such a test will consistently represent their ability) are described as reliable.

There are a number of ways to estimate an assessment's reliability: test-retest, alternate forms, split-half, and internal consistency. One possible approach is to give the same test to the same students at two different points in time. If students receive the same scores on each test, the extraneous factors affecting performance are small and the test is reliable. (This is referred to as "test-retest reliability.") A potential problem with this approach is that students may remember items from the first administration or may have gained (or lost) knowledge or skills in the interim between the two administrations.

A solution to the problem of remembering items is to give a different but parallel test at the second administration. If student scores on each test correlate highly, the test is considered reliable. (This is known as "alternate-forms reliability," because an alternate form of the test is used in each administration.) This approach, however, does not address the problem that students may have gained (or lost) knowledge or skills in the interim between the two administrations. In addition, the practical challenges of developing and administering parallel forms generally preclude the use of parallel-forms reliability indices.

One way to address the latter two problems is to split the test in half and then correlate students' scores on the two half-tests; this in effect treats each half-test as a complete test. By doing this, the problems associated with an intervening time interval and with creating and administering two parallel forms of the test are alleviated. This is known as a "split-half estimate of reliability." If the two half-test scores correlate highly, items on the two half-tests must be measuring very similar knowledge or skills. This is evidence that the items complement one another and function well as a group. This also suggests that measurement error will be minimal. The split-half method requires psychometricians to select items that contribute to each half-test score. This decision may have an impact on the resulting correlation since each different possible split of the test into halves will result in a different correlation. Another problem with the split-half method of calculating reliability is that it underestimates reliability, because test length is cut in half. All else being equal, a shorter test is less reliable than a longer test.

Internal consistency reliability reflects the degree to which the items on a test form are related to (or correlate with) each other. Cronbach (1951) provided a statistic, α (coefficient alpha), that estimates

internal consistency reliability. Coefficient alpha is equivalent to the average of all possible split-half reliabilities. The formula for Cronbach's α is as follows:

$$\alpha \equiv \frac{n}{n-1}\left[1 - \frac{\sum_{i=1}^{n} \sigma_{(Y_i)}^2}{\sigma_x^2}\right],$$

where i indexes the item,

n is the total number of items,

$\sigma_{(Y_i)}^2$ represents an individual item variance, and

σ_x^2 represents the total test variance.

Cronbach's α is used to estimate the (unconditional) classical standard error of measurement (SEM), which is given by

$$SEM = \sqrt{\sigma_x^2(1 - \alpha)}$$

9.2 IRT Marginal Reliabilities

IRT marginal reliability estimation is based on applying the standard classical test theory (CTT) formula, relating variances of true score, observed score, and measurement error, in the IRT setting. In CTT, the relationship between these variances is given by:

$$\sigma_X^2 = \sigma_T^2 + \sigma_E^2$$

where σ_X^2 is the observed-score variance,

σ_T^2 is the true-score variance, and

- σ_E^2 is the error variance.

Starting from this basic equation, it can be shown that the formula for CTT reliability can be expressed by:

$$CTT\ Reliability = 1 - \frac{\sigma_E^2}{\sigma_X^2}.$$

IRT marginal reliability is based on extending the CTT model to an IRT framework (Samejima, 1994) and provides an IRT-based estimate of the overall test reliability. Error variance is estimated as the mean squared conditional standard error of measurement (CSEM) of the theta estimates across students within a grade. Observed-score variance is estimated as the variance of the theta estimates across students within a grade. Equivalently, the mean squared CSEM of the scale scores and the variance of the scale scores can be used in place of the CSEM of the theta estimates and the variance of the theta estimates, respectively. IRT marginal reliability is then given by the following formula:

$$IRT\ Marginal\ Reliability = 1 - \frac{\overline{CSEM(\theta)^2}}{Var(\hat{\theta})} = 1 - \frac{\overline{CSEM(SS)^2}}{Var(SS)},$$

where $\overline{CSEM(\theta)^2}$ is the mean squared CSEM,

$\overline{CSEM(SS)^2}$ is the mean squared scaled CSEM,

$Var(\hat{\theta})$ is the variance of theta estimates, and

$Var(SS)$ is the variance of scale scores.

Using this formula, IRT marginal reliability estimates were calculated for each assessment using the scale scores (and their standard errors).

The reliability of a test can also be evaluated by simply examining directly the CSEMs themselves. CSEMs facilitate the interpretation of individual scale scores. With any given scale-score estimate for a student, the reasonable limits of the true scale score for the student can be calculated by using the CSEM for the scale score.

The tables in Appendix N contain Coefficient α, (classical) SEM, and IRT marginal reliability for the spring 2022 administration of the New Mexico MSSA & ASR tests.

At the total test level and per grade, Coefficient α ranged from 0.84 to 0.90 in ELA, 0.80 to 0.90 in Mathematics, and 0.88 to0.89 in science. Also, at the total test level and per grade, IRT marginal reliability ranged from 0.79 to 0.86 in ELA, 0.61 to 0.78 in Mathematics, and 0.90 for all Science. Note that IRT marginal reliability is partially dependent upon the variance in scale scores. When present, range restriction in smaller samples can reduce the variance in scale scores and therefore reduce the resulting value of IRT marginal reliability.

While subgroup reliability results are included in Appendix N for subgroups with at least 50 students, many of the subgroups have fewer than 100 students per content area and grade. Because the subgroup reliabilities are based on very small samples, no interpretations ought to be made on the adequacy of these subgroup reliabilities.

Given that, the results in Appendix N should be interpreted with appropriate levels of caution. Reliabilities are dependent not only on the measurement properties of a test, but also on the statistical distribution of the studied subgroup. Additionally, reliability estimates can be artificially depressed for subgroups with little variability in test scores (Draper & Smith, 1998).

9.3 Decision Accuracy and Consistency

While related to reliability, the accuracy and consistency of classifying students into achievement categories are even more important statistics in a standards-based reporting framework (Livingston & Lewis, 1995). After the achievement levels were specified and students were classified into those levels, empirical analyses were conducted to estimate the statistical accuracy and consistency of the classifications.

Accuracy refers to the extent to which decisions based on test scores match decisions that would have been made if the scores did not contain any measurement error. Evaluation of decision accuracy is essential, considering all test scores contain measurement error. Consistency measures the extent to which classification decisions based on test scores match the decisions based on scores from a second, parallel form of the same test. Consistency can be evaluated directly from actual responses to test items if two complete and parallel forms of the test are given to the same group of students. In operational test programs, however, such a design is usually impractical. Instead, techniques have been developed to estimate both the accuracy and consistency of classification decisions based on a single administration of a test. The Livingston and Lewis (1995) technique was used to estimate decision accuracy and consistency because the method is easily adaptable to all types of testing formats, including mixed-format tests. The Livingston and Lewis technique uses "true scores" as the term is defined in classical test theory. A true score is the score that would be obtained if a test had no measurement error. Of course, true scores cannot be observed and so must be estimated. In the Livingston and Lewis (1995) method, estimated true scores are used to categorize students into their "true" classifications.

For the 2021–22 NM-MSSA tests, after various technical adjustments (described in Livingston & Lewis, 1995), a three-by-three contingency table of accuracy was created for each grade and content area,

where cell [i, j] represented the estimated proportion of students whose true score fell into performance level i (where i = 1 to 3) and observed score into performance level j (where j = 1 to 3). The sum of the diagonal entries (i.e., the proportion of students whose true and observed classifications matched) signified overall accuracy.

To calculate consistency, true scores were used to estimate the joint distribution of classifications on two independent, parallel test forms. Following statistical adjustments per Livingston and Lewis (1995), a new three-by-three contingency table was created for each grade and content area to show the proportion of students who would be categorized into each combination of classifications according to the two (hypothetical) parallel test forms. Cell [i, j] of this table represented the estimated proportion of students whose observed score on the first form would fall into performance level i (where i = 1 to 3) and whose observed score on the second form would fall into performance level j (where j = 1 to 3). The sum of the diagonal entries (i.e., the proportion of students categorized by the two forms into exactly the same classification) signified overall consistency.

Another way to measure consistency is to use κ (kappa; Cohen, 1960), which indicates the proportion of consistent classifications after removing the proportion of consistent classifications that would be expected by chance. It is calculated using the following formula:

$$\kappa = \frac{(Observed\ agreement) - (Chance\ agreement)}{1 - (Chance\ agreement)} = \frac{\sum_i C_{ii} - \sum_i C_{i.} C_{.i}}{1 - \sum_i C_{i.} C_{.i}},$$

where $C_{i.}$ is the proportion of students whose observed achievement level would be Level i (where i = 1–3) on the first hypothetical parallel form of the test;

$C_{.i}$ is the proportion of students whose observed achievement level would be Level i (where i = 1–3) on the second hypothetical parallel form of the test; and

C_{ii} is the proportion of students whose observed achievement level would be Level i (where i = 1–3) on both hypothetical parallel forms of the test.

Because κ is corrected for chance, its values are lower than are other consistency estimates.

The tables in Appendix O contain the decision accuracy and consistency results for the Spring 2022 administration of NM-MSSA. These tables include overall accuracy and consistency indices, kappa, accuracy and consistency values conditional on achievement level, and accuracy and consistency estimates at each cutpoint as well as false positive and false negative decision rates. A false positive is the proportion of students whose observed scores were above the cutpoint and whose true scores were below the cutpoint. A false negative is the proportion of students whose observed scores were below the cutpoint and whose true scores were above the cutpoint.

For these calculations, the denominator is the proportion of students associated with a given achievement level. For example, if the conditional accuracy value is 0.85 for any achievement level, this figure indicates that among the students whose true scores placed them in this classification, 85 percent would be expected to be in this classification when categorized according to their observed scores. Similarly, a consistency value of 0.80 indicates that 80 percent of students with observed scores in any achievement level would be expected to score in this classification again if a second, parallel test form were used.

Note that, as with other methods of evaluating reliability, accuracy, and consistency, statistics calculated based on small groups can be expected to be lower than those calculated based on larger groups. For this reason, the values presented in Appendix O should be interpreted with caution. In addition, it is important to remember that it is inappropriate to compare accuracy and consistency statistics between grades and content areas. Decision accuracies and consistencies generally ranged from 0.6 to 0.8 at the overall level. At the level of performance level, decision accuracies were stronger for the Needs Support

performance level than those for the Near Target and On Target performance levels. This is arguably due to the number of students at each performance level. Fewer students fell in the Near Target and On Target performance levels.

Chapter 10. Score Reporting

10.1 Relationship to SIUs

Score interpretation and use (SIU) statements are claims about how test scores and other performance information can be interpreted and used to guide decisions and actions. We conduct all activities subsequent to development of the MSSA and ASR SIU statements—starting from the performance level descriptors (PLDs) to test design, item development and forms development, and psychometric analyses—to support the SIUs. SIUs also indicate the score reporting elements that we can and should include in score reports.

For example, consider the following NM-MSSA SIU:

> *NM-MSSA scores provide reliable and valid information about important knowledge and skills in grade-level numeracy and literacy that students with the most significant cognitive disabilities are attaining.*

The claims and subclaims in this interpretation statement are that we can report NM-MSSA scores and student proficiency levels because the scores are supported by evidence of score reliability and evidence of validity such as dimensionality and equating studies, thereby supporting the inclusion of student scores and proficiency levels on individual score reports.

10.2 Score Reports

Student performance on New Mexico MSSA Assessments and New Mexico ASR is described on the individual student report using the interim scale scores, performance levels, standard error, and subclaim performance indicators. For additional information concerning the student report, see Appendix P–Processing and Reporting Business Requirements.

10.3 Scale Score

A scale score is a numerical value that summarizes student performance. Not all students respond to the same set of test items, so each student's scale score accounts for the slight differences in difficulty among the various forms and administrations of the test. The resulting scale score allows for an appropriate comparison across test forms and administration years within a grade or course and content area. NM-MSSA reports provide overall scale scores for Reading, Writing and Language, and Mathematics, which determine a student's performance level for each content area. Scale-score ranges differ by grade for all tests. NM-ASR reports provide overall scale scores for Science at grades 5, 8 and 11.

For example, a student who earns an overall scale score of 800 on one form of the grade 8 Mathematics assessment would be expected to earn an overall scale score of 800 on any other form of the grade 8 Mathematics assessment. Furthermore, the student's overall scale score and level of mastery of concepts and skills would be comparable to a student who took the same assessment the previous year or the following year. For cumulative scale-score distributions see Appendix Q; for scale score descriptive statistics, see Appendix R.

10.4 Performance Level

Each NM-MSSA performance level is a broad category that is defined by a student's overall scale score and is used to report overall student performance by describing how well students met the expectations for their grade level/course. There are four performance levels for the Spring 2022 NM-MSSA and NM-ASR Assessments:

>**Advanced.** Students demonstrate evidence of **thorough** understanding and use of college and career readiness knowledge, skills, and abilities.

>**Proficient.** Students demonstrate evidence of **satisfactory** understanding and use of college and career readiness knowledge, skills, and abilities.

>**Nearing Proficiency.** Students demonstrate evidence of **partial** understanding and use of college and career readiness knowledge, skills, and abilities.

>**Novice.** Students demonstrate evidence of **emerging** understanding and use of college and career readiness knowledge, skills,

These PLDs are referred to as Policy Definitions for reporting NM-MSSA performance in ELA and Mathematics, SLA, and the translated versions of NM-MSSA Mathematics and New Mexico Assessment of Science Readiness (NM-ASR).

The range PLDs are specific to each content area. Range PLDs describe the knowledge and skills that students throughout the range of each proficiency level are expected to be able to demonstrate in each grade and content area. For example, in line with the nature of the science standards, the science range PLDs combine science and engineering practices, disciplinary core ideas, and crosscutting concepts that students in grades 5, 8, and 11 are expected to integrate and demonstrate. The range PLDs appear in Appendix B.

10.5 Subclaim Performance Indicators

Subclaim performance for NM-MSSA assessments is reported using symbols that indicate whether the student performed above standard, at/near standard, or below standard in a given subclaim. Additional information about subclaim performance indicators is located in the Score Report Interpretation Guide, Appendix S in this document.

Students may have subclaim performance indicators of the following:

- Above Standard – represented by an up arrow
- At/Near Standard – represented by a bidirectional arrow
- Below Standard – represented by a down arrow

10.6 Additional Resources

For each content area, additional resources are provided to support families in the development of these skills at home.

Chapter 11. Validity Arguments to Support Intended Score Interpretations and Uses

This chapter presents the primary intended score interpretation and two primary intended score uses. This chapter also presents the claims and subclaims that underlie these three score interpretations and uses (SIUs) and the evidence that supports the claims and subclaims. The New Mexico MSSA and ASR validity argument model is introduced and applied to develop validity arguments to support the four SIUs.

It is important to note that the 2022 NM-MSSA and ASR tests were administered at the end of a school year in which COVID-19 still had a strong impact on instruction and learning. The fact that the 2022 NM-MSSA is pre-equated shields the item parameters, equating results, and psychometric characteristics of the 2022 assessment from deleterious COVID-19 effects. That shielding enables valid interpretations of student performance in 2022, which is likely to reflect whatever deleterious COVID-19 effects there may be, specifically loss of high-quality opportunity to learn and impacts on test performance. The combination of these two facts (pre-equated model and the similarity of student results from past years) indicates that the scores can be interpreted similarly in 2022 and 2019.

The *Standards for Educational and Psychological Testing* (2014) defines validity as "the degree to which evidence and theory support the interpretations of test scores for proposed uses of tests" (p. 11). Elaborating on that definition, *Standards* asserts that "it is the interpretations of test scores for proposed uses that are evaluated, not the test itself" (p. 11) and that "validation logically begins with an explicit statement of the proposed interpretation of test scores, along with a rationale for the relevance of the interpretation to the proposed use" (p. 11). This definition applies specifically to intended interpretations and uses of test scores, rather than to the broader program of curriculum and instruction in which a testing program is embedded or to the surrounding education and school improvement policies and aspirations for student learning.

Further, *Standards* states that "a sound validity argument integrates various strands of evidence into a coherent account of the degree to which existing evidence and theory support the intended interpretations of test scores for specific uses" (p. 21). We use these views in the *Standards,* that evidence must be used to support score interpretation and use claims, as the basis for the NM-MSSA validity argument model, which we describe next.

Emerging practice in state assessment programs is to construct validity arguments based on Toulmin's model of argumentation (Toulmin. 1958), Chapelle's proposed practice-oriented adaptation (2021), and Kane's formulation of validity arguments (2013). A model for NM-MSSA validity arguments, derived from these three conceptualizations, is shown in Figure 11-1. The first panel shows the NM-MSSA model; the second panel is an illustration for an NM-MSSA validity argument for a score interpretation and use statement.

Figure 11-1. NM-MSSA and NM-ASR Validity Argument Model

Score Interpretation and Use Statement → *Claim*

Evidence

Score Interpretation and Use Statement

The NM-MSSA and NM-ASR Assessments provide reliable and valid information about important knowledge and skills in grade-level mathematics, reading, language usage, and science attained by general education students.

Claim

NM-MSSA and ASR content is aligned to the New Mexico Common Core state standards and NM STEM Ready! Science Standards respectively.

Evidence

Chapter 3 of this report describes the relationship between NM-MSSA test content and the New Mexico Common Core State standards and between NM-ASR test content and the NM STEM Ready! Science Standards. Chapter 3 also details the coverage of each of these assessments' content standards providing the set of operational test blueprints for these test forms and their content coverage blueprints.

Adapted from Chapelle (2021) Figures 2.1-2.3, Kane (2013) Figure 1, and Toulmin (1958).

Table 11-1. Relationships Among Score Interpretations and Uses, Claims and Sub-Claims, and Supporting Evidence

Claims	Claims and Subclaims that Support Score Interpretations and Uses

SIU 1: Primary Intended Score Interpretation

The NM-MSSA and ASR assessments are designed to measure whether students are on track to be ready for college or career, as defined by the state standards. The NM-MSSA and ASR Assessments provide reliable and valid information about important knowledge and skills in grade-level standards attained by general education students.

Claim 1.1: The content of the tests represents the content of the standards.

| | 1.1.1 | Assessment content is aligned to the New Mexico Common Core State Standards and New Mexico STEM Ready! Science Standards |
| | 1.1.2 | Assessment items are aligned to the New Mexico Common Core State Standards and New Mexico STEM Ready! Science Standards. |

Claim 1.2: The test items are construct-relevant.

| | 1.2.1. | Items require application of the knowledge, skills, and abilities (KSAs) of the targeted construct. |
| | 1.2.2. | Items are free of bias and sensitivity issues. |

Claim 1.3: Test scores on the NM-MSSA and ASR Assessments provide reliable information about student performance and accurate classifications into performance levels.

	1.3.1.	Test scores and performance level categorizations are adequately reliable for their intended purpose.
	1.3.2.	Item characteristics support intended interpretations about all students who take the assessment.
	1.3.3.	Test characteristics support intended interpretations about all students who take the assessment.

Claim 1.4: Item and test scoring is implemented accurately.

| | 1.4.1. | Machine-scored items were scored accurately. |
| | 1.4.2. | Constructed-response item scoring training and monitoring procedures met industry standards. |

SIU 2: Intended Score Use for Individual Students

Performance on the NM-MSSA and ASR indicates a student's progress toward college and career readiness. NM-MSSA and ASR scale scores can be used to compare an individual student's performance to the performance of other students in the school, district, and state.

Claim 2.1: Educators, schools, and districts can use results from the NM-MSSA and ASR Assessments to describe student achievement status with respect to mastery of the content standards.

| | 2.1.1. | Test scores and performance level categorizations of individual students are adequately reliable and valid measures of student achievement status with respect to mastery of the content standards. |

SIU 3: Intended Score Use for Groups of Students

SIU statements for groups of students are applicable to aggregate reporting of school, district, and state performance and student subgroups (e.g., English learners, students with disabilities, racial/ethnic subgroups) within those levels of aggregation.

Claim 3.1: Educators can use results from the NM-MSSA and ASR Assessments to support instructional planning for groups of students.

| | 3.1.1. | Teachers find the performance level descriptors and their students' performance levels useful for planning instruction, especially for students whose test scores fall within performance levels 1 and 2. |
| | 3.1.2. | Teachers find their students' scale score information useful for planning instruction, especially for students whose test scores fall within performance levels 1 and 2. |

Claim 3.2: Schools and districts can use results from the NM-MSSA and ASR Assessments to make comparisons between organizations (e.g., schools, districts).

| | 3.2.1. | Test scores and performance levels for groups of students are adequately reliable and valid to enable school, district, and state leaders to monitor changes in means, standard deviations, and performance level percentages for classroom, school, district, and state groups. |
| | 3.2.2. | Test scores and proficiency level categorizations of groups of students are adequately reliable and valid to enable monitoring of grade-level performance and student-cohort performance. |

Evidence that supports SIUs and claims in NM-MSSA and ASR validity arguments is summarized below, using the rating scale defined in Table 11-2.

Table 11-2. Relevance and Completeness or Completeness of Evidence in Support of SIUs and Claims Underlying Validity Arguments for NM-MSSA and ASR Score Interpretations and Uses

Complete Evidence	When all required pieces of relevant evidence are provided to support a validity argument
Moderate to Substantial Evidence	When several pieces of relevant evidence are provided, but not all required pieces of evidence are provided
Limited Evidence	When only one or two pieces of evidence are provided, where the evidence may be only marginally relevant or where more than 1or 2 pieces of evidence are required
No Evidence	When no relevant evidence exists

11.1 Primary Intended Score Interpretation

The primary intended score interpretation for NM-MSSA and ASR (SIU 1) states that the Assessments provide reliable and valid information about important knowledge and skills in grade-level Reading, Language Usage, Mathematics, and Science attained by general education students.

Claim 1.1. The content of the tests represents the content of the standards.

Items used on NM-MSSA and NM-ASR Assessments are developed to measure achievement on the New Mexico Common Core state standards and New Mexico STEM Ready! Science Standards respectively. Additionally, a third-party independent contractor completed a content alignment study on both the NM-MSSA and NM-ASR Assessments. The results indicate that the content of the assessments represents the New Mexico content standards adopted for both NM-MSSA ELA, and Mathematics and NM-ASR. In addition, independent reviews that involved New Mexico educators were conducted to ensure that items and passages conform to bias and sensitivity guidelines.

Subclaim1.1.1. NM-MSSA Assessment content is aligned to the New Mexico Common Core State Standards and NM-ASR Assessment content is aligned to the New Mexico STEM Ready! Science Standards.

> **Evidence**: Chapter 3 of this report describes the relationship between NM-MSSA and ASR test content and either the New Mexico Common Core State Standards or New Mexico STEM Ready! Science Standards. Chapter 3 also details the coverage of the content standards on NM-MSSA and NM-ASR, providing the set of operational test blueprints for test forms and the content coverage blueprints. Overall, the alignment study indicated there was strong degree of alignment between the NM-MSSA and NM-ASR test forms and the standards / PEs they are intended to measure. Each test form was found to either fully or partially meet the criteria.

> **Summary of evidence**: Complete evidence.

Subclaim 1.1.2. Assessment items are aligned to the New Mexico Common Core State Standards and New Mexico STEM Ready! Science Standards.

> **Evidence**: Chapter 4 describes the item specifications and standardized item writer training in support of new item development. Chapter 4 also details the item review process performed by

item review committees to ensure item content alignment with the intended content standard. The results of the independent alignment study indicate that the assessment content is aligned with New Mexico state content standards. Overall, the study indicated there was strong degree of alignment between the NM-MSSA and NM-ASR test forms and the standards / PEs they are intended to measure. Each test form was found to either fully or partially meet the criteria.

Summary of evidence: Complete evidence.

Claim 1.2. The test items are construct-relevant.

Subclaim 1.2.1. Items require application of the KSAs of the targeted construct.

Evidence: The 2022 operational NM-MSSA and ASR items are aligned to the New Mexico state content standards. The evidence for element 1.2.1 is directly linked to the subclaims 1.1.1 and 1.1.2 above.

Summary of evidence: Complete evidence.

Subclaim 1.2.2. Items are free of bias and sensitivity issues.

Evidence*:* During the item development process, the items followed a rigorous development cycle that includes reviews by New Mexico PED staff and by Item Content and Bias and Sensitivity panelists. The item development process also includes data reviews, during which item-level statistics—including differential item functioning (DIF) statistics—are reviewed. See Chapter 4 for a detailed description of the item review process.

Additionally, Cognia has undertaken an Equity Enhancement Evaluation process in which all steps in the Cognia PADDI process (Principled Assessment Design, Development, and Implementation) are being examined to correct shortcomings in principles and practices related to equitable assessment and opportunities to enhance equity in our assessment practices. One outcome of this process may be the identification of the need for more evidence to support this subclaim.

Summary of evidence*:* Complete evidence, based on current Cognia procedures for the Spring 2022 testing season. Cognia has undertaken an Equity Enhancement Evaluation process in which all steps in the Cognia PADDI process (Principled Assessment Design, Development, and Implementation) are being examined to correct shortcomings in principles and practices related to equitable assessment and opportunities to enhance equity in our assessment practices. One outcome of this process may be the identification of the need for more evidence to support this subclaim.

Claim 1.3: Test scores on the NM-MSSA and ASR Assessments provide reliable information about student performance and accurate classifications into performance levels.

Subclaim 1.3.1. Test scores and performance level categorizations are adequately reliable for their intended purpose.

Evidence:

Score Reliability: Chapter 9 provides a description of both classical and IRT reliability theory and interpretation and a review of the relevant equations. Appendix N contains the reliability results by content area and grade. Appendix N also contains reliability results disaggregated by student subgroups. These reliability estimates are consistent with industry standards, which can be observed in technical reports posted online by other state assessment programs.

Scale score Standard Errors: Chapter 8 provides a description of calculation and interpretation of the scale scores and Chapter 9 provides a description of the calculation of the standard error for a scale score. The average standard error for reported scale scores is reported in Appendix R. The scale score standard error can be compared to the scale score range and the scale score standard deviation to provide some context for interpretation. These standard error estimates are consistent with industry standards, which can be observed in technical reports posted online by other state assessment programs.

Decision Consistency and Accuracy Estimates: Decision accuracy is an estimate of the probability that the observed classification is the true classification. Decision consistency is an estimate of the probability that students would receive the same classification if they tested twice on parallel forms. Chapter 9 describes the theory and equations underlying the estimation of classification accuracy and consistency. Decision accuracy and consistency results are provided in Appendix O. These decision consistency and accuracy estimates are consistent with industry standards, which can be observed in technical reports posted online by other state assessment programs.

Summary of evidence: Complete evidence.

Subclaim 1.3.2. Item characteristics support intended interpretations about all students who take the assessments.

Evidence: The psychometric characteristics most pertinent to evaluating the adequacy of individual items are the estimated item parameters. The item parameter estimates are provided in Appendix J. For dichotomously scored items, the item parameters include the discrimination, difficulty, and lower asymptote parameters. For polytomously scored items, the item parameter estimates include the discrimination, location, and item-category parameters. All items undergo statistical analyses at the time of field-testing, including classical, DIF, and IRT analyses. As stated in Chapter 4, the results of these analyses are reviewed in Data Review meetings with the New Mexico educators and PED staff. After field-testing and prior to operational administration, items from the previous operational administration are reviewed for their item information function (IIF) contributions at the performance level cuts to evaluate and rate the quality of each item. After each operational administration, dimensionality analyses are also conducted to determine how the items correlate with each other in terms of the underlying constructs of the test.

Summary of evidence: Complete evidence.

Subclaim 1.3.3. Test characteristics support intended interpretations about all students who take the assessments.

Evidence:

Model fit analysis verified that the IRT model fits the assessment data for all grades and content areas.

High correlations (e.g., greater than or equal to 0.7) among content area subdomain indicators (e.g., Reading and Language Use in ELA; Operations and Algebraic Thinking in Mathematics) and the relatively low unreliability of these indicators demonstrate that such indicators must be interpreted and used cautiously, and in conjunction with other information about student achievement and learning needs in these areas.

Dimensionality: Dimensionality analysis was conducted on each grade-level test. Chapter 7, section 7.2, provides a detailed description of the dimensionality hypothesis testing and effect-size estimation methods and provides dimensionality results. Minor violations of local independence were noted.

Conditional Standard Errors of Measurement: Chapter 8 provides a detailed description of the psychometric model that was fitted to the data, the test information function (TIF), and the inverse transformation of the TIF into the Conditional Standard Error of Measurement (CSEM). The TIF and CSEM are inverse transformations of each other. Whereas the TIF indicates test score precision, the CSEM indicates the converse, i.e., test score imprecision or measurement error. The TIF and its analogue, the CSEM, are the most pertinent products of the psychometric model in evaluating the adequacy of a test (form). Appendix K shows the CSEMs for each test. By examining the value of CSEM at each of the performance level cut scores, the psychometric appropriateness and accuracy of each test can be evaluated.

Content Coverage: Subclaims 1.1.1, 1.1.2, and 1.2.1 above detail the evidence in support of the content coverage and the alignment of the content to the New Mexico standards.

Scoring: Subclaims 1.4.1 and 1.4.2 detail the evidence in support of accurate item and test scores.

Summary of evidence*:* Complete evidence.

Claim 1.4: Item and test scoring are implemented accurately.

Subclaim 1.4.1. Machine-scored items were scored accurately.

Evidence*:* As described in Section 6.2.1 of Chapter 6 and in Chapter 7, a classical item analysis on the set of machine-scored items is performed prior to scaling and equating. This ensures that for each machine-scored item, the response designated as the correct response was indeed the correct response.

Summary of evidence*:* Complete evidence.

Subclaim 1.4.2. Constructed-response item scoring training and monitoring procedures met industry standards.

>Evidence*:* As detailed in Chapter 6, scorer recruitment, training, qualification, and scoring-monitoring procedures follow industry standards. Section 6.2.2, Scoring of Open-Ended Response Items, describes all the procedures that are used to ensure the accuracy of the scoring for the open-ended (constructed) response items, including administrator training and monitoring, benchmarking and identification of scoring materials, scorer recruitment and qualifications, scoring leadership, qualification, specific scoring rules to ensure accuracy, monitoring of quality control, quality reports, and interrater reliability.

>*Summary of evidence:* Complete evidence.

11.2 Primary Intended Score Uses

11.2.1 Intended Score Use for Individual Students

Claim 2.1: Educators and school and district administrators can use results from the NM-MSSA Assessments to describe and monitor student achievement status with respect to mastery of the content standards.

Subclaim 2.1.1. NM-MSSA test scores and performance level categorizations of individual students are adequately reliable and valid measures of student achievement status with respect to mastery of the content standards.

>**Evidence**:
>>Scale score Standard Errors: Chapter 8 provides a description of calculation and interpretation of the scale scores and Chapter 9 provides a description of the calculation of the standard error for a scale score. The average standard error for reported scale scores is reported in Appendix R. The scale score standard error can be compared to the scale score range and the scale score standard deviation to provide some context for interpretation.

>>Decision Consistency and Accuracy Estimates: Decision accuracy is an estimate of the probability that the observed classification is the true classification. Decision consistency is an estimate of the probability that students would receive the same classification if they tested twice on parallel forms. Chapter 9 describes the theory and equations underlying the estimation of classification accuracy and consistency. Decision accuracy and consistency results are provided in Appendix O.

>>Content Coverage: Subclaims 1.1.1, 1.1.2, and 1.2.1 above detail the evidence in support of the content coverage and the alignment of the content to the New Mexico standards.

>>Scoring: Subclaims 1.4.1 and 1.4.2 detail the evidence in support of accurate item and test scores.

>>**Summary of evidence***:* Complete evidence. Model fit analysis verified that the IRT model fits the assessment data for all grades and content areas.

11.2.2 Intended Score Use for Groups of Students

Claim 3.1: Educators can use results from the NM-MSSA and ASR Assessments to support instructional planning for groups of students.

Subclaim 3.1.1. Teachers find the performance level descriptors and their students' performance levels useful for planning instruction, especially for students whose test scores fall within performance levels 1 and 2.

> **Evidence**: Cognia, in collaboration with PED, has provided multiple professional learning sessions to help New Mexico teachers understand how to use test scores for instructional planning using interims (NM-iMSSA ELA and Math) and formative item sets. While the professional learning session is focused on interim assessments, many parts of the session also covered the balance assessment system, which includes using both the interim and summative results to support New Mexico students.
> - Once on-site, Cognia professional learning staff engaged teachers and leaders in Assessment Literacy conversations to understand the importance of the New Mexico Balanced assessment system.
> - After New Mexico educators and district leaders have gained an understanding of each type of assessment, the discussion topic transitioned to a deep dive into the interim data sets and the connection between the interim results and summative results from summative assessments.
> - The last part of the training is to engage educators and district leaders in how to use the data to drive instructional design/delivery to support students, emphasizing the importance of multiple measures (such as using both interim and summative assessment results). Cognia professional development staff would then spend time looking at the available resources and discussing best practices for using them to support New Mexico students.
>
> As of November 2022, a total of 47 on-site sessions and 12 virtual sessions have been delivered to New Mexico schools, and a total of 822 educators and district/school leaders have participated in the professional learning sessions.
>
>
> **Summary of evidence**: Moderate to substantial evidence. Additional evidence may include a teacher survey to understand the degree to which teachers use test scores and other score-based information for instructional planning, especially for low-performing students.

Subclaim 3.1.2. Teachers find their students' scale score information useful for planning instruction, especially for students whose test scores fall within performance levels 1 and 2.

> **Evidence**: Same evidence as subclaim 3.1.2
>
> **Summary of evidence**: Moderate to substantial evidence. Additional evidence may include a teacher survey to understand the degree to which teachers use test scores and other score-based information for instructional planning, especially for low-performing students.

Claim 3.2: Schools, districts, and state-level stakeholders can use results from the NM-MSSA and ASR Assessments to make comparisons between organizations (e.g., schools, districts).

Subclaim 3.2.1. Test scores and performance levels for groups of students are adequately reliable and valid to enable school, district, and state leaders to monitor changes in means, standard deviations, and performance level percentages for classroom, school, district, and state groups.

Evidence: Evidence for the reliability and validity of the scores and the corresponding scoring processes is presented above under Claim 1.3, which cites Chapter 6 on scoring, Chapter 8 on IRT scaling and equating, and Chapter 9 on classical and IRT reliability and decision accuracy and consistency. The reliability of aggregated scores (e.g., means) is typically as high as or higher than individual score reliabilities (e.g., Brennan, 1995). Appendix N contains the overall and subgroup reliability results. Appendix O contains the decision accuracy and consistency results for the overall test as well as by performance level and by cut score. Subclaims 1.1.1, 1.1.2, and 1.2.1 above detail the evidence in support of the content coverage and the alignment of the content to the New Mexico standards. Subclaims 1.4.1 and 1.4.2 detail the evidence in support of accurate item and test scores. Additionally, model fit analysis verified that the IRT model fits the assessment data for all grades and content areas.

Summary of evidence: Moderate to substantial evidence. Additional evidence may include a district or school leader survey to understand the degree to which teachers use test scores and other score-based information to monitor changes in the aggregated test scores.

Subclaim 3.2.2. Test scores and proficiency level categorizations of groups of students are adequately reliable and valid to enable monitoring of grade-level performance and student-cohort performance.

Evidence: Evidence for the reliability and validity of the scores and the corresponding scoring processes is presented above under Claim 1.3, which cites Chapter 6 on scoring, Chapter 8 on IRT scaling and equating, and Chapter 9 on classical and IRT reliability and decision accuracy and consistency. The reliability of aggregated scores (e.g., means) is typically as high as or higher than individual score reliabilities (e.g., Brennan, 1995). Appendix N contains the overall and subgroup reliability results. Appendix O contains the decision accuracy and consistency results for the overall test as well as by performance level and by cut score. Subclaims 1.1.1, 1.1.2, and 1.2.1 above detail the evidence in support of the content coverage and the alignment of the content to the New Mexico standards. Subclaims 1.4.1 and 1.4.2 detail the evidence in support of accurate item and test scores. Additionally, model fit analysis verified that the IRT model fits the assessment data for all grades and content areas.

Summary of evidence: Moderate to substantial evidence. Additional evidence may include a teacher survey to understand the degree to which teachers use test scores and other score-based information for monitoring grade-level performance and student-cohort performance.

11.3 Conclusions and Next Steps

The majority of the claims and subclaims that support the four claims—that is, the primary intended score interpretations and three intended score uses—are supported by solid evidence. These claims and subclaims and their supporting evidence comprise the validity arguments for NM-MSSA and ASR scores. Table 11-3 summarizes the relevance ratings for each claim and subclaim. Table 11-3 indicates the following:

Primary Score Intended Score Interpretation
Of the four claims and nine subclaims that support the intended score interpretation, all 9 sets of evidence are complete.
Intended Score Use for Individual Students
The one claim that with one supporting subclaim that supports the first intended score use, the evidence for this claim and subclaim is complete.

Intended Score Use for Groups of Students

Of the two claims and four supporting subclaim sets of evidence, all four sets of evidence are moderate to substantial.

Table 11-3. Status of Evidence for All SIUs, Claims, and Subclaims

SIUs, Claims, and Subclaims	Relevance of the Evidence to the Validity Argument			
	No Evidence Exists Currently	Limited	Moderate to Substantial	Complete
SIU 1: Primary Intended Score Interpretation				
The NM-MSSA Assessments provide reliable and valid information about important knowledge and skills in grade-level reading, writing & language usage, and Mathematics attained by general education students.				
1.1.1. NM-MSSA content is aligned to the New Mexico Common Core State Standards.				X
1.1.2. NM-MSSA items are aligned to the New Mexico Common Core State Standards.				X
1.2.1. Items require application of the KSAs of the targeted construct.				X
1.2.2. Items are free of bias and sensitivity issues.				X
1.3.1. NM-MSSA scores and performance level categorizations are adequately reliable for their intended purpose.				X
1.3.2. Item characteristics support intended interpretations about all students who take the NM-MSSA.				X
1.3.3. Test characteristics support intended interpretations about all students who take the NM-MSSA.				X
1.4.1. Machine-scored items were scored accurately.				X
1.4.2. Constructed-response item scoring training and monitoring procedures met industry standards.				X
SIU 2: Intended Score Use for Individual Students				
2.1.1. NM-MSSA test scores and performance level categorizations of individual students are adequately reliable and valid measures of student achievement status with respect to mastery of the content standards.				X
SIU 3: Intended Score Use for Groups of Students				
3.1.1. Teachers find the performance level descriptors and their students' performance levels useful for planning instruction, especially for students whose test scores fall within performance levels 1 and 2.			X	
3.1.2. Teachers find their students' scale score information useful for planning instruction, especially for students whose test scores fall within performance levels 1 and 2.			X	
3.2.1. NM-MSSA scores and performance levels for groups of students are adequately reliable and valid to enable school, district, and state leaders to monitor changes in means, standard deviations, and performance level percentages for classroom, school, district, and state groups.			X	
3.2.2. NM-MSSA scores and proficiency level categorizations of groups of students are adequately reliable and valid to enable monitoring of grade-level performance and student-cohort performance.			X	

11.3.1 Research Agenda

The Score Card ratings provide a road map for a research agenda for the NM-MSSA and NM-ASR programs. Specifically, PED and Cognia can work together to identify the highest priority claims and subclaims for which *No Evidence Exists Currently* and where the evidence is *Limited* and plan studies to gather relevant evidence and strengthen validity arguments. This will be a topic of discussion and planning for more immediate and longer-term efforts during the 2022–2023 school year.

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Appendices

APPENDIX A
LIST OF ACRONYMS

Common Terms and Acronyms Used in Assessment Reports	
3PL	Three-parameter logistic
AERA	American Educational Research Association
APA	American Psychological Association
CBT	Computer-based test
CCSSO	Council of Chief State School Officers
CR	constructed response items
CRESST	National Center for Research on Evaluation, Standards, and Student Testing
CSEM	conditional standard error of measurement
CTT	Classical Test Theory
DETECT	Dimensionality Evaluation to Enumerate Contributing Traits
DIF	differential Item functioning
DIMTEST	computer program used by Cognia
DOK	depth of knowledge
DTA	Directions for Test Administration
DTC	District Test Coordinator
EA	Educational assistant
EBSR	evidence-based selected-response item
EL	English learner
ELA	English language arts
GRM	graded-response model
HMS	Hobbs Municipal Schools
ICC	item characteristic curve
ICCC	item category characteristic curve
ICTC	item category threshold curve
IIF	Item information function
IRT	Item Response Theory
KSA	knowledge, skills, and abilities
LCPS	Las Cruces Public Schools
LEA	local educational agency
LEP	limited English proficiency
MS	machine scored items
NAEP	National Assessment of Educational Progress
NCEO	National Center on Educational Outcomes
NCME	National Council on Measurement in Education
NM-ASR	New Mexico Assessment of Science Readiness
NM-MSSA	New Mexico Measures of Student Success and Achievement
NM PED	New Mexico Public Education Department
PBT	Paper-based test
PLD	performance level descriptor
SEM	standard error of measurement

continued

Common Terms and Acronyms Used in Assessment Reports	
SIU	score interpretations and uses
SLA	Spanish language arts
SR	Selected response items
SS	Scaled score
STC	School test coordinator
STL	scoring team leader
TA	test administrators
TAC	Technical Advisory Committee
TAM	test Administration Manual
TCC	test characteristic curve
TIF	test information function
WP	writing prompt

APPENDIX B
PLDs, SIUs, AND TEST SPECIFICATIONS

Policy Proficiency Level Descriptors for NM-MSSA and NM-ASR
English and Spanish Versions

Level 4. Advanced

Students demonstrate evidence of **thorough** understanding and use of college and career readiness knowledge, skills, and abilities.

Level 3. Proficient

Students demonstrate evidence of **satisfactory** understanding and use of college and career readiness knowledge, skills, and abilities.

Level 2. Nearing Proficiency

Students demonstrate evidence of **partial** understanding and use of college and career readiness knowledge, skills, and abilities.

Level 1. Novice

Students demonstrate evidence of **emerging** understanding and use of college and career readiness knowledge, skills, and abilities.

**STATEMENTS OF SCORE INTERPRETATIONS AND USES (SIUs) FOR THE
NEW MEXICO ASSESSMENT OF SCIENCE READINESS (NM-ASR)**

Score Interpretation and Use (SIU) Statements for the NM-MSSA and NM-ASR Assessment Programs

The phrase "intended score interpretations for uses" appears several times in the *Standards for Educational and Psychological Testing* and is the core of the field's views on validity and validation. It also is central to responding successfully to USDE peer review requirements. For the NM-ASR, the phrase refers broadly to **test scores** (i.e., total test scale scores, subdomain scores), **aggregations of test scores** (e.g., the percentage of students at and above Level 3: Proficient), and **other test performance informational elements** (e.g., the definition of Proficient in the Proficiency Level Descriptors).

SIU Statements for the NM-ASR

Using this broad interpretation of the phrase, the intended score interpretations and uses for NM-ASR are stated below. These statements reflect input from multiple statewide webinars with educator and parent stakeholders and PED's Technical Advisory Committee.

PED and Cognia will use the final, approved SIU statements to guide decisions about test design and score reporting.

NM-MSSA score reports include scale scores for ELA, Reading, and Writing & Language. The ELA scale score includes performance on the Reading, Writing & Language, and Writing sections of the test. Score reports for NM-MSSA Writing include only rubric scores (i.e., no scale scores).

Intended Score Interpretations and Uses for Individual Students and Groups of Students

Score Interpretation/Use Statement	Explanation/Annotation
NM-ASR Program Purpose Statements	
Program Purpose Statement, Grade 11 NM-ASR The grade 11 NM-ASR is designed to measure whether students are on track to be ready for college or career, as defined by the State, by showing they have mastered the New Mexico *STEM Ready! Science Standards*, which require integration of Science and Engineering Practices, Disciplinary Core Ideas, and Crosscutting Concepts to explain phenomena and solve problems. Results	NM-ASR scores should be interpreted in relation to the New Mexico *STEM Ready! Science Standards* that are targeted by the assessment. ***College readiness*** indicates that a student is prepared to enter directly into and succeed (i.e., earn a C or better) in entry-level, credit-bearing college and relevant technical courses at two- and four- year public institutions of

Score Interpretation/Use Statement	Explanation/Annotation
are presented using scale scores and proficiency levels. Proficient performance in grade 11 indicates both mastery of currently assessed grade level and preceding grades' expectations and progress toward college and career readiness.	higher education, without the need for remediation. ***Career readiness*** indicates that students have developed the academic and technical skills (i.e., workplace competencies in one or more of 16 career clusters) necessary to succeed in future careers and to become lifelong learners. ***College and Career Readiness*** is defined by the State and can be found in the following College and Career Readiness Bureau's web page: https://webnew.ped.state.nm.us/bureaus/college-career-readiness/ Evidence to support this NM-ASR college and career readiness claim is in the New Mexico *STEM Ready! Science Standards*, which are based on the Next Generation Science Standards (NGSS). The NGSS "constructed each performance expectation by linking concepts and practices that build coherently over time throughout K–12, thereby helping to ensure that students who meet the NGSS will be prepared to succeed in science courses in both 2- and 4-year institutions" (see NGSS *Appendix C – College and Career Readiness* at https://www.nextgenscience.org/sites/default/files/resource/files/NGSS%20Appendix%20C%20Final%20072613.pdf).
Program Purpose Statement, Grades 5 and 8 NM-ASR Performance on the grade 8 NM-ASR indicates student mastery of grade levels 3–5 and 6–8 expectations for integration of Science and Engineering Practices, Disciplinary Core Ideas, and Crosscutting Concepts as presented in the standards, which is the progression for the next level of science curriculum, and is a predictor of being on track for college and career readiness.	The four explanations at grade 11 (above) apply in grades 5 and 8. In addition, performance on the grade 8 NM-ASR can be interpreted as a potential predictor of performance on the grade 11 NM-ASR (pending empirical validation), which is one indicator of college and career readiness. Performance on the grade 5 NM-ASR can be interpreted as a potential predictor of performance on the grade 8 NM-ASR (pending

Score Interpretation/Use Statement	Explanation/Annotation
Proficient performance in grades 5 and 8 indicates both mastery of currently assessed grade level and preceding grades' expectations and progress toward college and career readiness.	empirical validation), which is a predictor of college and career readiness at grade 11.
Individual Students	
Master Claim Performance on the NM-ASR indicates a student's progress toward college and career readiness.	College and career readiness requires that students can make sense of phenomena and solve real-world problems by applying and interconnecting scientific knowledge and skills as set forth in the New Mexico *STEM Ready! Science Standards*.
Interpretations Using Proficiency Level Labels and Proficiency Level Descriptors (PLDs) Student scores coincide with one of four levels: Novice, Nearing Proficiency, Proficient, and Advanced.[1] The PLD for each proficiency level describes what students can be expected to know and be able to do in relation to the New Mexico *STEM Ready! Science Standards* in grades 5, 8, and 11. New Mexico students are expected to perform at the Proficient level to demonstrate sufficient mastery of knowledge and skills needed to indicate college and career readiness.	A student's proficiency level indicates how the student performed in relation to the knowledge and skills assessed in science at that grade level. Proficiency level descriptors indicate the knowledge and skills that students are expected to be able to demonstrate at a level.
Interpretations Using Proficiency Level Descriptors A student's proficiency level indicates that the student can demonstrate the knowledge and skills described at that level and in the levels below.	The student's proficiency level also indicates that the student has mastered the knowledge and skills of the preceding proficiency levels.
Interpretations Using Scale Scores Scale scores provide a measure of student performance regardless of which form of the NM-ASR is administered.	Scale scores indicate the student's performance, regardless of which form of the NM-ASR is taken. The **proposed** scale score reporting scale is under discussion.

Score Interpretation/Use Statement	Explanation/Annotation
Uses of Scale Scores Scale scores can be used to compare an individual student's performance to the performance of other students in the school, district, and state.	Scale scores also indicate a student's performance in relation to the performance of other students. A student's scale score should be interpreted as the range of possible scores within the error band around that score, not only as a single number. (Other terms for "error band" include "margin of error" and "confidence interval.") Differences between scale scores (e.g., for two students or a student's score and a proficiency level cut score) that are within the margin of error should be interpreted as "statistical ties" (i.e., not reliably different).
Interpretations of Practices and Crosscutting Concepts in Physical Sciences Student performance on this science subdomain is reported in three levels: Met/Exceeded Proficient, Nearing Proficient, and Did Not Meet Proficient. [2]	Student performance in this science subdomain is based on items that target Disciplinary Core Ideas in Physical Sciences plus Science and Engineering Practices and/or Crosscutting Concepts. Because indicators for Physical, Life, and Earth and Space Sciences are likely to be highly correlated and will have non-trivial standard errors, proficiency levels for most students are likely to be identical in all three science subdomains.
Interpretations of Practices and Crosscutting Concepts in Life Sciences Student performance on this science subdomain is reported in three levels: Met/Exceeded Proficient, Nearing Proficient, and Did Not Meet Proficient. [2]	Student performance in this science subdomain is based on items that target Disciplinary Core Ideas in Life Sciences plus Science and Engineering Practices and/or Crosscutting Concepts. Because indicators for Physical, Life, and Earth and Space Sciences are likely to be highly correlated and will have non-trivial standard errors, proficiency levels for most students are likely to be identical in all three science subdomains.
Interpretations of Practices and Crosscutting Concepts in Earth and Space Sciences	Student performance in this science subdomain is based on items that target Disciplinary Core Ideas in Earth and Space

Score Interpretation/Use Statement	Explanation/Annotation
Student performance on this science subdomain is reported in three levels: Met/Exceeded Proficient, Nearing Proficient, and Did Not Meet Proficient. [2]	Sciences plus Science and Engineering Practices and/or Crosscutting Concepts. Because indicators for Physical, Life, and Earth and Space Sciences are likely to be highly correlated and will have non-trivial standard errors, proficiency levels for most students are likely to be identical in all three science subdomains.
Item Level Reporting for Individual Students Individual student performance on individual test items may suggest potential areas of strength and learning needs.	Caveat: Students may perform differently on items from other test forms that target the same subset of Science standards.

Groups of Students
SIU statements for groups of students are applicable to aggregate reporting of school, district, and state performance and student subgroups (e.g., English learners, students with disabilities, racial/ethnic subgroups) within those levels of aggregation.

Group Mean Scale Scores	
Group Mean Scale Scores Group mean scale scores can be compared to other schools, districts, and the state, and for all students and student subgroups (e.g., gender, English learners, students with disabilities, racial/ethnic subgroups).	Mean (i.e., average) scale scores enable comparison of performance among schools, districts, and other groupings of students. Mean scale scores and percentages of students in a proficiency level for small groups (e.g., fewer than 25 students) are unstable and should be interpreted with caution because of concerns about reliability and stability.
Percentages of Students in Proficiency Levels Percentages of students in the four proficiency levels can be compared to other schools, districts, and the state, and for all students and student subgroups.	These are the percentages of students in each science proficiency level. The PLD for each science proficiency level indicates the degree of mastery of the knowledge and skills needed to indicate college and career readiness in relation to the *New Mexico STEM Ready! Science Standards*. The percentages of students in each level indicate the percentage of students who need to reach the next proficiency level. Means and percentages of students in a proficiency level for small groups should be

Score Interpretation/Use Statement	Explanation/Annotation
	interpreted with caution because of concerns about reliability and stability.
Item Level Reporting for Student Groups Student group performance (e.g., boys, girls, English learners) on individual test items or groups of items may suggest potential areas of strength and learning needs—with the caution that a student group may perform differently on other items that target the same Disciplinary Core Ideas, Science and Engineering Practices, and Crosscutting Concepts.	Caveat: Students may perform differently on items from other test forms that target the same subset of science standards.

Unintended Score Interpretations and Uses

Until the NM-ASR is in operational use, we can only speculate on what unintended interpretations and uses of NM-ASR scores and other information may arise. Where unintended interpretations and uses may be in use, it is the responsibility of that user to provide supporting evidence, and not the responsibility of PED (as specified in the *Standards for Educational and Psychological Testing*, 2014). The main concern for misinterpreting or misusing NM-ASR scores is the potential negative consequences for individual students, subgroups of students, and schools, districts, and the state. If unintended interpretations and uses with potential negative consequences arise, PED will take steps to ameliorate the misinterpretations, misuses, and negative consequences. Some common misinterpretations and misuses that can arise include the following.

Interpreting Test Scores as 100% Accurate Indicators of Test Performance

All measurements in the real world, including test scores, are estimates. Test scores—for example, scale scores and proficiency level classifications—are estimates accompanied by a standard error. Standard errors are often referred to as the "margin of error" (e.g., in political polling). Interpreting and using NM-ASR scores correctly requires considering the width of the margin of error around a score. For example, students with a scale score 2 points below the cut score for the Proficient level could, hypothetically, have scored above the Proficient cut score on a different day because the NM-ASR scale score standard errors are expected to be 2–3 points. Interpretations of NM-ASR scores should account for the margin of error around each score estimate.

Drawing Conclusions and Making Decisions Based Solely on NM-ASR Scores

There is wide agreement that conclusions and decisions based on a single piece of evidence can be risky. The risk is that the single piece of evidence can lead to less than optimal decisions, such as students

failing to receive additional instruction based solely on their NM-ASR score or teacher teams not being eligible for additional science professional learning based solely on their students' NM-ASR scores. Interpretations and uses of NM-ASR scores should be supplemented with additional information.

Overinterpreting Subdomain Indicators and Item Level Performance Information

Subdomain indicators (e.g., Interpretations of Practices and Crosscutting Concepts in Life Sciences) are based on fewer items than are NM-ASR total test scores. As a result, they are less stable estimates of student achievement and learning needs in that subdomain. In addition, because the performance indicators for the three science subdomains are highly correlated, differences in those performance indicators may be smaller than the proficiency level labels may suggest. Interpretations and uses of indicator scores should be supplemented with additional information.

Misinterpreting Current Performance as the Most Likely Predictor for Future Performance

A goal of education is to improve students' current achievement—that is, to bend their performance trajectory upward. We assume that students who currently are performing at the Proficient and Advanced levels will continue at these levels only with sustained effort and support. It would be unwise—and unfair—to assume that students who currently are performing at the Novice and Nearing Proficiency levels will perform at these levels in the future. In fact, our duty as educators is to help these students learn more and achieve higher.

Misinterpretations about students' current proficiency levels and future performance is not really a misinterpretation of NM-ASR scores. It is a logical error in concluding that current performance determines future performance.

Overinterpreting NM-ASR Scores as Indicators of College and Career Readiness

The New Mexico *STEM Ready! Science Standards* are designed to prepare students to be able to benefit from college study and postsecondary training. The claim that performance on NM-ASR indicates readiness for college and career is supported only by the evidence contained in the science content standards. NM-ASR scores also can be interpreted as predictors of future performance in college and career training. However, until empirical prediction studies are completed, this interpretation of NM-ASR performance should be made with caution and with attention to the strong, but limited, evidence in the content standards.

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[1] **NM-ASR Policy Proficiency Level Descriptors**

Advanced. Students demonstrate evidence of **thorough** understanding and use of college and career readiness knowledge, skills, and abilities.

Proficient. Students demonstrate evidence of **satisfactory** understanding and use of college and career readiness knowledge, skills, and abilities.

Nearing Proficiency. Students demonstrate evidence of **partial** understanding and use of college and career readiness knowledge, skills, and abilities.

Novice. Students demonstrate evidence of **emerging** understanding and use of college and career readiness knowledge, skills, and abilities.

[2] NM-ASR subdomain indicators are reported as Met/Exceeded Proficient, Nearing Proficient, and Did Not Meet Proficient. These subdomain indicators are calculated by comparing a student's subdomain performance to the subdomain performance distribution of students who are just barely Nearing Proficient on the total test, and by using the standard deviation of that distribution to determine the Met/Exceeded Proficient, Nearing Proficient, and Did Not Meet Proficient indicators.

Test Specifications

New Mexico Assessment of Science Readiness (NM-ASR)

Purpose of the NM-ASR

Part of a Balanced Assessment System

The NM-ASR is New Mexico's statewide summative assessment for Science, administered at the end of grades 5, 8, and 11. As the NM-ASR is a single measure at the end of a grade band, interpretations and uses of NM-ASR scores should be supplemented with additional measures, including information from classroom summative and formative assessments in science.

Formative assessment may include the use of STEM Gauge, which is a collection of formative assessment materials for grades K–8 being provided by Cognia during the term of their contract with the state to administer the NM-ASR. The materials are aligned to the NGSS and therefore to the New Mexico *STEM Ready! Science Standards*. The materials for STEM Gauge may be accessed at the following site: http://go.cognia.org/instructional-support-materials-for-new-mexico-science-educators.

Claims/Score Interpretation and Use Statements

The NM-ASR is designed to measure whether students are on track to be ready for college or career, as defined by the State, by showing they have mastered the New Mexico *STEM Ready! Science Standards*. The standards require integration of Science and Engineering Practices, Disciplinary Core Ideas, and Crosscutting Concepts to explain phenomena and solve problems.

In addition to overall scale score, student performance on three science subdomains is reported:

- Practices and Crosscutting Concepts in Physical Sciences
- Practices and Crosscutting Concepts in Life Sciences
- Practices and Crosscutting Concepts in Earth and Space Sciences

Test Specifications – Test Design

Assessable Standards

The NM-ASR assesses the New Mexico *STEM Ready! Science Standards* as follows:
- Grade 5 test: All standards in grades 3, 4, and 5, *except* 5-SS-1 NM.
- Grade 8 test: All standards in the middle school grade band (6-8), **including** MS-ESS3-3 NM.
- Grade 11 test: All standards in the high school grade band (9-12), *except* HS-LS2-7 NM and HS-SS-1 NM (but **including** HS-SS-2 NM).

Test Design

The NM-ASR test is administered in three sessions. The test is administered online as a computer-based test (CBT).

Online accommodations are available for the CBT. Paper, large-print, and Braille test forms, as well as computer- and print-based Spanish test forms, are also provided.

No calculator is provided for the NM-ASR, as no items require calculator use. A periodic table will be provided as a reference for high school (Grade 11).

The types of items on the NM-ASR are item clusters (CL), 2-point machine-scored standalone items (MS-2), and 4-point open-ended standalone items (OE). Additional item type descriptions and sample items can be found in the item specifications section on page 11.

Both core operational items (which count for a student's score) and matrix field test items (which are try-out items that do not count for a student's score) are included on the NM-ASR test.

The total number of test items, points, and estimated testing time for the NM-ASR are shown in the following tables*.

How to read the student testing experience tables:
As a reminder,
- MS-1 items are worth 1 point
- MS-2 items are worth 2 points
- OE items are worth 4 points

Here is an example of how to read the chart for Grade 5:

Grade 5	Cluster/Passage Items			Standalone Items		Total Number of Items	Total Number of Points
	Stim/Psg	MS-1	MS-2	MS-2	OE		
Core Operational Items	6 psgs x 0 points = 0 points	12 items x 1 point = 12 points	12 items x 2 points = 24 points	8 items x 2 points = 16 points	3 items x 4 points = 12 points	12 + 12 + 8 + 3 = 35 items	12 + 24 + 16 + 12 = 64 points

Student Testing Experience							
Grade 5	**Cluster/Passage Items**			**Standalone Items**		**Total Items**	**Total Points**
	Stim/Psg	**MS-1**	**MS-2**	**MS-2**	**OE**		
Core Operational Items	6	12	12	8	3	35	64
Matrix Field Test Items	2	4	4	4	1	13	24
Total Student Experience	8	16	16	12	4	48	88
				Estimated Testing Time (min)			**150**

Student Testing Experience							
Grade 8	**Cluster/Passage Items**			**Standalone Items**		**Total Items**	**Total Points**
	Stim/Psg	**MS-1**	**MS-2**	**MS-2**	**OE**		
Core Operational Items	6	12	12	8	3	35	64
Matrix Field Test Items	2	4	4	4	1	13	24
Total Student Experience	8	16	16	12	4	48	88
				Estimated Testing Time (min)			**150**

Student Testing Experience							
Grade 11	**Cluster/Passage Items**			**Standalone Items**		**Total Items**	**Total Points**
	Stim/Psg	**MS-1**	**MS-2**	**MS-2**	**OE**		
Core Operational Items	6	12	12	10	3	37	68
Matrix Field Test Items	2	4	4	5	1	14	26
Total Student Experience	8	16	16	15	4	51	94
				Estimated Testing Time (min)			**165**

Practice Test

Full-length practice tests mirroring the operational test design and supporting materials can be accessed at https://newmexico.onlinehelp.cognia.org/practice-tests-nm-asr/.

Test Specifications – Reporting Categories

The reporting categories for NM-ASR are based on the three content domains. Percentages for the distribution of operational (core) test points for each of the reporting categories reflect the distribution in the standards, so as not to over- or underrepresent content.

Based on this representativeness, the fourth content domain of Engineering, Technology, and Applications of Science as well as the NM-specific content domain of Science and Society are not reported as a subscore (as there are very few standards out of the total in each grade band). Items coded to these standards <u>do</u> count toward total test score.

Reporting Categories, Grade 5 NM-ASR

Reporting Category	Typical Number of Clusters	Typical Number of Standalone MS-2	Typical Number of Standalone OE	Number of Core Points	Percent of Core Points (+/- 4%)
Practices and Crosscutting Concepts in Physical Sciences	2	4-6	1	24-28	40%
Practices and Crosscutting Concepts in Life Sciences	2	1-3	1	18-22	30%
Practices and Crosscutting Concepts in Earth and Space Sciences	2	1-3	1	18-22	30%

Reporting Categories, Grade 8 NM-ASR

Reporting Category	Typical Number of Clusters	Typical Number of Standalone MS-2	Typical Number of Standalone OE	Number of Core Points	Percent of Core Points (+/- 4%)
Practices and Crosscutting Concepts in Physical Sciences	2	2-4	1	20-24	35%
Practices and Crosscutting Concepts in Life Sciences	2	2-4	1	20-24	35%
Practices and Crosscutting Concepts in Earth and Space Sciences	2	1-3	1	18-22	30%

Reporting Categories, Grade 11 NM-ASR

Reporting Category	Typical Number of Clusters	Typical Number of Standalone MS-2	Typical Number of Standalone OE	Number of Core Points	Percent of Core Points (+/- 4%)
Practices and Crosscutting Concepts in Physical Sciences	2	3-5	1	22-26	35%
Practices and Crosscutting Concepts in Life Sciences	2	3-5	1	22-26	35%

Practices and Crosscutting Concepts in Earth and Space Sciences	2	1-3	1	18-22	30%

Test Specifications – Cognitive Complexity

Because the *New Mexico STEM Ready! Science Standards* are NGSS-aligned, the cognitive complexity of items on the NM-ASR is evaluated with a different framework than Depth of Knowledge.

For the items on the NM-ASR, four indicators are used to classify the cognitive complexity of each item: stimulus, science and engineering practice, disciplinary core idea, and crosscutting concept. For each indicator, the classification in terms of high, medium, or low complexity is based on how the students are using the indicator to respond to the item – specifically, to what degree does students' engagement with the indicator contribute to the level of sense-making required by the item.

On the NM-ASR, after summing the operational (core) test points at each cognitive complexity level across all four indicators, **at least 10% of the points should be high cognitive complexity** and **no more than 35% of the points should be low cognitive complexity**.

The descriptors for each indicator at the three complexity levels (high, medium, low) are presented in the following tables.

STIMULUS	
High	- Phenomenon is novel, complex, and/or unfamiliar to students - Students must synthesize multiple pieces of information and do a significant amount of "figuring out" to make sense of the phenomenon
Medium	- Phenomenon is somewhat novel, but may be analogous to what many students are familiar with - Students must use multiple pieces of information and do an intermediate amount of "figuring out" to make sense of the phenomenon
Low	- Phenomenon is familiar and/or more straightforward for students - Students only need to use simple/straightforward information, and/or a single piece of information, and do a minimal amount of "figuring out" to answer the question or contribute to making sense of the phenomenon

SEP (SCIENCE AND ENGINEERING PRACTICE)	
High	- Students must apply the SEP, or multiple SEPs, in a sophisticated way to make sense of the phenomenon (e.g., synthesis to perform more connections, steps, combination of SEP elements, such as having to combine data, produce a new graph or model as evidence, etc.) - Often little to no scaffolding that helps students apply the SEP

Medium	- Students must apply the SEP to make sense of the phenomenon - Typically some scaffolding that helps students apply the SEP
Low	- Students only need to use the SEP in a simple, mechanical way to answer the question or contribute to making sense of the phenomenon - Often a large amount of scaffolding that helps students apply the SEP

DCI (DISCIPLINARY CORE IDEA)	

High	- Students must apply and connect DCIs in a sophisticated way to make sense of the phenomenon, i.e.,
	   o application of science ideas (often multiple, grade-band appropriate ideas) in unique ways or new combinations
	   o knowledge transfer to construct new understanding, make sense of novel phenomena
	- Often little to no scaffolding that helps students apply the DCI

Medium	- Students must apply or reason with the DCI(s) to make sense of the phenomenon - Typically some scaffolding that helps students apply the DCI
Low	- Students use the DCI in a simple, straightforward way (i.e., little to no application or reasoning) to answer the question or contribute to making sense of the phenomenon - Often a large amount of scaffolding that helps students apply the DCI

CCC (CROSSCUTTING CONCEPT)	
High	- Students must apply the CCC in an in-depth way to expand thinking and make non-typical connections to make sense of the phenomenon
Medium	- Students must use the CCC as specified by the CCC sub-bullet detail to make sense of the phenomenon
Low	- Students only use the CCC in a general way to answer the question or contribute to making sense of the phenomenon

Test Specifications – Fairness

Fairness is defined as the extent to which the test scores are valid for different groups of test takers. Consideration of universal design, bias, and sensitivity guidelines support the construction of fair, valid assessments.

Universal Design for Assessments

The concept of Universal Design for Assessments focuses on developing content and assessments that reach the widest population of students possible. Stimuli and items on the NM-ASR are designed to simply and clearly present tasks and to provide maximum readability, comprehensibility, and legibility. The seven elements of Universal Design for Assessments are based on the original UDL guiding principles:

Universal Design for Assessments

Principle	Explanation
Inclusive Assessment Population	Tests designed for state, district, or school accountability must include every student except those in the alternate assessment, and this is reflected in assessment design and field-testing procedures.
Precisely Defined Constructs	The specific constructs tested must be clearly defined so that all construct-irrelevant cognitive, sensory, emotional, and physical barriers are removed.
Accessible, Non-Biased Items	Accessibility is built into items from the beginning, and bias review procedures ensure that quality is retained in all items.
Amenable to Accommodations	Test design facilitates the use of needed accommodations (e.g., all items can be brailled).
Simple, Clear, and Intuitive Instructions and Procedures	All instructions and procedures are simple, clear, and presented in understandable language.
Maximum Readability and Comprehensibility	A variety of readability and plain language guidelines are followed (e.g., sentence length and number of difficult words kept to a minimum) for readable and comprehensible text.
Maximum Legibility	Characteristics that ensure easy decipherability are applied to text, tables, figures, and illustrations, and to response formats.

Bias

The concept of Bias is defined as the presence of some characteristic of an item that results in differential performance for two individuals of the same ability but from different ethnic, sex, cultural, or religious groups.
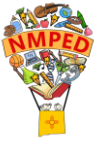
Bias can occur whenever content offends or disadvantages a student or group of students due to gender, race, regional background, socioeconomic status, or any other such classification.

Test developers take care to craft content in a way that does not misrepresent specific groups or rest on assumptions made about specific groups, that in turn could negatively impact how students interpret content.

- Stimulus and item content on the NM-ASR must not present stereotypes or unfair representations of gender, race, ethnicity, disability, culture, or religion.
- Stimulus and item content on the NM-ASR should not depend on overly-experiential information such as knowledge of technology, consumer goods, pop culture, geographic locations, or sports and extracurricular activities. While these topics are not completely excluded from use, care must be taken to ensure that the items are presented in a way that does not require a level of knowledge that would not be held by all students.

Sensitivity

Sensitivity refers to the presence of content that is contrary to the acceptable norms of the students, educators, parents, or other members of the community that may interact with the assessment. Sensitive subject matter can impact student performance or attitudes toward testing, and hence, their test scores.

Consideration of bias and sensitivity issues is very important when developing content for an assessment. Test developers must ensure that stimuli and items are free of content that will negatively affect a student's performance not because of what the student knows and can do but because the content evokes an emotional response from that student (or is in some other way distracting to the student).

Subjects/contexts that are likely to prompt emotional distress on the part of students cannot be used on the NM-ASR (e.g., war, violence, human death or debilitating disease, animal-based medical research). Careful judgment should be applied to PEs that cover topics that may be considered controversial by some groups (e.g., evolution examples, population dynamics including death/extinction, environmental impact). Those PEs represent content knowledge to be assessed, but the assessment must be done in a sensitive, unbiased way.

Stimulus Specifications

All items for the NM-ASR have a stimulus. For clusters, all items in the set are associated with a common stimulus that presents a science phenomenon or engineering design problem. For standalone items (MS-2, OE), the item includes a lead stimulus that provides a specific science phenomenon or engineering design problem, or context thereof. By phenomenon, we mean something observable that happens in the real world, whether natural or man-made. By engineering design problem, we mean a personal or societal need or want.

Specifications for Cluster Stimuli

1. The stimulus must present a single, rich science phenomenon or engineering design problem aligned to the PEs.
2. The stimulus may present any variety of elements to provide the necessary information to support sense-making (via the items) around the phenomenon or problem: text paragraphs, passages, graphs, data tables, models, drawings, etc.
3. The stimulus must be rich enough to support the development of enough items for the cluster, in the context of a storyline (sequence of sense-making) around the phenomenon or problem using the DCIs, SEPs, and CCCs of the targeted PEs.
4. All information in the stimulus should be necessary, but not conceptually sufficient, for students to respond (i.e., students must also use their own knowledge of the constructs in the PE(s) to answer the items, rather than simply identify given information).
5. The stimulus phenomenon or problem must be grade-appropriate, engaging, and relevant for students at that grade level.
6. The stimulus should adhere to the specifications in the following table regarding length, wording, and complexity.*

Stimulus characteristic	Elementary School (Grades 3-5)	Middle School (Grades 6-8)	High School (Grades 9-12)
Text word count**	100-300 words	100-400 words	100-400 words
***Count should balance text and graphic load – in a stimulus with more and/or complex graphics, the word count should be lower; in a stimulus with few and/or very simple graphics, the word count could, if needed, be at the higher end of range.*			
Vocabulary level *(excluding science content vocabulary)*	Grade 3	Grade 5 maximum	Grade 8 maximum
Readability/Lexile maximum	820L (Gr 3)	1010L (Gr 5)	1185L (Gr 8)

Qualitative text characteristics	Simple sentence structures, clear/uncomplicated graphics, lower vocabulary demands, use of only essential science vocabulary.	Slight mix of simple and more complex phrasing and sentence structure, average to moderately complex graphics, average vocabulary demands.	Mix of simple and more complex phrasing and sentence structure, average to moderately complex graphics, average vocabulary demands.

*Items aligned to the NM-Specific Standards may sometimes exceed these specifications, especially word count, because of the detailed NM-specific contexts that must be provided.

Specifications for Standalone Item Stimuli

1. MS-2 items: The stimulus must present a hook or driving reason for the question being asked, and it must set a phenomenon- or problem-based context, aligned to the PE, for the item. The stimulus will typically not be as extensive as a stimulus for an item cluster.
2. OE items: The stimulus must present a hook or driving reason for the question being asked, and it must include a phenomena or problem, aligned to the PE, to drive the item. The stimulus for open-ended items will typically be more concise than for item clusters but more detailed than for MS-2 standalone items.

Item Specifications

Alignment

The items on the NM-ASR are aligned to the New Mexico *STEM Ready! Science Standards*, including both the NGSS and the NM-Specific Standards.

Each item is aligned to a performance expectation (PE) as well as dimensions of the performance expectation. All items must have either 2-dimensional or 3-dimensional alignment.

Item Types

The types of items on the NM-ASR are item clusters, 2-point machine-scored standalone items (MS-2), and 4-point open-ended standalone items (OE):

- An item cluster is a set of items all associated with a common stimulus. Clusters contain four items. These items may be multiple choice, multiple select, or technology-enhanced, with two of the items being worth 1 point and two of the items being worth 2 points. The clusters typically align to two PEs, and all clusters measure all three dimensions of the PEs being assessed.
- Standalone MS-2 items are worth 2 points. These items have two parts (Part a and Part b) for students to answer, and 0, 1, or 2 points total can be earned across Part a and Part b. These items may be multiple choice, multiple select, or technology-enhanced (e.g., drag-and-drop, hot spot, drop-down selections).
- Open-ended items are worth 4 points. These items require students to write an extended response to a prompt. The prompt may be a single prompt, or more typically, the items are written with multiple, scaffolded parts for students to respond to. These items are hand-scored, with scorers using a rubric and scoring notes to evaluate responses on a scale from 0–4.

Samples of each of these item types are included on the following pages.

Clusters: Clusters are a set of 4 items all associated with an introductory passage, or "stimulus."

- The stimulus typically contains both text and graphics such as diagrams, tables, or graphs. An example stimulus from the *grade 5 practice test* is on the next page. The items associated with the cluster assess two Physical Sciences PEs:
  - 5-PS1-3: Make observations and measurements to identify materials based on their properties.
    - *SEP: Planning and Carrying Out Investigations*
    - *DCI: PS1.A: Structure and Properties of Matter*
    - *CCC: Scale, Proportion, and Quantity*
  - 5-PS1-4: Conduct an investigation to determine whether the mixing of two or more substances results in new substances.
    - *SEP: Planning and Carrying Out Investigations*
    - *DCI: PS1.B: Chemical Reactions*
    - *CCC: Cause and Effect*

Read the information. Then answer the questions that follow. →

Investigating Gas Production

In class, a teacher demonstrates a chemical reaction by mixing vinegar and baking soda to produce bubbles of gas. Eliana wonders whether mixing other substances could also produce a gas. She decides to test different combinations of sugar, water, vinegar, and baking soda.

Some properties of these substances are shown in the table.

Properties of Substances

Substance	Color	Solid or Liquid	Attracted to a Magnet	Conducts Electricity
Sugar	White	Solid	No	No
Water	Clear	Liquid	No	Yes
Vinegar	Clear	Liquid	No	Yes
Baking soda	White	Solid	No	No

Investigation 1
Eliana mixes a small amount of each liquid and solid in a bowl and observes whether bubbles of gas are produced. Her observations are shown in the table.

Investigation 1 Observations

Liquid Used	Solid Used	Gas Produced
Water	Sugar	No
Water	Baking soda	No
Vinegar	Sugar	No
Vinegar	Baking soda	Yes

Investigation 2
Next, Eliana wonders whether changing the amount of baking soda would change the amount of gas produced. To investigate, she follows these steps:
1. Record the mass of a balloon.
2. Pour 50 milliliters of vinegar into a bottle.
3. Put 5 milliliters of baking soda inside the balloon. Hold the balloon so that the baking soda stays inside the balloon and attach the open end of the balloon to the top of the bottle.
4. Lift the balloon so that the baking soda falls into the bottle with vinegar.
5. Wait one minute.
6. Carefully remove the balloon from the bottle without allowing any gas to escape.
7. Measure the mass of the balloon filled with gas.
8. Calculate the mass of gas produced by subtracting the mass of the balloon from the mass of the balloon filled with gas.
9. Repeat steps 1–8 until three trials have been completed.
10. Repeat steps 1–9 with 10 milliliters and 15 milliliters of baking soda.

The results of one trial are shown in the diagram.

Gas in a Balloon

Balloon filled with gas

Bottle with baking soda and vinegar mixture

Table top
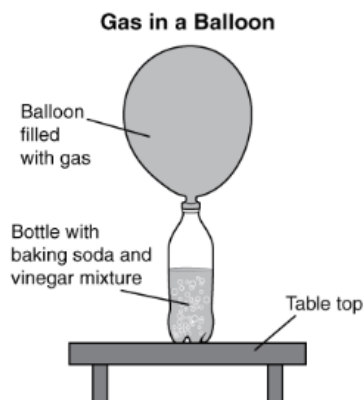
Eliana's data are shown in the table.

Investigation 2 Data

Amount of Baking Soda (milliliters)	Mass of Gas Produced (grams)			Average Mass of Gas Produced (grams)
	Trial 1	Trial 2	Trial 3	
5	1.0	0.8	1.2	1.0
10	1.5	1.9	1.4	1.6
15	2.4	1.9	2.6	2.3

- Two of the items in the cluster are machine-scored items worth 1 point each. These items may be multiple-choice, multi-select, or technology-enhanced items (e.g., drag-and-drop, hot spot, drop-down selections).

Which evidence from the investigations supports the claim that mixing vinegar and baking soda produces a new substance?

Hide All

- (A) A gas is produced when a liquid and a solid are mixed.

- (B) When a liquid and solid are mixed, the mass does not change.

- (C) The properties of substances stay the same when the substances are mixed.

- (D) Different amounts of baking soda can be mixed with the same amount of vinegar.

MS-1 cluster item, grade 5 practice test, aligned to PE 5-PS1-4: Conduct an investigation to determine whether the mixing of two or more substances results in new substances. The dimensions for the PE are SEP: Planning and Carrying Out Investigations; DCI: PS1.B: Chemical Reactions; CCC: Cause and Effect. This particular MS-1 item in the cluster assesses the DCI and CCC dimensions.

- The other two items in the cluster are machine-scored items worth 2 points each. These items have two parts, with Part a worth 1 point and Part b also worth 1 point. Each part of the item may be presented as multiple-choice, multi-select, or technology-enhanced (e.g., drag-and-drop, hot spot, drop-down selections).

This question has two parts. Be sure to answer both parts of the question.

Part a
Eliana claims that when baking soda and vinegar are mixed, a new substance forms.

Select the phrase that describes an observation from investigation 2 that supports her claim.

After baking soda and vinegar are mixed,
-Select an Answer- .

Part b
Which observation is evidence that the new substance inside the balloon is a gas?

Hide All

- (A) The new substance filled the balloon.

- (B) The new substance has more mass than the baking soda.

- (C) The new substance takes up less space than the vinegar.

- (D) The new substance increases as the baking soda increases.

MS-2 cluster item, grade 5 practice test, aligned to PE 5-PS1-4: Conduct an investigation to determine whether the mixing of two or more substances results in new substances. The dimensions for the PE are SEP: Planning and Carrying Out Investigations; DCI: PS1.B: Chemical Reactions; CCC: Cause and Effect. This particular MS-2 item in the cluster assesses the DCI and CCC dimensions.

- The entire cluster is worth a total of 6 points. The diagram below summarizes the structure of a cluster.
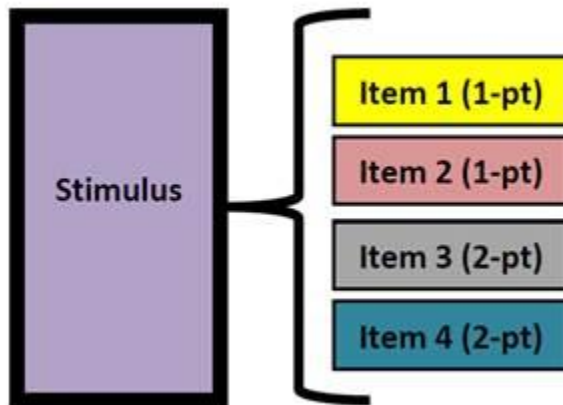
MS-2 Items: MS-2 items are standalone, or individual, machine-scored items.

- As in the cluster, the standalone MS-2 items are worth 2 points and have two parts, with Part a worth 1 point and Part b also worth 1 point. Each part of the item may be presented as multiple-choice, multi-select, or technology-enhanced (e.g., drag-and-drop, hot spot, drop-down selections).

This question has two parts. Be sure to answer both parts of the question.

Elaine is researching the characteristics of sound waves as she listens to music. She finds a diagram that shows two sound waves.

Sound Waves

Key
- - - - Wave 1
——— Wave 2

Part a
Select the number that describes the sound waves in the diagram.

Wave 1 has [-Select an Answer- ▾] the energy of Wave 2.

Part b
Elaine predicts that the energy in each sound wave would double if the frequency of the wave doubled.

Which statement describes her prediction?

Hide All

👁 (A) Her prediction is correct because the energy of a wave is proportional to the wave's frequency.

👁 (B) Her prediction is incorrect because the energy of a wave is proportional to the square of the wave's frequency.

👁 (C) Her prediction is correct because the energy of a wave is proportional to speed and a wave with twice the frequency has twice the speed.

👁 (D) Her prediction is incorrect because the energy of a wave is proportional to the wavelength and a wave with twice the frequency has half the wavelength.

MS-2 item, grade 8 practice test, aligned to PE MS-PS4-1: Use mathematical representations to describe a simple model for waves that includes how the amplitude of a wave is related to the energy in a wave. The dimensions for the PE are SEP: Using Mathematics and Computational Thinking; DCI: PS4.A: Wave Properties; CCC: Patterns. This particular MS-2 standalone item assesses the SEP, DCI, and CCC dimensions.

OE Items: OE, or open-ended, items are standalone items that require students to provide a written response to a prompt or question.

- The prompt or question may be a single prompt, or more typically, the item will be written with multiple, scaffolded parts for students to answer.
- The items are worth 4 points each and are hand-scored for 4, 3, 2, 1, or 0 points by trained scorers using a rubric and scoring notes.

This question has two parts. Be sure to answer both parts of the question.

Some students work at a local aquarium. One of their tasks is to care for mollusks and corals in ocean water in a tank at the aquarium. The students need to make sure that the ocean water has the right balance of calcium ions (Ca^{2+}) and carbonate ions (CO_3^{2-}) that the mollusks and corals need to build their shells and skeletons.

To do this, the students need to ensure that calcium and carbonate ions are continuously added to the ocean water in the tank. The students know that ocean water contains calcium carbonate, which naturally breaks down into calcium and carbonate ions. The equilibrium relationship between the components in the water is shown in the equation.

Equilibrium Equation

$$CO_2 + H_2O + CaCO_3 \rightleftarrows Ca^{2+} + 2\,H^+ + 2\,CO_3^{-2}$$
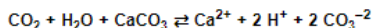
The students decide to test the equilibrium relationships in the equation. With ocean water as an input, the students remove calcium ions (Ca^{2+}) as the ions form in the water in the tank. The students observe that as they remove calcium ions, more calcium ions form in the tank. They realize that this is an example of Le Chatelier's principle that describes the equilibrium relationships in the water.

The people who work at the aquarium tell the students that ocean water contains carbon dioxide (CO_2) and that increasing amounts of CO_2 in ocean water can cause some of the calcium carbonate ($CaCO_3$) in the shells and skeletons of ocean organisms to dissolve.

The students want to solve this problem by decreasing the amount of carbon dioxide in ocean water.

a. Describe one way students could decrease the amount of CO_2 in ocean water by applying Le Chatelier's principle.

b. Describe one constraint on implementing the change described in Part (a).

OE item, grade 11 practice test, aligned to PE HS-PS1-6: Refine the design of a chemical system by specifying a change in conditions that would produce increased amounts of products at equilibrium. The dimensions for the PE are SEP: Constructing Explanations and Designing Solutions; DCI: PS1.B: Chemical Reactions and ETS1.C: Optimizing the Design Solution; CCC: Stability and Change. This particular OE item assesses the SEP, DCI, and CCC dimensions.

APPENDIX C
PARTICIPATION RATES

Participation is defined as those students who took and attempted at least 5 items on the given NM-MSSA & ASR assessments.

Table C-1. Participation Rates on NM-MSSA ELA, as a Function of Subgroup and Grade*

Group	Subgroup	Grade 3	4	5	6	7	8
Overall		20,846	21,058	21,995	22,132	23,381	23,853
Gender	Female	10,295	10,260	10,867	10,861	11,563	11,659
	Male	10,549	10,797	11,125	11,269	11,815	12,189
	Unknown	2	1	3	2	3	5
Ethnicity	African American or Black	571	562	607	586	656	630
	American Indian or Alaska Native	2,539	2,469	2,535	2,647	2,779	2,895
	Asian	376	370	355	336	348	348
	Caucasian	16,818	17,124	17,976	18,060	19,077	19,418
	Hawaiian Native or Other Pacific Islander	73	61	66	85	88	94
	Multi	463	470	454	412	423	463
	Unknown	6	2	2	6	10	5
Hispanic	Yes	12,706	12,972	13,669	13,737	14,701	14,918
	No	8,134	8,084	8,324	8,389	8,670	8,930
	Unknown	0	0	0	0	0	0
Bilingual	Yes	2,027	1,930	2,291	2,013	2,013	2,008
	No	11,225	11,315	11,728	11,637	12,413	12,719
	Unknown	7,594	7,813	7,976	8,482	8,955	9,126
Econ. Dis.	Yes	10,159	10,260	10,755	10,379	11,003	11,316
	No	7,932	7,900	8,224	8,623	9,121	9,230
	Unknown	2,755	2,898	3,016	3,130	3,257	3,307
English Learners	Yes	3,482	3,976	4,248	4,209	4,078	4,169
	No	17,358	17,080	17,745	17,917	19,293	19,679
	Unknown	6	2	2	6	10	5
Foster Care	Yes	5	4	4	4	6	3
	No	6,342	6,178	6,567	6,876	7,068	7,181
	Unknown	14,499	14,876	15,424	15,252	16,307	16,669
Homeless	Yes	270	291	352	276	322	301
	No	17,131	17,095	17,829	18,152	19,100	19,566
	Unknown	3,445	3,672	3,814	3,704	3,959	3,986
Homeschool	Yes	0	0	0	0	1	5
	No	20,846	21,058	21,995	22,132	23,380	23,848
	Unknown	0	0	0	0	0	0
Migrant	Yes	23	25	33	50	42	46
	No	11,691	11,651	12,407	13,302	14,121	14,272
	Unknown	9,132	9,382	9,555	8,780	9,218	9,535

Group	Subgroup	Grade					
		3	4	5	6	7	8
Military	Yes	215	222	231	238	216	193
	No	11,088	10,960	11,566	12,456	13,122	13,380
	Unknown	9,543	9,876	10,198	9,438	10,043	10,280
Special Ed	Yes	3,063	3,341	3,614	3,411	3,801	3,815
	No	14,945	14,822	15,242	15,655	16,352	16,792
	Unknown	2,838	2,895	3,139	3,066	3,228	3,246
Plan 504	Yes	137	130	206	200	295	295
	No	17,120	17,186	18,094	18,215	19,337	19,749
	Unknown	3,589	3,742	3,695	3,717	3,749	3,809

Participation is defined as those students who took and attempted at least 5 items on the given NM-MSSA assessment.

Table C-2. Participation Rates on NM-MSSA Mathematics, as a Function of Subgroup and Grade*

Group	Subgroup	Grade					
		3	4	5	6	7	8
Overall		20,872	21,080	21,995	22,145	23,383	23,859
Gender	Female	10,314	10,272	10,871	10,875	11,559	11,672
	Male	10,556	10,807	11,121	11,268	11,822	12,182
	Unknown	2	1	3	2	2	5
Ethnicity	African American or Black	573	563	609	589	654	628
	American Indian or Alaska Native	2,543	2,469	2,537	2,645	2,793	2,892
	Asian	385	381	361	342	354	357
	Caucasian	16,826	17,133	17,971	18,067	19,065	19,417
	Hawaiian Native or Other Pacific Islander	74	61	65	84	87	93
	Multi	464	471	449	411	425	468
	Unknown	7	2	3	7	5	4
Hispanic	Yes	12,701	12,976	13,648	13,742	14,674	14,914
	No	8,164	8,102	8,344	8,396	8,704	8,941
	Unknown	0	0	0	0	0	0
Bilingual	Yes	2,026	1,931	2,289	2,011	2,010	2,005
	No	11,235	11,329	11,734	11,641	12,408	12,712
	Unknown	7,611	7,820	7,972	8,493	8,965	9,142
Econ. Dis.	Yes	10,173	10,273	10,762	10,384	10,999	11,300
	No	7,954	7,914	8,221	8,633	9,118	9,250
	Unknown	2,745	2,893	3,012	3,128	3,266	3,309
English Learners	Yes	3,483	3,995	4,254	4,209	4,081	4,175

Group	Subgroup	Grade					
		3	4	5	6	7	8
English Learners	No	17,382	17,083	17,738	17,929	19,297	19,680
	Unknown	7	2	3	7	5	4
Foster Care	Yes	5	4	4	4	6	3
	No	6,347	6,190	6,557	6,875	7,063	7,175
	Unknown	14,520	14,886	15,434	15,266	16,314	16,681
Homeless	Yes	269	292	350	277	319	291
	No	17,166	17,114	17,834	18,162	19,101	19,583
	Unknown	3,437	3,674	3,811	3,706	3,963	3,985
Homeschool	Yes	0	0	0	0	1	5
	No	20,872	21,080	21,995	22,145	23,382	23,854
	Unknown	0	0	0	0	0	0
Migrant	Yes	24	27	33	50	41	45
	No	11,718	11,668	12,404	13,312	14,123	14,280
	Unknown	9,130	9,385	9,558	8,783	9,219	9,534
Military	Yes	214	222	231	237	216	193
	No	11,117	10,983	11,561	12,467	13,127	13,387
	Unknown	9,541	9,875	10,203	9,441	10,040	10,279
Special Ed	Yes	3,060	3,345	3,606	3,407	3,802	3,825
	No	14,973	14,834	15,243	15,671	16,369	16,792
	Unknown	2,839	2,901	3,146	3,067	3,212	3,242
Plan 504	Yes	137	131	206	201	295	294
	No	17,152	17,205	18,093	18,224	19,339	19,760
	Unknown	3,583	3,744	3,696	3,720	3,749	3,805

Participation is defined as those students who took and attempted at least 5 items on the given NM-MSSA assessment.

Table C-3. Participation Rates on NM-ASR Science, as a Function of Subgroup and Grade*

Group	Subgroup	Grade		
		5	8	11
Overall		21,995	23,887	19,727
Gender	Female	10,878	11,674	10,028
	Male	11,114	12,208	9,695
	Unknown	3	5	4
Ethnicity	African American or Black	607	625	454
	American Indian or Alaska Native	2,487	2,853	2,401
	Asian	358	358	325
	Caucasian	18,026	19,482	16,078
	Hawaiian Native or Other Pacific Islander	64	94	62

Group	Subgroup	Grade		
		5	8	11
Ethnicity	Multi	451	470	401
	Unknown	2	5	6
Hispanic	Yes	13,720	14,974	11,977
	No	8,273	8,908	7,744
	Unknown	0	0	0
Bilingual	Yes	2,284	2,004	772
	No	11,643	12,668	6,655
	Unknown	8,068	9,215	12,300
Econ. Dis.	Yes	10,747	11,339	6,822
	No	8,225	9,322	10,919
	Unknown	3,023	3,226	1,986
English Learners	Yes	4,233	4,214	2,213
	No	17,760	19,668	17,508
	Unknown	2	5	6
Foster Care	Yes	4	3	1
	No	6,484	7,136	3,299
	Unknown	15,507	16,748	16,427
Homeless	Yes	350	301	259
	No	17,828	19,682	16,758
	Unknown	3,817	3,904	2,710
Homeschool	Yes	0	5	0
	No	21,995	23,882	19,727
	Unknown	0	0	0
Migrant	Yes	33	48	81
	No	12,411	14,381	13,465
	Unknown	9,551	9,458	6,181
Military	Yes	232	193	115
	No	11,591	13,507	12,738
	Unknown	10,172	10,187	6,874
Special Ed	Yes	3,593	3,797	2,463
	No	15,255	16,844	15,988
	Unknown	3,147	3,246	1,276
Plan 504	Yes	207	304	347
	No	18,089	19,856	17,071
	Unknown	3,699	3,727	2,309

Participation is defined as those students who took and attempted at least 5 items on the given NM-MSSA assessment.

Table C-4. Participation Rates on NM-MSSA Spanish Language Arts (SLA), as a Function of Subgroup and Grade*

Group	Subgroup	3	4	5	6	7	8
Overall		693	561	210	218	225	233
Gender	Female	355	295	109	116	106	106
	Male	338	266	101	102	119	127
	Unknown	0	0	0	0	0	0
Ethnicity	African American or Black	4	2	1	0	0	1
	American Indian or Alaska Native	0	2	1	2	1	0
	Asian	5	3	2	0	0	1
	Caucasian	680	553	201	213	222	231
	Hawaiian Native or Other Pacific Islander	3	1	3	1	1	0
	Multi	1	0	1	1	1	0
	Unknown	0	0	1	1	0	0
Hispanic	Yes	685	555	208	213	223	232
	No	8	6	1	4	2	1
	Unknown	0	0	0	0	0	0
Bilingual	Yes	499	388	105	99	109	104
	No	51	62	44	54	68	69
	Unknown	143	111	61	65	48	60
Econ. Dis.	Yes	515	395	107	103	116	120
	No	95	94	84	101	87	94
	Unknown	83	72	19	14	22	19
English Learners	Yes	667	534	191	196	193	201
	No	26	27	18	21	32	32
	Unknown	0	0	1	1	0	0
Foster Care	Yes	0	0	0	0	0	0
	No	167	137	81	81	83	86
	Unknown	526	424	129	137	142	147
Homeless	Yes	12	13	8	7	6	8
	No	517	412	175	189	185	199
	Unknown	164	136	27	22	34	26
Homeschool	Yes	0	0	0	0	0	0
	No	693	561	210	218	225	233
	Unknown	0	0	0	0	0	0
Migrant	Yes	21	12	6	8	3	7
	No	391	310	136	148	145	150
	Unknown	281	239	68	62	77	76

Group	Subgroup	Grade					
		3	4	5	6	7	8
Military	Yes	0	2	1	0	1	0
	No	410	313	138	154	144	153
	Unknown	283	246	71	64	80	80
Special Ed	Yes	81	47	4	6	2	4
	No	305	265	147	164	152	168
	Unknown	307	249	59	48	71	61
Plan 504	Yes	6	9	1	1	1	0
	No	512	406	171	186	179	192
	Unknown	175	146	38	31	45	41

Participation is defined as those students who took and attempted at least 5 items on the given NM-MSSA assessment.

Table C-5. Participation Rates on NM-MSSA Mathematics (Spanish Transadapted), as a Function of Subgroup and Grade*

Groups	Subgroup	Grade					
		3	4	5	6	7	8
Overall		704	565	216	226	239	240
Gender	Female	360	296	111	121	112	114
	Male	344	269	105	105	127	126
	Unknown	0	0	0	0	0	0
Ethnicity	African American or Black	4	2	1	0	0	2
	American Indian or Alaska Native	0	3	1	2	1	0
	Asian	5	2	2	0	1	0
	Caucasian	691	557	208	222	233	238
	Hawaiian Native or Other Pacific Islander	3	1	3	1	2	0
	Multi	1	0	1	1	1	0
	Unknown	0	0	0	0	1	0
Hispanic	Yes	696	559	215	222	236	239
	No	8	6	1	4	2	1
	Unknown	0	0	0	0	0	0
Bilingual	Yes	507	386	108	103	116	111
	No	56	68	47	62	69	73
	Unknown	141	111	61	61	54	56
Econ. Dis.	Yes	524	398	112	105	125	128
	No	96	95	86	108	91	93
	Unknown	84	72	18	13	23	19
English Learners	Yes	671	534	197	204	202	204

Groups	Subgroup	Grade					
		3	4	5	6	7	8
English Learners	No	33	31	19	22	36	36
	Unknown	0	0	0	0	1	0
Foster Care	Yes	0	0	0	0	0	0
	No	172	141	83	91	86	91
	Unknown	532	424	133	135	153	149
Homeless	Yes	13	13	9	7	10	10
	No	526	422	181	199	190	201
	Unknown	165	130	26	20	39	29
Homeschool	Yes	0	0	0	0	0	0
	No	704	565	216	226	239	240
	Unknown	0	0	0	0	0	0
Migrant	Yes	21	13	6	9	3	7
	No	393	313	139	155	146	150
	Unknown	290	239	71	62	90	83
Military	Yes	0	2	1	0	1	0
	No	412	317	141	161	144	153
	Unknown	292	246	74	65	94	87
Special Ed	Yes	83	48	4	6	4	5
	No	312	275	154	174	157	170
	Unknown	309	242	58	46	78	65
Plan 504	Yes	6	8	1	0	1	0
	No	519	416	178	196	183	194
	Unknown	179	141	37	30	55	46

Participation is defined as those students who took and attempted at least 5 items on the given NM-MSSA assessment.

Table C-6. Participation Rates on NM-ASR Science (Spanish Transadapted), as a Function of Subgroup and Grade*

Group	Subgroup	Grade		
		5	8	11
Overall		216	222	192
Gender	Female	110	104	102
	Male	106	118	90
	Unknown	0	0	0
Ethnicity	African American or Black	1	1	1
	American Indian or Alaska Native	1	0	1
	Asian	2	0	1
	Caucasian	208	221	185

Group	Subgroup	Grade		
		5	**8**	**11**
Ethnicity	Hawaiian Native or Other Pacific Islander	3	0	2
	Multi	1	0	2
	Unknown	0	0	0
Hispanic	Yes	214	221	188
	No	2	1	4
	Unknown	0	0	0
Bilingual	Yes	107	102	68
	No	49	69	29
	Unknown	60	51	95
Econ. Dis.	Yes	109	114	102
	No	89	91	86
	Unknown	18	17	4
English Learners	Yes	197	188	161
	No	19	34	31
	Unknown	0	0	0
Foster Care	Yes	0	0	0
	No	86	89	41
	Unknown	130	133	151
Homeless	Yes	8	8	14
	No	182	190	168
	Unknown	26	24	10
Homeschool	Yes	0	0	0
	No	216	222	192
	Unknown	0	0	0
Migrant	Yes	5	6	6
	No	142	143	124
	Unknown	69	73	62
Military	Yes	1	0	0
	No	143	146	130
	Unknown	72	76	62
Special Ed	Yes	4	4	2
	No	154	161	172
	Unknown	58	57	18
Plan 504	Yes	1	0	0
	No	178	184	173
	Unknown	37	38	19

Participation is defined as those students who took and attempted at least 5 items on the given NM-MSSA assessment.

APPENDIX D
ACCOMMODATION FREQUENCIES

Only students who met the attemptedness rule (i.e., attempted 5 or more items) contributed to the frequencies in these tables.

Table D-1. Number of Students Taking NM-MSSA ELA, as a Function of Accommodation or Accessibility Feature and Grade*

Accommodation/Accessibility Feature	Grades					
	3	4	5	6	7	8
EL: Commercial Word-to-Word Dictionary	121	175	155	190	170	205
EL: Customized Dual Language Glossary	0	0	1	2	19	6
EL: Directions in Native Language	37	39	45	38	41	40
EL: Picture Dictionary	10	3	6	10	6	16
EL: Pocket Word-to-Word Translator	14	4	11	0	1	3
IEP/504: Allow Accessibility Mode Testing	109	119	124	158	152	165
IEP/504: Assistive Technology Devices Presentation	7	1	5	8	7	11
IEP/504: Assistive Technology Devices Responses	5	3	6	2	5	9
IEP/504: Braille	3	0	0	0	1	2
IEP/504: Constructed Response Human Scribe	5	5	4	2	1	2
IEP/504: Human Reader English	100	92	109	76	47	50
IEP/504: Human Signer	0	4	2	7	7	3
IEP/504: Large-print	2	1	2	0	2	1
IEP/504: Read Aloud to Self	765	888	816	821	841	882
IEP/504: Selected Response Human Scribe	6	1	3	1	1	3
Online test only: Braille Notetaker	0	1	0	0	0	0
Online test only: Braille Writer	0	1	0	0	0	0
Online Test only: Color Contrast	1,016	1,124	1,113	1,075	995	1,066
Online test only: ELA ASL Video	4	7	7	10	8	13
Online test only: ELA Text-to-Speech English	280	315	382	393	398	377
Online test only: Headphones/Noise Buffer	1,157	1,298	1,340	1,088	1,136	1,265
Online test only: Human Signer for Test Directions	6	11	9	15	10	18
Online test only: Refreshable Braille	0	1	0	0	0	0
Online test only: Screen Reader	10	14	14	13	11	7
Online test only: Speech-to-Text	81	112	131	116	135	132
Online test only: Test was marked for Masking Answer	1,334	1,467	1,328	1,090	963	1,230
Online test only: Test was marked for Masking Custom	1,023	1,025	1,015	901	879	978
Online test only: Test was marked for Reverse Contrast	943	961	954	918	909	952
Online test only: Test was marked for Tactile Graphics	3	6	3	1	1	4
Online test only: Word Prediction	25	45	79	43	22	35
Online test only: Word Prediction (embedded)	147	212	227	179	131	152
Online test only: Human Scribe	61	73	41	39	18	29

Only students who met the attemptedness rule (i.e., attempted 5 or more items) contributed to the frequencies in these tables.

Table D-2. Number of Students Taking NM-MSSA Mathematics, as a Function of Accommodation or Accessibility Feature and Grade*

Accommodation/Accessibility Feature	Grades					
	3	4	5	6	7	8
EL: Commercial Word-to-Word Dictionary	121	175	155	190	169	205
EL: Customized Dual Language Glossary	0	0	1	2	19	6
EL: Directions in Native Language	38	41	45	37	40	39
EL: Picture Dictionary	12	3	6	11	6	16
EL: Pocket Word-to-Word Translator	15	4	11	0	1	3
IEP/504: Allow Accessibility Mode Testing	109	120	125	158	152	165
IEP/504: Assistive Technology Devices Presentation	7	1	5	8	8	11
IEP/504: Assistive Technology Devices Responses	5	3	6	2	5	9
IEP/504: Braille	3	0	0	1	1	3
IEP/504: Constructed Response Human Scribe	5	4	3	2	2	4
IEP/504: Human Reader English	106	114	148	111	88	78
IEP/504: Human Signer	0	4	2	7	8	4
IEP/504: Large-print	2	1	2	0	2	1
IEP/504: Read Aloud to Self	770	869	817	830	869	895
IEP/504: Selected Response Human Scribe	6	2	3	0	1	4
Online test only: Basic Calculator on non-Calculator section of Math	87	130	216	409	548	552
Online test only: Braille Notetaker	0	1	0	0	0	0
Online test only: Braille Writer	0	1	0	0	0	0
Online Test only: Color Contrast	1,024	1,125	1,114	1,085	1,021	1,081
Online test only: Headphones/Noise Buffer	1,168	1,301	1,343	1,096	1,139	1,273
Online test only: Human Signer for Test Directions	6	11	9	15	11	18
Online test only: Math ASL Video	4	8	8	10	9	19
Online test only: Mathematics Text-to-Speech English	4,394	4,869	5,044	3,780	3,749	3,760
Online test only: Mathematics Tools	470	576	667	459	426	337
Online test only: Refreshable Braille	0	1	0	0	0	0
Online test only: Scientific Calculator on non-Calculator section of Math	17	30	44	115	285	347
Online test only: Screen Reader	10	14	13	13	11	8
Online test only: Speech-to-Text	81	113	129	116	135	133
Online test only: Test was marked for Masking Answer	1,340	1,466	1,333	1,100	987	1,243
Online test only: Test was marked for Masking Custom	1,031	1,025	1,017	911	905	992
Online test only: Test was marked for Reverse Contrast	951	963	956	929	935	966
Online test only: Test was marked for Tactile Graphics	3	6	3	1	1	4
Online test only: Word Prediction	25	45	79	42	22	34
Online test only: Word Prediction (embedded)	147	211	226	180	131	152
Online test only: Human Scribe	60	73	41	39	18	29

Only students who met the attemptedness rule (i.e., attempted 5 or more items) contributed to the frequencies in these tables.

Table D-3. Number of Students Taking NM-ASR Science, as a Function of Accommodation or Accessibility Feature and Grade*

Accommodation/Accessibility Feature	Grades		
	5	8	11
EL: Commercial Word-to-Word Dictionary	154	202	13
EL: Customized Dual Language Glossary	1	6	6
EL: Directions in Native Language	46	42	7
EL: Picture Dictionary	6	15	4
EL: Pocket Word-to-Word Translator	11	3	6
IEP/504: Allow Accessibility Mode Testing	105	163	14
IEP/504: Assistive Technology Devices Presentation	5	10	3
IEP/504: Assistive Technology Devices Responses	6	9	3
IEP/504: Braille	0	2	0
IEP/504: Constructed Response Human Scribe	3	2	2
IEP/504: Human Reader English	137	61	48
IEP/504: Human Signer	2	3	2
IEP/504: Large-print	3	1	1
IEP/504: Read Aloud to Self	808	890	852
IEP/504: Selected Response Human Scribe	4	3	1
Online test only: Braille Notetaker	0	0	0
Online test only: Braille Writer	0	0	0
Online Test only: Color Contrast	1,118	1,083	862
Online test only: Headphones/Noise Buffer	1,343	1,272	868
Online test only: Human Signer for Test Directions	9	19	6
Online test only: Refreshable Braille	0	0	0
Online test only: Science Text-to-Speech English	4,312	3,487	1,544
Online test only: Screen Reader	11	6	4
Online test only: Speech-to-Text	126	112	28
Online test only: Test was marked for Masking Answer	1,339	1,252	844
Online test only: Test was marked for Masking Custom	1,020	994	838
Online test only: Test was marked for Reverse Contrast	958	969	834
Online test only: Test was marked for Tactile Graphics	4	4	0
Online test only: Word Prediction	79	32	1
Online test only: Word Prediction (embedded)	227	151	4
Online test only: Human Scribe	40	27	4

Only students who met the attemptedness rule (i.e., attempted 5 or more items) contributed to the frequencies in these tables.

Table D-4. Number of Students Taking NM-MSSA SLA, as a Function of Accommodation or Accessibility Feature and Grade*

Accommodation/Accessibility Feature	Grades					
	3	4	5	6	7	8
EL: Commercial Word-to-Word Dictionary	6	18	9	38	38	32
EL: Customized Dual Language Glossary	10	1	0	4	6	13
EL: Directions in Native Language	49	38	26	48	40	45
EL: Picture Dictionary	4	1	1	5	9	13
EL: Pocket Word-to-Word Translator	0	1	1	4	6	12
IEP/504: Allow Accessibility Mode Testing	0	2	1	0	1	1
IEP/504: Assistive Technology Devices Presentation	0	0	0	0	0	0
IEP/504: Assistive Technology Devices Responses	0	0	0	0	0	0
IEP/504: Braille	0	0	0	0	0	0
IEP/504: Constructed Response Human Scribe	0	0	0	0	0	0
IEP/504: Human Reader Spanish	1	2	0	0	0	0
IEP/504: Human Signer	0	1	0	0	0	0
IEP/504: Large-print	0	1	0	0	0	0
IEP/504: Read Aloud to Self	2	0	0	0	0	0
IEP/504: Selected Response Human Scribe	0	0	0	0	0	0
Online test only: Braille Notetaker	0	0	0	0	0	0
Online test only: Braille Writer	0	0	0	0	0	0
Online Test only: Color Contrast	7	5	1	0	3	2
Online test only: Headphones/Noise Buffer	6	4	1	6	8	7
Online test only: Human Signer for Test Directions	0	0	0	0	0	0
Online test only: Refreshable Braille	0	0	0	0	0	0
Online test only: Screen Reader	0	1	0	0	0	0
Online test only: SLA Text-to-Speech Spanish	51	24	9	6	1	4
Online test only: Speech-to-Text	0	4	0	0	0	0
Online test only: Test was marked for Masking Answer	10	4	6	10	13	19
Online test only: Test was marked for Masking Custom	10	4	2	0	3	2
Online test only: Test was marked for Reverse Contrast	5	2	0	0	3	2
Online test only: Test was marked for Tactile Graphics	0	0	0	0	0	0
Online test only: Word Prediction	0	3	0	0	0	0
Online test only: Word Prediction (embedded)	0	6	1	1	0	0
Online test only: Human Scribe	0	2	0	0	0	0

Only students who met the attemptedness rule (i.e., attempted 5 or more items) contributed to the frequencies in these tables.

Table D-5. Number of Students Taking NM-MSSA Mathematics (Spanish Transadapted), as a Function of Accommodation or Accessibility Feature and Grade*

Accommodation/Accessibility Feature	Grades					
	3	4	5	6	7	8
EL: Commercial Word-to-Word Dictionary	6	18	9	44	40	35
EL: Customized Dual Language Glossary	10	1	0	4	6	13
EL: Directions in Native Language	50	38	26	56	43	50
EL: Picture Dictionary	4	1	1	5	9	13
EL: Pocket Word-to-Word Translator	0	1	1	4	6	12
IEP/504: Allow Accessibility Mode Testing	0	2	1	0	1	1
IEP/504: Assistive Technology Devices Presentation	0	0	0	0	0	0
IEP/504: Assistive Technology Devices Responses	0	0	0	0	0	0
IEP/504: Braille	0	0	0	0	0	0
IEP/504: Constructed Response Human Scribe	0	0	0	0	0	0
IEP/504: Human Reader Spanish	1	2	0	0	0	0
IEP/504: Human Signer	0	1	0	0	0	0
IEP/504: Large-print	0	1	0	0	0	0
IEP/504: Read Aloud to Self	2	0	0	0	0	0
IEP/504: Selected Response Human Scribe	0	0	0	0	0	0
Online test only: Basic Calculator on non-Calculator section of Math	2	0	0	0	0	0
Online test only: Braille Notetaker	0	0	0	0	0	0
Online test only: Braille Writer	0	0	0	0	0	0
Online Test only: Color Contrast	7	5	1	1	3	2
Online test only: Headphones/Noise Buffer	7	5	1	6	8	7
Online test only: Human Signer for Test Directions	0	0	0	0	0	0
Online test only: Math ASL Video	0	0	0	0	0	0
Online test only: Mathematics Text-to-Speech Spanish	194	143	45	32	23	34
Online test only: Mathematics Tools	11	6	0	4	1	1
Online test only: Refreshable Braille	0	0	0	0	0	0
Online test only: Scientific Calculator on non-Calculator section of Math	1	0	0	0	0	0
Online test only: Screen Reader	0	1	0	0	0	0
Online test only: Speech-to-Text	0	4	0	0	0	0
Online test only: Test was marked for Masking Answer	11	4	5	11	13	20
Online test only: Test was marked for Masking Custom	10	4	2	0	3	2
Online test only: Test was marked for Reverse Contrast	5	2	0	0	3	2
Online test only: Test was marked for Tactile Graphics	0	0	0	0	0	0
Online test only: Word Prediction	0	3	0	0	0	0
Online test only: Word Prediction (embedded)	0	6	1	1	0	0
Online test only: Human Scribe	0	2	0	0	0	0

Only students who met the attemptedness rule (i.e., attempted 5 or more items) contributed to the frequencies in these tables.

Table D-6. Number of Students Taking NM-ASR Science (Spanish Transadapted), as a Function of Accommodation or Accessibility Feature and Grade*

Accommodation/Accessibility Feature	Grades		
	3	4	5
EL: Commercial Word-to-Word Dictionary	10	34	18
EL: Customized Dual Language Glossary	0	13	1
EL: Directions in Native Language	26	47	18
EL: Picture Dictionary	1	13	1
EL: Pocket Word-to-Word Translator	1	12	1
IEP/504: Allow Accessibility Mode Testing	1	1	1
IEP/504: Assistive Technology Devices Presentation	0	0	0
IEP/504: Assistive Technology Devices Responses	0	0	0
IEP/504: Braille	0	0	0
IEP/504: Constructed Response Human Scribe	0	0	0
IEP/504: Human Reader Spanish	0	0	0
IEP/504: Human Signer	0	0	0
IEP/504: Large-print	0	0	0
IEP/504: Read Aloud to Self	0	0	0
IEP/504: Selected Response Human Scribe	0	0	0
Online test only: Braille Notetaker	0	0	0
Online test only: Braille Writer	0	0	0
Online Test only: Color Contrast	1	2	0
Online test only: Headphones/Noise Buffer	1	6	0
Online test only: Human Signer for Test Directions	0	0	0
Online test only: Refreshable Braille	0	0	0
Online test only: Science Text-to-Speech Spanish	38	33	13
Online test only: Screen Reader	0	0	0
Online test only: Speech-to-Text	0	0	0
Online test only: Test was marked for Masking Answer	5	19	0
Online test only: Test was marked for Masking Custom	2	2	0
Online test only: Test was marked for Reverse Contrast	0	2	0
Online test only: Test was marked for Tactile Graphics	0	0	0
Online test only: Word Prediction	0	0	0
Online test only: Word Prediction (embedded)	1	0	0
Online test only: Human Scribe	0	0	0

*Only students who met the attemptedness rule (i.e., attempted 5 or more items) contributed to the frequencies in these tables.

APPENDIX E
2021–22 ASSESSMENT ACCOMMODATIONS & ACCESSIBILITY MANUALS

2021-22 ASSESSMENT ACCOMMODATIONS & ACCESSIBILITY MANUAL

NEW MEXICO

Public Education Department
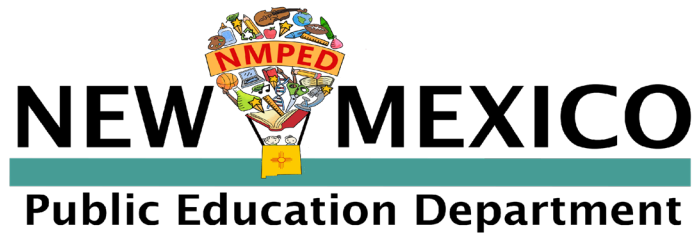
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ped.assessment@state.nm.us
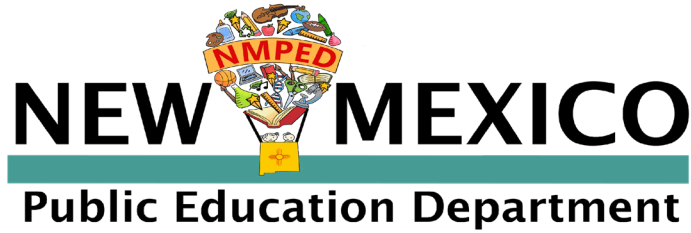
Michelle Lujan Grisham
Governor

Kurt Steinhaus, EdD
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Gwendolyn Perea Warniment, PhD
Deputy Secretary for Teaching, Learning, and Assessment

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Contents

Acknowledgements

Introduction

Purpose of the Manual

The 2021-22 New Mexico Public Education Department (NMPED) Assessment Accommodations and Accessibility Manual is intended for use by test coordinators, test administrators (TAs), district and school administrators, teachers (special education, English as a second language (ESL)/bilingual, and general education), and counselors, diagnosticians, and related service providers who may serve on Individualized Education Program (IEP) teams, Section 504 Plan teams, English Learner (EL) teams, Student Assistance Teams (SAT), or Language Assessment Teams (LAT).

School and district personnel should become thoroughly familiar with the content of this manual to ensure that students receive appropriate and effective accessibility supports during testing.

The manual advocates an individualized approach to the implementation of accommodations and accessibility features for students who have diverse needs in the classroom. An accommodation on an assessment is only appropriate if that accommodation has been provided to the student in the classroom setting, and not every accommodation is appropriate for every student with a disability.

The purpose of accommodations and other accessibility supports is to promote student learning by providing all students with equity in access to instruction and assessment, i.e., giving each student what they need in order to demonstrate their knowledge and skills. Both federal and state law mandate providing equity in student assessments.
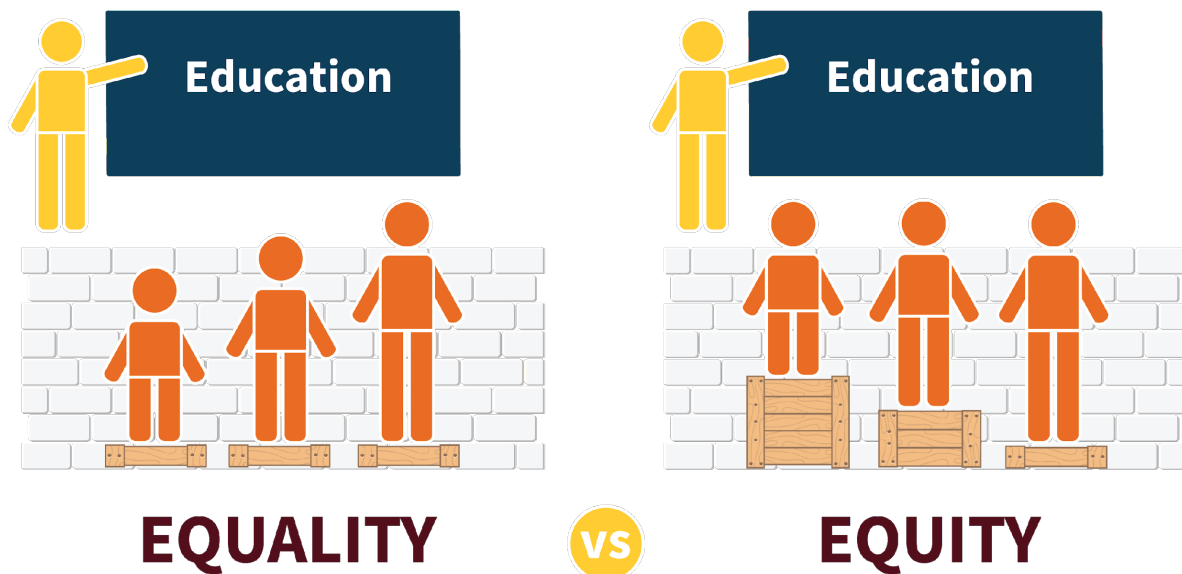
Source: Council of Chief State School Officers (CCSSO) Accessibility Manual (2016), p. 69

Vision and Values

The NMPED **vision** is that all students in New Mexico are engaged in a culturally and linguistically responsive education system that socially, emotionally, and academically prepares each student for success in college, career, and life.

Ensuring equity in access to assessments is an integral part of that vision. Without valid test data, it is impossible to measure objectively what academic content students know and what skills they possess.

The **NMPED core values** should inform the assignment of assessment supports by being

- **student-centered** and **responsive** to the needs of the individual student;
- **collaborative** in including general and special education teachers, diagnosticians and other service providers, parents, and students in the process; and
- **reflective** in evaluating whether an accommodation has been effective in the classroom setting for a particular student and therefore whether it should be used in an assessment setting.

The NMPED adheres to the American Psychological Association (APA) *Standards for Educational and Psychological Testing*. Standard 3.9 states:

> Test developers and/or test users are responsible for developing and providing test accommodations, when appropriate and feasible, to remove construct-irrelevant barriers that otherwise would interfere with examinees' ability to demonstrate their standing on the target constructs. (2015:67)

Section 1: Federal and State Requirements

Federal Statute

The **Elementary and Secondary Education Act (ESEA)** of 1965, re-authorized as the **Every Student Succeeds Act (ESSA)** of 2015, requires that states administer high quality academic assessments in mathematics and reading or language arts in grades 3-8 and at least once in high school, and in science at least once in each of the following grade bands: 3-5, 6-9, and 10-12 (ESSA 1111(b)(2)(B)(v).

The law requires that **all** students participate in these assessments, including students with disabilities (SWD) and English learners (ELs), who must be provided with appropriate accommodations (ESSA 1111(b)(2)(B)(vii).

The **Individuals with Disabilities Act (IDEA)** of 2004 mandates that all SWD be included in all state assessment programs, including federal assessments required under ESSA (IDEA 612(a)(16)(A)).

Students must be assigned the appropriate accommodations to participate in general and alternate assessments as indicated in their respective IEPs (IDEA 612(a)(16)(A). IDEA also requires the state to develop guidelines for the use of appropriate testing accommodations and to use universal design principles in developing and administering assessments when feasible.

Section 504 of the Rehabilitation Act of 1973 states that no otherwise qualified individual shall, solely by reason of her or his disability, be excluded from participation or subjected to discrimination under any program or activity receiving federal financial assistance. When a student is disabled under Section 504 and is in need of services and accommodations, the local education agency (LEA) convenes a Section 504 team, which will develop a Section 504 plan. The Section 504 plan identifies the necessary accommodations and services for a student to access instruction and the plan may include accommodations in the classroom for local and state assessments.

The **Equal Educational Opportunities Act (EEOA)** of 1974, Section 1703(f), and the **Civil Rights Act** of 1964, Title VI, mandate that ELs, sometimes referred to as English language learners (ELLs), participate in all state assessments. There is an exception for ELs who have recently arrived in the United States and have been enrolled in a U.S. school for less than 12 months. States may choose to exclude such an EL from the reading or language arts assessment, or assess the student but exclude the results from accountability calculations. (ESSA 1111(b)(3)(A))

The **Family Educational Rights and Privacy Act (FERPA)** of 1974 protects that privacy of all student data. Any communication containing personally identifiable student data must be sent by secure file transfer rather than by email in order to comply with FERPA. Any email communication should identify students only by Student State Identification (SSID) number (9 digits).

The **Health Insurance Portability and Accountability Act of 1996 (HIPAA)** protects the privacy of all student medical records. When Requests for Medical Exemptions submitted to PED, the required medical documentation should be kept at the school district and not sent to PED in order to comply with HIPAA.

New Mexico Statute

The New Mexico Statutes Annotated (NMSA) are usually cited as NMSA 1978, the year the statutes were last compiled, though many of the chapters, articles, and sections of NMSA 1978 were passed in subsequent years.

NMSA 22-2C, the Assessment and Accountability Act, was passed in 2003 to comply with federal accountability requirements; to provide the means whereby parents, students, public schools and

the public can assess the progress of students in learning and schools in teaching required academic content; and to institute a system in which public schools, school districts and the department are held accountable for ensuring student success. (NMSA 22-2C-2)

The Act empowers the PED to adopt content and performance standards (22-2C-3) and to establish a statewide system of accountability and assessments (22-2C-4). The act requires all students to participate in state assessments, including students with disabilities and limited English proficiency, who are to be provided accommodations (22-2C-4-E).

New Mexico Administrative Code

The purpose of the New Mexico Administrative Code (NMAC) is to provide regulations that support New Mexico statute. NMAC is revised and updated by state agencies after a period of public review and comment. Title 6 of the NMAC concerns primary and secondary schools and is maintained by the PED.

6.10.7 NMAC, Standardized Testing Procedures and Requirements, describes the duties and responsibilities of superintendents, principals, district test coordinators (DTCs), school test coordinators (STCs), TAs, and proctors in the administration of state assessments. The NMPED District Test Coordinator Manual, available on the DTC Resources page, covers these requirements in detail, and all district and school personnel involved in administering student assessments should familiarize themselves with both the administrative code and the manual.

6.29.1.9, Section M, Statewide student assessment system. Sub-section (1) mandates that all public school students shall participate in the standards-based assessments in grades 3 through 8 and 11 with the exceptions listed in Sub-section (2):

- English learners in US schools less than twelve continuous months may receive a language exemption from the SBA for the reading subtest only. In this situation, the student's score on the NMELPA [now ACCESS] will be substituted for the reading subtest and will count toward the district or school's 95% participation rate required under ESSA 1111(c)(4)(E). In all other content areas the student shall participate in the Spanish-language version of the assessment (if available and appropriate) or in the English-language version with accommodations provided if so determined by the school's team.

- English learners in US schools less than three full consecutive years may test in Spanish (no waiver required). With a waiver approved by the PED, they may test in Spanish an additional two years (see Section 7 for more information).

- Students with IEPs shall participate in state assessments, and IEP teams will determine which assessments (i.e., general or alternate) and which accommodations are needed.

Section 2: Three Tiers of Student Supports in Assessment

The Council of Chief State School Officers (CCSSO) and the state education agencies (SEAs) of most states use a three-tier approach to assessment student supports. The three tiers can be viewed as an inverted pyramid.
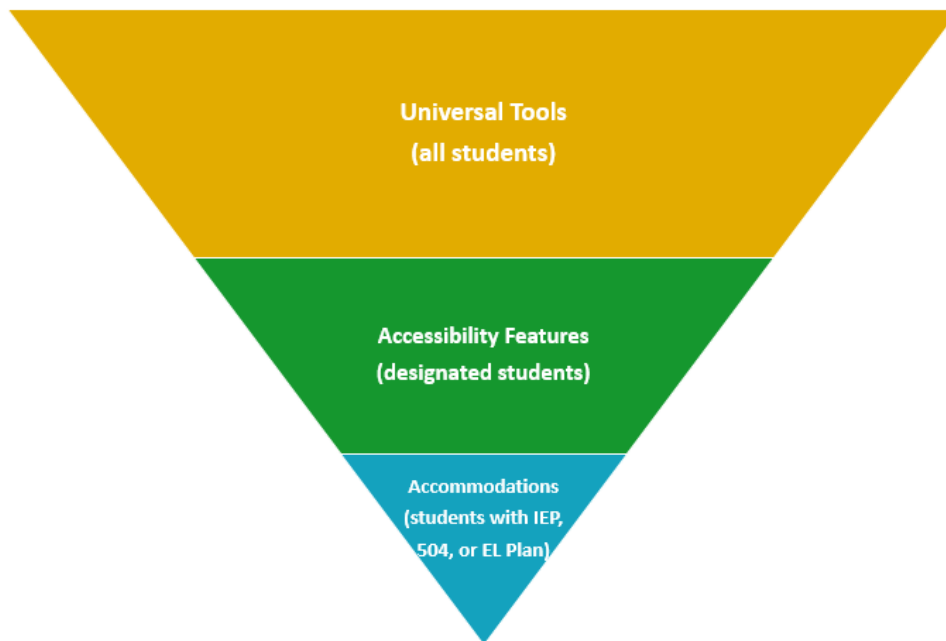
Universal Tools: Available to All Students

The first and broadest level, Universal Tools, encompasses supports available for any student to use. The purpose of Universal Tools is providing access for the greatest number of students and to reduce the need for accommodations and alternate assessments. Universal tools provide all students with equal opportunities to demonstrate what they know and can do without changing the construct being measured or the difficulty of the item. They build flexibility into assessments, enabling individualized adjustments for students with a broad range of abilities such as gifted and talented, ELs, students with emotional or language/learning disabilities, other underperforming students, and students without disabilities, etc.

For New Mexico computer-based assessment programs, universal tools are features that are built into the testing platform and are available for any student to use during the test. Universal tools are also available in paper-based assessments. Refer to the appropriate test manual for more information, as universal tools may vary from assessment program to assessment program.

Universal tools include:

- blank paper
- pop-up notepad
- answer eliminator
- highlighter
- audio amplification
- calculators, rulers, protractors, and other math tools (on math assessment sections that allow those tools)
- line reader
- zoom or magnifier

Accessibility Features: Available to Designated Students

The second tier, Accessibility Features, are available to any student, with or without a legal plan, but must be designated by a team of educators such as the SAT or by an agreement among the teacher, parent, and student in response to individual student needs.

A relatively small number of students would require these accessibility features. Assigning too many features may be distracting for students. Students should be assigned only those features which they have used in the classroom setting and/or on a practice test.

For New Mexico computer-based assessment programs, accessibility features are tools that must be enabled in the testing platform. The types of accessibility features may vary from assessment program to assessment program.

Accessibility features include (see Appendix B for a full list):

- audio amplification
- color contrast
- answer masking
- directions read aloud, clarified, or repeated
- headphones as noise buffer
- human reader or text-to-speech on a math or science assessment (this feature is an accommodation on a language arts assessment)

Accommodations: Available <u>Only</u> to Students with an IEP or 504 Plan and ELs

The third tier of student supports, Accommodations, is the most limited, available only to students with an IEP or 504 Plan, or ELs. Accommodations are changes in procedures or materials that ensure equitable access to instruction and assessment content.

An assessment administered with appropriate accommodations assigned in accordance with a student's legal plan generates valid test results for the student. If testing accommodations are applied incorrectly, the result can be an invalidation of student test results.

Accommodations include (see Appendix B for a full list):

- Braille
- calculation device on non-calculator portion of math test
- extended time
- human reader or text-to-speech on a language arts assessment
- human signer
- large print
- manipulatives
- speech-to-text or human scribe

Modifications: Changes that Invalidate Test Results

In contrast to accommodations, **modifications** are changes in student response (e.g., allowing use of a dictionary) or test administration (e.g., paraphrasing a test question) that give students an unfair advantage on the assessment. IEP teams may select assessment modifications in order for a student with disabilities to participate in state assessments. However, because modifications change the construct of what the assessment is intended to measure, their use will lead to an invalid test result.

Accommodations must be included in a student's IEP or 504 Plan, or have been assigned by an EL team in order to be assigned during testing. If an accommodation that is not documented on a legal plan is assigned on a state assessment, it can result in invalidation of the test results.

Testing Irregularities

A testing irregularity is any incident in the handling or administration of a test that results in questioning the accuracy of the data or security of the test that may or may not result in an invalidation. Irregularities may involve accommodations, issues with technology, a student becoming ill during a test, disruptive student behavior, a fire drill or other interruption to a test session.

Administering an assessment with an accommodation that is **not** in a student's legal plan is a testing irregularity. Administering an assessment **without** an accommodation that **is** in a student's IEP is also a testing irregularity.

Not all irregularities result in invalid test results. Any irregularity that occurs during a test administration must be reported to the PED according to the process described in the PED DTC Manual. The PED then determines whether the irregularity will invalidate the test result.

Please consult the 2021-22 NMPED District Test Coordinator Manual, available on the DTC Resources page, for what constitutes a testing irregularity and how irregularities are handled.

Section 3: Administrative Considerations

In addition to the accessibility supports described in the previous section, school principals and test coordinators may arrange the testing environment and/or schedule in ways that most effectively support students.

While most students will test in their regular classroom or group while following the regular schedule, teachers, in conjunction with principals, school test coordinators, and parents, may choose to schedule test sessions at different parts of the day, or in spaces other than regular classrooms as long as all requirements for testing conditions and test security policies are met. These conditions and policies are set by PED, districts, and schools. PED provides the minimum requirements, but districts and schools may choose to set more stringent policies. Decisions about testing may be considered, for example, that benefit students who are easily distracted in large group settings by testing them in a small group.

In general, changes to the time of day, setting, or conditions of testing are left to the discretion of the instructional team. Teams may wish to consider scheduling test sessions when students are not likely to be hungry or tired, and in settings that minimize distractions.

Administrative considerations include additional time between sessions, preferential seating, and visual, verbal, or tactile reminders to stay on task. Reminders may be verbal (a spoken reminder), visual (e.g., a hand signal or a look), or tactile (e.g., a hand on student's shoulder).

These administrative considerations are available to all students. Administrative considerations should be identified before the beginning of the test window. The instructional team may determine that any student can receive one or more of the following test administration considerations, regardless of the student having an IEP, 504, or being an EL.

Section 4: Making Decisions about Student Supports in Assessment

Accommodations or any other accessibility supports should be assigned only when a team of educators has considered the student's individual needs, determined that the support is appropriate and necessary, and ensured that the accommodation or accessibility feature is being implemented in the classroom before assigning it during an assessment. This section sets forth a model of decision-making that can help teams make thoughtful and effective decisions about how best to support students on state assessments.

This model is adapted from the CCSSO *How to Select, Administer, and Evaluate Use of Accessibility Supports for Instruction and Assessment of All Students* (2019), hereafter referred to as CCSSO 2019. This document sets forth a five-step process for making optimal decisions about providing accommodations and other accessibility supports in the classroom and on state assessments:

Source: CCSSO Accessibility Manual (2016), p. 69

Step 1: Expect Students to Achieve Grade-level Standards

Federal law ensures all students equal access to grade-level academic standards. Providing supports in the classroom or on state assessments does **not** diminish the expectation that **all** students can achieve grade level standards. All students should be expected to meet grade-level academic content, English Language Proficiency (ELP), or alternate assessment standards when:

- All educators—general education, special education, and language teachers—know the standards and where to locate them.

- Instruction is provided by teachers qualified to teach in the relevant content area.

- Instruction is differentiated to meet individual student needs.

- Individualized approaches to instruction and assessment are in place, and individualized plans are developed for students who need them.

- Appropriate supports are provided to help students access content.

Step 2: Learn About Accessibility Supports for Instruction and Assessment

Educators should be familiar with the types of assessment supports described in Section 2 of this manual, and the individual supports listed in Appendix A.

Educators must understand the difference between accommodations, which produce valid test results, and modifications, which invalidate test results.

It is important to remember that that ELP assessments and content area assessments measure different constructs, and therefore, different supports may be allowed for each.

For ELs with disabilities, IEP teams should consider the degree of the student's language- and disability-related needs. Teams should carefully consider which supports will best alleviate linguistic and disability-related assessment challenges for each student.

Step 3: Identify Accessibility Supports for Instruction and Assessment

Not all supports will be helpful to all students, and too many supports can confuse students. Some universal tools may need to be turned off if they interfere with student performance.

Any accommodation or accessibility feature **must** be used in classroom instruction and assessments before it is assigned on a state assessment.

Identifying assessment supports for students should include consideration of:

- Student disabilities and language proficiency

- Which accessibility supports are used in classroom instruction

- Tasks required and barriers to a student's ability to perform those tasks

- Which accommodations and accessibility features are permitted on a given assessment

Decisions should be based on **individual** student characteristics and needs, not on blanket decisions for groups of students with particular disabilities or at language acquisition levels.

If multiple accessibility supports are employed for a student, educators should be cognizant of the possible interactions of these supports. For instance, the highlighter might change colors if the color contrast is turned on.

The more involved students are in the process of selecting supports, the more likely they are to use them. Educators can work with students to advocate for themselves in selecting, using, and evaluating supports, avoiding employing too many or too few supports.

Step 4: Administer Accessibility Supports during Instruction and Assessment

Plan the logistics of assessment supports prior to test day. TAs must know what supports each student will be using and how to administer them, including any technology required, and what to do when selected supports do not work well.

On test day, TAs must monitor supports to ensure they are delivered and that technology is working as it should, and should communicate any problems promptly to STCs.

Step 5: Evaluate Use of Accessibility Supports in Instruction and Assessment

Evidence to evaluate the effectiveness of accessibility supports can be collected by observations conducted during test administration, and interviews with TAs and students after testing. Evidence on the implementation of supports may indicate the continued use of some or the rethinking of others. The evidence may also indicate areas in which TAs need additional training and support.

Questions to guide evaluation at the school and district level:

- Are procedures in place to ensure accommodations and accessibility features are administered correctly?

- Were teachers and TAs provided formal training on administering accommodations and accessibility features?

- Are students receiving accommodations as documented in their plans?

- Are students (with or without legal plans) receiving accessibility features as recommended by a SAT or other team of educators and parents?

- How well do students who receive certain accessibility supports perform on assessments?

- If students are not meeting the expected level of performance, is it due to the student not having had access to the necessary instruction, not receiving the accessibility support, or using ineffective supports?

Questions to guide evaluation for an individual student:

- What supports are used by the student during instruction and assessments?

- What are the results of classroom assignments and assessments when accessibility supports are used versus when they are not used?

- If a student did not meet the expected level of performance, is it due to not having access to the necessary instruction, not receiving supports, or using supports that were ineffective?

- How well did the student, teacher, and TA think the accommodation(s) and/or accessibility feature(s) worked?

- What difficulties were encountered in using the supports?

- Have the characteristics of the student changed over time to warrant a plan change?

Section 5: Nonstandard and Emergency Accommodations

Nonstandard Accommodations

A small number of students need nonstandard accommodations that are not listed in the vendors' accommodations manuals and which must be requested and approved by the PED and documented in a student's IEP or 504 Plan. Examples of frequently approved nonstandard accommodations include

- the presence of a cell phone with a blood glucose monitoring app during testing and
- administering an assessment to a homebound student in the student's home.

The LEA must receive approval from PED prior to testing. To request approval, the Request for Nonstandard Assessment Accommodation form must be submitted to the PED a minimum of **two (2) weeks** prior to the test administration window.

PED will review the request and provide a response within five (5) business days. The LEA must retain the form for a period of five years from the date of the test. The form can be completed and submitted in the PED Test Coordinator Portal. Access the PED Test Coordinator Portal [here](). Instructions for the PED Portal are [here]().

For DTCs who are unable to access the portal, the 2021-22 Nonstandard Assessment Accommodation Request is available on the [DTC Resources]() page of the PED website under Test Coordinator Forms. The Word document can be downloaded, completed, scanned, and emailed to ped.assessment@state.nm.us.

Emergency Accommodations

In cases where a student is injured shortly before an assessment (e.g., student breaks an arm and cannot use a mouse for computer-based testing), the student may require an accommodation at the last minute when no legal plan is in place.

If there is time, the school can create a 504 Plan for the student in these cases. If the injury occurs too close to the assessment, the DTC can use the Nonstandard Assessment Accommodation form to notify the PED that an accommodation is being put in place to allow a recently injured student to participate in a state assessment.

Section 6: Alternate Assessment

Both federal and state law mandate that **all** students participate in state assessments, including students with disabilities (IDEA 612(a)(16)(A)). For students with the most severe cognitive disabilities, a state may provide for alternate assessments to be administered to not more than 1% of the students in the state who are assessed (ESSA 1111(b)(2)(D), IDEA 612(a)(16)(C)).

Students with significant cognitive disabilities (SWSCD) have one or more disabilities that significantly affect intellectual functioning and adaptive behavior. Adaptive behavior is behavior that is essential to live independently and function safely in daily life. SWSCD require significant instruction and support both in and out of the classroom.

A student's IEP team has the responsibility of determining not **if** but **how** the student will participate in state assessments. Following all guidelines in the PED Special Education Bureau's [IEP Manual](), the IEP team determines whether a student with an IEP will participate in the general assessment (with or without accommodations) or the alternate assessment. In New Mexico, the alternate assessment is Dynamic Learning Maps (DLM) which measures achievement in mathematics, language arts, and science.

Alternate assessments measure **alternate achievement standards** aligned to the state's challenging academic standards (ESSA 1111(b)(2)(D)(i)). In New Mexico, these are the Common Core State Standards (CCSS) for math and ELA, and the NM STEM Ready! Standards for science. The DLM alternate achievements standards are Essential Elements (EEs), linked with the New Mexico's academic standards although at less-complex skill levels.

[The DLM Accessibility Manual (2021-2022)]() provides three criteria for participation in the alternate assessment. All three criteria must be met:

- The student has a significant cognitive disability. Review of student records indicates one or more disabilities that significantly affect intellectual functioning and adaptive behavior.

- The student is primarily instructed using alternate content standards. Goals and instruction listed in the student's IEP are linked to the enrolled grade-level alternate standards and address the knowledge and skills that are appropriate and challenging for this student.

- The student requires extensive, direct, and individualized instruction and substantial supports to achieve measurable gains in the grade- and age-appropriate curriculum. The student requires extensive, repeated, and individualized instruction and support that is not temporary or transient, and the student uses substantially adapted materials and individualized methods of accessing information in alternative ways to acquire, maintain, generalize, demonstrate, and transfer skills across multiple settings.

Federal law limits the percentage of students participating in the alternate assessment to 1% (ESSA 1111(b)(2)(D)(i)(I)). Any LEA that exceeds the cap must submit a justification, but **NMPED may NOT prohibit an LEA from assessing more that 1% of its assessed students with the alternate**

assessment. In every case, the deciding factor in whether a student is assessed by the general or alternate assessment must be what is best for the individual student, as determined by the IEP team.

Section 7: English Learners

Definition of English Learner

ESSA defines an EL as a student who was not born in the United States or whose native language is not English; or who is a Native American and comes from an environment where another language has had a significant impact on the student's English language proficiency; or who is migratory and who comes from an environment where a language other than English is dominant; and whose difficulties in speaking, reading, writing, or understanding English may prevent the student from meeting academic standards (ESSA 8101(20)).

New Mexico identifies students as ELs using the WIDA Screener for students in grades 1-12, and the W-APT for students in Kindergarten. Once identified as an EL, a student's ELP is assessed annually by the ACCESS for ELLs, or for SWSCD, by Alternate ACCESS. When a student meets the proficiency cut score on one of these assessments, the student is no longer considered an EL.

Participation in Assessments

Both federal and state law require that ELs participate in state assessments of math, ELA, and science proficiency, and that ELs be provided appropriate accommodations.

ELs must participate in state assessments but until they have been enrolled in a US school for three full consecutive years, they may test in Spanish. These students do **not** need a waiver from the PED to test in Spanish.

ELs who have been enrolled in a US school more than three years but less than five years may test in Spanish if their school-based team determines that this is appropriate and if a waiver is submitted to the PED and approved. Waivers are approved on a case-by-case basis for only a single year.

ELs who have been enrolled in a US school more than five years must test in English but can receive accommodations as indicated by their school-based teams. Testing requirements based on number of consecutive years in US schools:

<1 year
- ELA test may be waived and ELP results substituted
- May test in English with or without accommodations or in the home language of Spanish
- No waiver required: do not submit

1-3 years
- May test in English with or without accommodations or in the home language of Spanish
- No waiver required: do not submit

3-5 years
- May test in English with or without accommodations or in the home language of Spanish **with PED approval**
- Submit waiver to test in Spanish

5+ years
- Must test in English
- No waivers granted: do not submit

The DLM alternate assessment does not provide language translations via the computer, but does allow TAs to translate the text for students who are ELs or who communicate best in a language other than English.

Accommodations for ELs

ELs may receive accommodations on content assessments (math, ELA, science, social studies) but are **not** entitled to accommodations on the ELP assessment (ACCESS) unless they also have an IEP or 504 Plan. Accommodations for ELs on content assessments include:

- Word to word dictionary or glossary (English-native language)
- Human reader (test directions or test items in native language)
- Text-to-speech (test directions or test items in native language)
- Extended time (on timed tests)

Appendices

Appendix A: Vendor Accessibility and Accommodations References Links

Document	Source	Additional PED Guidance
NMPED Assessment Accommodations Manual	https://webnew.ped.state.nm.us/wp-content/uploads/2020/09/assessment-accommodations-and-accessibility-manual.pdf	
SAT School Day	https://accommodations.collegeboard.org/pdf/accommodations-supports-handbook.pdf	**College Reportable Accommodations:** https://webnew.ped.state.nm.us/wp-content/uploads/2019/12/NM-SAT-and-PSAT-10-College-Board-Accommodations-Matrix-Resulting-in-College-Reportable-Scores.pdf **Non College Reportable, But Allowed:** https://webnew.ped.state.nm.us/wp-content/uploads/2019/12/College_Board_Accommodations_Non-Reportable_Scores.pdf
Cognia 3-8 NM-MSSA (Math/ELA/SLA) and NM-ASR (Science)	https://newmexico.onlinehelp.cognia.org/wp-content/uploads/sites/10/2020/08/NM-Assessments-Univ-Tools-Accessibility-and-Accoms_2021-2022.pdf	A student can only be assigned the MSSA Spanish Language Arts (SLA) as an English Learner (EL) accommodation.
iMSSA and Formative Item Sets	https://newmexico.onlinehelp.cognia.org/wp-content/uploads/sites/10/2020/08/NM-Assessments-Univ-Tools-Accessibility-and-Accoms_2021-2022.pdf	Text to Speech is available in English and Spanish, (for EL students), on the math portion only for the Interim assessment and in English only for the Formative item set.
Istation	https://www.istation.com/Content/downloads/NM_IstationAssessmentAccommodations.pdf	A student can only be assigned Spanish ISIP as an English Learner (EL) accommodation, even if they are not in a dual language program.
DLM	https://dynamiclearningmaps.org/sites/default/files/documents/Manuals_Blueprints/Accessibility_Manual.pdf	The Test Administrator may provide any portion of the assessment in a native language as an accessibility support for the student. Students IEP must designate alternate assessment.
ACCESS	https://wida.wisc.edu/resources/accessibility-and-accommodations-supplement	Refer to the state allowed domain exemption guidance on the Assessment Bureau ACCESS website.

Appendix B: General Accessibility Features and Accommodations Defined

This table is a <u>general</u> guide to accommodations and accessibility features. <u>It may not be applicable to all assessments, in particular for SAT college reportable scores.</u> For assigning accommodations in specific assessments, refer to the individual vendors' accessibility and accommodations document links in Appendix A. If a feature is not listed, please consult the accommodations manual for the relevant assessment.

Note: For an accommodation or accessibility feature to be most effective, it should be used in classroom instruction and assessments before being assigned on a state assessment.

Key:	CBT = Computer Based Test EL = English Learner	PBT= Paper Based Test TA = Test Administrator	SS = Social Studies SWD = Students with Disabilities

Feature	Description	Accessibility (any student)	Accommodation (IEP)	Accommodation (EL)
Assistive Technology: Presentation	For students with hearing impairments. Assistive technology devices to access test presentation. Examples: Kurzweil, FM systems, etc. Use individually or in small groups as long as it is not distracting to others.		X	

Assistive Technology: Response	For students with visual, hearing, fine motor, writing, or motor impairments who use devices for instruction:
	    Augmentative communication devices
	    Communication boards
	    Braillers
	    Low vision devices
	    Amplification
	    Custom, modified, or alternative keyboard
	    Touch screen computer
	    Track ball, track pad, joystick
	    Mouth stick, head pointer
	    Head mouse, head master, tracker
	    Phonics phone or whisper phone
	    Switches
	    Voice output device (must disable during reading test)
	    Tape recorder
	    Tactile/voice output measuring devices (e.g., clock, ruler), pencil grips, nonskid material to hold objects in place
	    Word prediction (science open-ended response)
	
	Note: spell check, word prediction programs and grammar checking are <u>modifications</u> in some language arts/literacy assessments (refer to individual assessment manuals)
			X	

Audio Amplification	For students with hearing impairments. Amplification of sound. Before testing, auditory assistive technology should be checked in advance for compatibility with CBT platform.	X		
Audio Record Responses	For students for whom the physical act of keyboarding or writing interferes with their ability to express their thoughts. Audio recording students' vocal responses. Some assessments may have a scribe use the recording to enter the information into the assessment. See Speech-to-Text or Human Scribe.		X	
Bookmark Items for Review	For PBT, TA provides students with place markers prior to testing. All bookmarks must be removed at the end of testing. Embedded in CBT.	X		
Braille	For students with visual impairments. Test materials with an embossed paper **tactile writing system.** Ordered directly from the vendor. Used individually or in small group testing.		X	
Calculation Device	For students whose disability *severely limits or prevents* **their ability to perform basic calculations** (i.e., student is unable to perform single-digit addition, subtraction, multiplication, or division). Approved calculation device on **non-calculator section** of math assessment. (Calculator is a universal tool on the calculator section.)		X	
Color Contrast/Overlay	For PBT, students may use color overlays when taking the test. When embedded in CBT, both font and background colors as well as contrast are modified.	X		
Directions Clarified	For PBT, TA clarifies general administration directions <u>only</u>, NOT passages or test items. Embedded in CBT.	X		
Directions Read Aloud and Repeated	TA reads general administration directions only, NOT passages or test items. May repeat if student requests.	X		
Eliminate Answer Choices	For PBT, students use removable markers (e.g., small strips of paper). TA makes sure markers removed from test booklets. Embedded in CBT.	X		
Extended Time	Available for *timed* tests		X	X
General Masking	For PBT, a straight edge may be used. Embedded in CBT.	X		

Feature	Description	Accessibility (any student)	Accommodation (IEP)	Accommodation (EL)
Headphones/Noise Buffer	Headphones used to access audio in CBT or to minimize distraction, filter external noise. Headphones used as a noise buffer may not be plugged in.	**X**		
Human Reader	For students who are unable to decode text visually. Scripted oral accommodation in English used individually or in small group testing with PBT/CBT. Follow test manual directions when assigning to ELA assessments.	**X** Math, Sci, SS	**X** ELA	**X** ELA
Human Scribe (Constructed Response Items, e.g, open-ended, short answer, essay)	For SWD whose disability limits their keyboarding or writing skills and interferes with ability to express their thoughts in writing. For PBT or CBT without VR software, a human scribe transcribes student's response <u>verbatim</u> in test booklet or using keyboard. Use in individual test setting. Speech-to-Text can be used on CBT.		**X**	
Human Scribe (Selected Response Items, e.g., multiple choice, multiple select)	For SWD whose disability limits their keyboarding or fine motor skills interferes with their ability to indicate their response. For PBT or CBT without VR software, a human scribe transcribes student's response in test booklet or using keyboard. Use in individual test setting. Speech-to-Text can be used on CBT.		**X**	
Human Signer	For students with hearing impairments who are unable to decode text visually. For PBT/CBT a sign language interpreter may be used individually or in small group. Follow test manual directions when assigning to ELA assessments.		**X**	
Large Print	For students with visual impairments. Test materials formatted with <u>font</u> considerably larger than usual. PBT ordered from the vendor. Used individually or in small group testing.		**X**	
Line Reader Mask Tool	For PBT, a straight edge may be used to help students visually track lines of text. Embedded in CBT.	**X**		
Magnification/ Enlargement Device	For PBT, students use a magnification/enlargement device. Embedded in CBT.	**X**		
Manipulative Test Materials	For SWD with temporary or permanent conditions that interfere with ability to manipulate materials such as test booklet pages, stimulus cards, etc. 3-D objects used in place of paper materials.		**X**	

Math Manipulatives	For students who are blind or visually impaired, have specific learning disabilities, or are otherwise health impaired. 3-D objects used in place of paper materials or images on computer screen. Manipulatives include: touch point numbers, counting blocks/beans/etc., abacus, number line, numbers chart, Braille ruler, Braille protractor.		X	
Picture Dictionary	For ELs. Provides only picture definitions of words in English without providing unwarranted assistance to the student such that it gives away the answer to the test items. Used individually or in small group testing.			X
Read aloud to self	Student reads directions, text, selected responses, constructed response items aloud to self. Used in individual setting with PBT/CBT.	X		
Redirect	The TA redirects the student's attention back on the test.	X		
Spanish version	For ELs who have been in US schools fewer than three consecutive years. ELs may test in Spanish for two additional years with a waiver approved by PED. See Section 7.			X
Speech-To-Text (Constructed Response Items, e.g, open-ended, short answer, essay)	For SWD for whom the physical act of keyboarding or writing interferes with their ability to express their thoughts. Voice recognition (VR) software embedded in CBT converts student responses to constructed response items (e.g., writing) to printed text. Student speaks into computer microphone and the computer generates a transcription.		X	
Speech-to-Text (Selected Response Items, e.g., multiple choice, multiple select)	For SWD whose disability limits their keyboarding or fine motor skills interferes with their ability to indicate their response. Voice recognition (VR) software embedded in CBT converts student responses to selected response items (e.g., multiple choice) to printed text. Student speaks into computer microphone and the computer enters the response.		X	
Text-To-Speech or Human Reader – Test **Directions** in Native Language.	For ELs. Read aloud test directions <u>not</u> items in Native language. Definitions of words are not provided. PBT may be used in small group or individually.			X
Text-To-Speech or Human Reader – Test **Directions** in English.	For SWD and ELs who are unable to decode text visually. Read aloud test directions, <u>not</u> test items. Hearing directions read allows the content not the language, to be tested. Definitions of words are not provided. PBT may be used individually or in small group testing.		X	X
Text-To-Speech or Human Reader – Test **Items** in English	For students who are unable to decode text visually. Scripted oral accommodation in English. Allows the content, not the language, to be tested. Used individually or in small group testing with PBT. Refer to test manual when assigning to ELA assessments.	X **Math , Sci, SS**	X **ELA**	X **ELA**

Word Prediction External Device	For SWD whose physical disability *severely limits or prevents* keyboarding or writing responses. External device that provides a bank of frequently- or recently-used words on-screen after the student enters the first few letters of a word. Device may not connect to internet or save information.		X	
Word-to Word Dictionary or Glossary, (English/Native Language)	For ELs. Word-to-word dictionary customized for New Mexico, or commercially published bilingual Dictionary. Displays word in English and corresponding word in Native Language. Definitions are not provided. A sample list of approved bilingual dictionaries may be found at https://www.act.org/content/dam/act/unsecured/documents/ACT-ApprovedBilingualDictionariesList.pdf.			X
Word-To-Word Pocket Translator	For ELs. Commercially available electronic translator. Displays corresponding word in any language when user enters word in English. Definitions of words not provided.			X
Writing Tools	For PBT, the students use a writing instrument on written response to underline, bold, or add bullets for formatting. Embedded in CBT.	X		
Zoom	Magnification or enlargement in CBT.	X		
PED – Approved Nonstandard Accommodations	Accommodations not described in this manual but necessary for a student to access the assessment. Request using Non-standard Accommodations form available on DTC Resources page.		X	

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NEW MEXICO
Public Education Department

A F A M

NM-ASR and NM-MSSA Spring 2022

Accessibility Features and Accommodations Manual

Guidance for Districts and Decision-Making Teams to Ensure that Spring 2022 Science, Mathematics, and ELA Summative Assessments Produce Valid Results for All Students

NM-ASR
NEW MEXICO ASSESSMENT OF SCIENCE READINESS

NM-MSSA
NEW MEXICO MEASURES OF STUDENT SUCCESS AND ACHIEVEMENT

Available online at: <u>newmexico.onlinehelp.cognia.org/accommodations-information</u>

Table of Contents

Background

Audience and Purpose

The NM Accessibility Features and Accommodations Manual is a comprehensive policy document that provides guidance to districts and decision making teams to ensure the New Mexico Assessment of Science Readiness (NM-ASR) and the New Mexico Measures of Student Success and Achievement (NM-MSSA) summative assessments provide valid results for all participating students.

Introduction

New Mexico Public Education Department (PED) regards assessments as tools for enhancing teaching and learning. PED is committed to providing all students with equitable access to high-quality, 21st century assessments. By applying principles of universal design, using technology, embedding accessibility features, and allowing a broad range of accommodations, PED provides opportunities for the largest possible number of students to demonstrate their knowledge and skills. PED sets and maintains high expectations that all students will have access to the full range of grade-level and course content standards. For additional PED guidance concerning accommodations on the required summative assessments, please refer to the *2021–22 Assessment Accommodations & Accessibility Manual* available at
https://webnew.ped.state.nm.us/wp-content/uploads/2021/09/2021-22-Accommodations-Manual.pdf.

PED's goals for promoting student access include:

- Applying principles of universal design for accessible assessments during every stage of the development of the assessment items and performance tasks;
- Minimizing/eliminating features of the assessment that are irrelevant to what is being measured so that all students can more accurately demonstrate their knowledge and skills;
- Measuring the full range of complexity of the standards;
- Using technology for the accessible delivery of the assessments;
- Building accessibility throughout the test without sacrificing assessment validity;
- Using a combination of accessible authoring and accessible technologies from the inception of items and tasks; and
- Engaging state and national experts throughout the development process through item review, bias and sensitivity review, policy development and review, and research.

This manual provides information on the accessibility features and accommodations that will be available during the 2022 Science, Math, and ELA assessments, based on careful review and inclusion of the following:

- Current and field test research on effective practices for assessing student groups, (including students with disabilities and ELs) and backgrounds (cultural, regional, linguistic, dialect, and socio-economic);
- Feedback from state leads and state experts on students with disabilities and ELs;
- Feedback from the content experts.

Participation Guidelines for Paper-Based 2022 Science/Math/ELA Assessments

Although 2022 Science/Math/ELA assessments are computer-based, using an online testing platform, there may be specific instances which require a student to take a paper-based assessment instead. The following conditions may result in a school choosing to administer a paper-based assessment:
- Condition #1: A student is unable to use a computer due to the impact of his or her disability. The student's inability to participate in computer-based assessments should be documented in an Individualized Education Program (IEP) or 504 plan. Examples may include:
    - A student with a disability who cannot participate in the online assessment due to a health-related disability, neurological disorder, or other complex disability, and/or cannot meet the demands of a computer-based test administration;
    - A student with an emotional, behavioral, or other disability who is unable to maintain sufficient concentration to participate in a computer-based test administration, even with test accommodations;
    - A student with a disability who requires assistive technology that is not compatible with the testing platform.
- Condition #2: A student who recently entered the school and has had very little or no prior experience or familiarity with technology.
- Condition #3: The school is providing paper-based assessments for its students as the primary mode of administration.
- Condition #4: A student who is unable to access an online assessment due to religious beliefs.

General Administrative Considerations, Universal Tools, and Accessibility Features

Administrative Considerations for All Students

Detailed guidelines on the administration of the 2022 Science, Math, and ELA assessments will be included in the *Test Administrator's Manual* and the *Test Coordinator's Manual.*

Although students are generally tested in their regular classroom and follow the standard test administration schedule for the grade and content area being assessed, the principal or the test coordinator have the authority to schedule students in testing spaces other than regular classrooms, and at different scheduled times, as long as all requirements for testing conditions and test security are met as set forth in the *Test Administrator's Manual* and *Test Coordinator's Manual*. Decisions may be considered, for example, that benefit students who are easily distracted in large group settings by testing them in a small group or individual setting. In general, changes to the timing, setting, or conditions of testing are left to the discretion of the principal or test coordinator.

In accordance with principles of universal design for assessment, PED is providing the following administrative guidance regarding the timing and scheduling of assessments, and setting/locations for testing. These administrative considerations are available to all students. The principal may determine that any student can receive one or more of the following test administration considerations, regardless of the student's status as a student with a disability or EL.

Table 1: Administrative Considerations for All Students

Consideration	Description
Small Group Testing	Student is tested in a separate location with a small group of students with matching accessibility features, accommodations, or testing needs as appropriate. Check individual state policies on the maximum number of students allowed in a small testing group.
Time of Day	Student is tested during a specific time of day based on their individual needs (e.g., ELA in the morning; no testing after lunch).
Separate or Alternate Location	Student is tested in a specifically assigned location.
Specified Area or Setting	Student is tested in a specialized area or setting (e.g., front of the classroom, seat near the door, library, etc.).
Adaptive and specialized equipment or furniture	Student is provided specialized equipment or furniture needed for a successful testing environment (e.g., low lighting; adaptive seat).
Frequent breaks	Guidance on logistics for administrating the 2022 Science, Math, and ELA assessments with frequent breaks: • *Medical Breaks*: Student takes a break due to pre-existing or sudden onset of a temporary or long-term medical condition. Student's testing time stops. • *Individual Bathroom Breaks*: Student requests a bathroom break within their overall allotted testing time. Student's testing time does not stop. • *In-Chair Stretch Break:* Student pauses and stretches. Student's testing time does not stop. • *Other Frequent Breaks,* according to PED policy.

Universal Tools Available to All Students

Table 2 lists the tools available to all students through the computer-based testing platform as well as the equivalent resources for paper-based testing. The universal tools do not need to be assigned in iTester prior to testing. Students should be familiar with using these tools prior to testing through classroom instruction or practice testing.

Table 2: Universal Tools for Computer-Based Testing and Their Paper-Based Testing Equivalents

CBT Tool and Guidelines	PBT Equivalent and Guidelines

Answer Eliminator
 	
Before Testing:
  • <u>Assignment in iTester</u>: not assigned prior to testing; available to all students
 	
During Testing: The Answer Eliminator tool allows students to eliminate response option(s) by placing a strike though over the option.
	Removable Markers
	
	Before Testing:
	  • <u>Materials</u>: Test Administrator provides students with blank masking cards/markers
	
	During Testing: The student may cover or uncover answer options with external blank masking cards as needed).

Blank Scratch Paper
 	
Before Testing:
  • <u>Assignment in iTester</u>: not assigned prior to testing; available to all students
  • <u>Materials</u>: Test Administrators must supply at least one page of blank scratch paper (i.e., either unlined, lined, or graph) per student, per unit. If graph paper is used during mathematics instruction, it is recommended that schools provide graph paper as scratch paper for mathematics units. Students with visual impairments may also use braille paper, raised line paper, bold line paper, raised line graph paper, bold line graph paper, abacus, or Math Window.
 	
During Testing: The student uses blank scratch paper (lined, un-lined, or graph) to take notes and/or work through items during testing. Additional pages may be provided as needed. Students are not required to write their names on scratch paper.
 	
After Testing: Test Administrators are responsible for collecting ALL scratch paper after testing is completed to be securely destroyed. Scratch paper must be securely shredded if it has been used. Schools may reuse unused scratch paper only if paper is completely blank.	

Bookmark
 	
Before Testing:
  • <u>Assignment in iTester</u>: not assigned prior to testing; available to all students
 	
During Testing: Students can bookmark or save items to come back to later.
	Place Markers
	
	Before Testing:
	  • <u>Materials</u>: Test Administrator provides student with place markers.
	
	During Testing: The student uses non-sticky place markers to "bookmark" items to review later. All place markers <u>must</u> be removed before test booklet or answer document is submitted for scoring.

Calculator – Mathematics (Calculator Sessions) **Before Testing:**	Same as CBT **Before Testing:**

CBT Tool and Guidelines	PBT Equivalent and Guidelines
• Assignment in iTester: not assigned prior to testing; available to all students **During Testing:** An embedded calculator is available to students taking calculator sessions of the mathematics tests. See the TAM for more information on the calculators available for each grade.	• Materials: Test Administrator provides students with handheld calculators for the appropriate grades/sessions. See the TAM for more information on the calculators available for each grade. **During Testing:** Students use handheld calculators on the calculator sessions of the mathematics tests.
Expand Passage **Before Testing:** • Assignment in iTester: not assigned prior to testing; available to all students **During Testing:** Stimulus passages can be expanded.	n/a
Line Reader **Before Testing:** • Assignment in iTester: not assigned prior to testing; available to all students **During Testing:** The Line Reader tool can be used to assist in reading by raising and lowering the tool for each line of text onscreen. It is resizable and draggable.	*Straight Edge* **Before Testing:** • Materials: Test Administrator provides student with blank straight edge. **During Testing:** The student uses a blank straight edge as he or she reads and follows along with the text
Note Pad **Before Testing:** • Assignment in iTester: not assigned prior to testing; available to all students **During Testing:** The Notepad tool can be used to type notes for each separate test question. The Notepad can be moved around on the screen and resized as desired.	see *Blank Scratch Paper*
Pop-up Glossary **Before Testing:** • Assignment in iTester: not assigned prior to testing; available to all students **During Testing:** Students can view definitions of pre-selected words by selecting words with a book icon to launch a pop-up screen with the word's definition.	*Glossary in Footnotes* **During Testing:** The student refers to a glossary of pre- selected, construct-irrelevant words in the footnotes of the paper-based test.

CBT Tool and Guidelines	PBT Equivalent and Guidelines

Reference Sheet
 	
Before Testing:
   • <u>Assignment in iTester</u>: not assigned prior to testing; available to all students
 	
During Testing: Available for grade 11 science (English) and grades 5, 8, and 11 (Spanish) only. The reference sheet contains the Periodic Table for grade 11 science tests. An additional reference sheet for grades 5, 8, and 11 Spanish language science tests contains grade-appropriate Spanish-English glossaries of science terms. Students can use the information in the reference sheet to help answer some test questions.
	same as CBT
	
	Before Testing:
	   • <u>Materials</u>: Test Administrator provides printed reference sheets to students taking grade 11 English language science tests or grade 5, 8, or 11 Spanish language science tests. The reference sheet provides a periodic table for students taking grade 11 tests. Additional printed reference sheets containing grade-appropriate Spanish-English glossaries of science terms are provided to students taking Spanish language science tests.
	
	During Testing: Students can use the information in the reference sheet to help answer some test questions.

Sketch Tool (Not available on constructed response items) **Before Testing:** • <u>Assignment in iTester</u>: not assigned prior to testing; available to all students **During Testing:** The Sketch tool can be used to sketch, highlight, or underline text on the screen. This tool will only appear on items that do not have a sketchpad widget or rich text editor response option.	see *Blank Scratch Paper*

Text Highlight
 	
Before Testing:
   • <u>Assignment in iTester</u>: not assigned prior to testing; available to all students
 	
During Testing: The Text Highlight tool can be used to select text and highlight the selection.
	Highlighter
	
	Before Testing:
	   • <u>Materials</u>: Test Administrator provides student with highlighter(s).
	
	During Testing: The student highlights text as needed to recall and/or emphasize.

CBT Tool and Guidelines	PBT Equivalent and Guidelines

Zoom View (magnifier)
 	
Before Testing:
    • <u>Assignment in iTester</u>: not assigned prior to testing; available to all students
 	
During Testing: Students can magnify the entire screen in four increments: 100%, 150%, 200%, and 300%.
	Magnification/Enlargement Device
	
	Before Testing:
	    • <u>Materials</u>: Test Administrator provides student with magnification/enlargement device.
	
	During Testing:
	The student uses external magnification or enlargement devices to increase the font or graphic size (e.g., projector, CCTV, eye-glass mounted or hand-held magnifiers, electronic magnification systems, etc.).

Accessibility Features

Table 3 lists the accessibility features available to students through the computer-based testing platform as well as the equivalent resources for paper-based testing. **For students taking computer-based tests, accessibility features must be assigned in iTester prior to testing.**

Table 3: Accessibility Features for Computer-Based and Paper-Based Testing

CBT Features and Guidelines	PBT Equivalent and Guidelines
Answer Masking **Before Testing:** • Assignment in iTester: must be assigned prior to testing **During Testing:** The Answer Masking tool allows students to hide answer options to help narrow down the correct answer.	*Removable Markers* **Before Testing:** • Materials: Test Administrator provides students with blank masking cards/markers **During Testing:** The student may cover or uncover answer options with external blank masking cards as needed).
Color Contrast **Before Testing:** • Assignment in iTester: must be assigned prior to testing **During Testing:** Students can choose a text and background color from a set of 12 predefined color combinations.	*Colored Overlays* **Before Testing:** • Materials: Test Administrator provides students with colored overlays. **During Testing:** The student uses colored overlays when taking the assessment. The color should match what is currently used during instruction.
Custom Masking **Before Testing:** • Assignment in iTester: must be assigned prior to testing **During Testing:** Provides the ability to mask certain parts of the test interface or question.	*Removable Markers* **Before Testing:** • Materials: Test Administrator provides students with blank masking cards/markers **During Testing:** The student may cover or uncover answer options with external blank masking cards as needed).
Text-to-Speech (English or Spanish) **Before Testing:** • Assignment in iTester: must be assigned prior to testing **During Testing:** Students can play, pause, skip, or stop audio. They can select specific text for on-demand audio, and the Gear icon allows students to change the volume or speed of the text being read aloud.	*Human Reader (English or Spanish)* **Before Testing:** • Materials: Human Reader Kits, which include one copy of the student test booklet (and answer document for grades 4–8) and an extra test booklet for Test Administrators. • Test Administrator Training: Test Administrators providing these accommodations must review the following, as applicable: • Human Reader Kits at least two school days prior to paper-based testing, with

CBT Features and Guidelines	PBT Equivalent and Guidelines
	kits provided to schools for this purpose. Review of Human Reader Kits must occur in a SECURE ENVIRONMENT. • Appendix A: Test Administration Protocol for the Human Reader Accommodation for English Language Arts (ELA) Assessments, and the Human Reader Accessibility Feature for Mathematics Assessments. • Appendix I: The 2022 Math and ELA Assessments for Students with Visual Impairments, Including Blindness. **During Testing:** A student receives an audio representation of the mathematics assessment through a human reader.
Reverse Contrast **Before Testing:** • Assignment in iTester: must be assigned prior to testing **During Testing:** Inverts color values on the screen.	n/a

Accommodations for Students with Disabilities and English Learners

Overview

It is important to ensure that performance in the classroom and on assessments is influenced minimally, if at all, by a student's disability or linguistic/cultural characteristics that are unrelated to the content being assessed. For the 2022 Science, Math, and ELA assessments, accommodations are considered to be adjustments to the testing conditions, test format, or test administration that provide equitable access during assessments for students with disabilities and students who are ELs. In general, the administration of the assessment should not be the first occasion in which an accommodation is introduced to the student. In addition, Test Administrators administering the assessment or providing accommodations should be an education professional who is familiar with the student, and who is typically responsible for providing the accommodation in the classroom. To the extent possible, accommodations should:

- Provide equitable access during instruction and assessments;
- Mitigate the effects of a student's disability;
- Not reduce learning or performance expectations;
- Not change the construct being assessed; and
- Not compromise the integrity or validity of the assessment.

Accommodations are intended to reduce and/or eliminate the effects of a student's disability and/ or English language proficiency level; however, **accommodations should never reduce learning expectations by reducing the scope, complexity, or rigor of an assessment.** Moreover, accommodations provided to a student on the 2022 Science, Math, and ELA assessments must be generally consistent with those provided for classroom instruction and classroom assessments. There are some accommodations that may be used for instruction or for formative assessments but are not allowed for the summative assessment because they impact the validity of the assessment results – for example, allowing a student to use a thesaurus or access the internet during a 2022 Science, Math, and ELA assessment. There may be consequences (e.g., invalidating a student's test score) for the use of non-allowable accommodations during the 2022 Science, Math, and ELA assessments. It is important for educators to become familiar with policies regarding accommodations used for the 2022 Science, Math, and ELA assessments.

The guidelines provided in this manual are intended to ensure that valid and reliable scores are produced on the 2022 Science, Math, and ELA assessments, and that an unfair advantage is not given to students who receive accommodations. Outside of the guidance provided in this manual, changes to an accommodation or the conditions in which it is provided may change what the assessment is measuring, and will likely call into question the reliability and validity of the results regarding what a student knows and is able to do as measured by the assessment.

To the extent possible, accommodations should adhere to the following principles:

- Accommodations enable students to participate more fully and fairly in instruction and assessments and to demonstrate their knowledge and skills.
- Accommodations should be based upon an individual student's needs rather than on the category of a student's disability, level of English language proficiency alone, level of or access to grade-level instruction, amount of time spent in a general classroom, current program setting, or availability of staff.
- Accommodations should be based on a documented need in the instruction/assessment setting and should not be provided for the purpose of giving the student an enhancement that could be viewed as an unfair advantage.
- Accommodations for students with disabilities should be described and documented in the student's appropriate plan (i.e., either the IEP or 504 plan).
- Accommodations for ELs should be described and documented.
- Students who are ELs with disabilities qualify to receive accommodations for both students with disabilities and ELs.

- Accommodations should become part of the student's program of daily instruction as soon as possible after completion and approval of the appropriate plan.
- Accommodations should not be introduced for the first time during the testing of a student.
- Accommodations should be monitored for effectiveness.
  Accommodations used for instruction should also be used, if allowable, on local district assessments and state assessments

In the event that a student was provided a test accommodation that was NOT LISTED in his or her IEP, 504 plan, or was not documented for an EL, or if a student was NOT PROVIDED a test accommodation listed in his or her IEP/504 plan/documentation for an EL, the school must follow each state's policies and procedures for notifying the state assessment office.

Scoring and Reporting

Summative assessment scores for students who receive any of the accommodations listed in this manual will be aggregated with the scores of other students and those of relevant groups, and can be included for accountability purposes.

Unique Accommodations

PED has developed a comprehensive list of accessibility features and accommodations that are designed to increase access to the 2022 Science, Math, and ELA assessments and will result in valid, comparable assessment scores. However, students with disabilities or ELs may require additional accommodations that are not found in this manual. PED will individually review requests for unique accommodations in their respective state on an individual basis and will provide approval after determining whether the accommodation would result in a valid score for the student. Refer to Appendix D: Unique and Emergency Accommodations.

Emergency Accommodations

An emergency accommodation may be appropriate for a student who incurs a temporary disabling condition that interferes with test performance shortly before or during the assessment window. A student who does not have an IEP or 504 plan may require an accommodation as a result of a recently- occurring accident or illness. Cases include students who have a recently-fractured limb (e.g., arm, wrist, shoulder); whose only pair of eyeglasses has broken; or a student returning after a serious or prolonged illness or injury. An emergency accommodation should be given only if the accommodation will result in a valid score for the student (i.e., does not change the construct being measured by the test[s]). If the principal (or designee) determines that a student requires an emergency accommodation on the 2022 Science/Math/ELA assessment, a Nonstandard Accommodation Request Form must be completed and submitted by the District Test Coordinator to PED for approval at least two weeks in advance. If approved, the form must be kept on file. Requests for emergency accommodations will be approved after it is determined that use of the accommodation would result in a valid score for the student. Refer to Appendix D: Unique and Emergency Accommodations.

Student Refusal Form

If a student refuses an accommodation listed in his or her IEP, 504 plan, or if required, an EL plan, the school should document in writing that the student refused the accommodation, and the accommodation must be offered and remain available to the student during testing. This form must be completed and placed in the student's file and a copy must be sent to the parent on the day of refusal. Principals (or designee) should work with Test Administrators to determine who, if any others, should be informed when a student refuses an accommodation documented in an IEP, 504 plan, or if required, an EL plan. Refer to Appendix E: Student Accommodation Refusal Form.

Ongoing Research and Data Collection on Use of Accommodations

PED will continue to research the effectiveness, validity, differential impact, relevance, and feasibility of the accommodations, and revise as needed.

Accommodations for Students with Disabilities

Table 4 lists the ACCOMMODATIONS for students with disabilities that describe changes in the assessment format and method in which the assessment is administered. The table also outlines the before, during, and after testing activities necessary to successfully administer these accommodations. Accommodations for students with disabilities must be assigned to the student in the iTester portal before testing. This information is included in the "before testing" guidance.

Table 4: Accommodations for Students with Disabilities (IEP, 504)

CBT Accommodation and Guidelines	PBT Accommodation and Guidelines
Allow Accessibility Mode Testing (See **Assistive Technology Device Presentation** [Non-Screen Reader], **Assistive Technology Device Responses**)	
Assistive Technology Device Presentation (Non-Screen Reader), Assistive Technology Device Responses **Before Testing:** • Assignment in iTester: must be assigned prior to testing • Note: Test coordinators should ensure the **Allow Accessibility Mode** (AAM) accommodation is turned on for all students who will require Windows-based third-party accessibility software. • Testing: Assistive technology should be tested using a practice test to determine whether the assistive technology will interact with iTester and can be used successfully during computer-based testing. For more information, refer to the *Testing With Third Party Assistive Technology* guidelines available here: newmexico.onlinehelp.cognia.org/cbt-guides/. **During Testing:** Students may use a range of assistive technologies on the 2022 Science/Math/ELA assessments, including devices that are compatible with the online testing platform, and those that are used externally on a separate computer. **After Testing:** Test Administrators are responsible for collecting all nonscorable student work created from assistive technology devices. Content must be cleared off all devices. Paper nonscorable student work must be securely shredded. **For PBT administration**, responses must be transcribed verbatim by a test administrator in a standard student test booklet or answer document. Only transcribed responses will be scored. Refer to Appendix B: Protocol for the Use of the Scribe Accommodation and for Transcribing Student Responses.	

ASL Videos (Mathematics or ELA)
 	
(see also Presentation Options for ELA)
 	
Before Testing:
• Assignment in iTester:
    o must be assigned prior to testing
    o If a student does not use ASL, a human interpreter and separate test setting will be required.
	see ***Human Signer***

CBT Accommodation and Guidelines	PBT Accommodation and Guidelines
During Testing: The student views an embedded video of a human interpreter. The student may pause and resume the video but cannot adjust the pace.	

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Basic/Scientific Calculator on Non-Calculator Sections of the Mathematics Test

(See also Mathematics Tools [Non-Calculator Sections])
Before Testing:
- <u>Assignment in iTester</u>: must be assigned prior to testing
- <u>Materials</u>: for PBT administration, the TA provides students with handheld calculators for the appropriate grades/sections, as follows:
  - grades 3–5, all sessions: a four-function calculator with square root and percentage functions
  - grades 6–7, Session 1, Section A: a four-function calculator with square root and percentage functions
  - grade 8, Session 1: a scientific calculator

During Testing:
- For CBT administration, the student has access to the embedded basic or scientific calculator (depending on grade) while taking the non-calculator section(s) of the computer-based test mathematics test.
- For PBT administration, the student uses an appropriate handheld calculator.

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Braille Notetaker,
Braille Writer

Before Testing:
- <u>Assignment in iTester</u>: must be assigned prior to testing

During Testing: A student who is blind or has a visual impairment may use an electronic braille notetaker or braille writer. The grammar checker, internet, and stored file functionalities must be turned off. For students using braille forms, the Test Administrator directions for filling in a circle, making marks, and erasing do not apply. Students should number their responses to be sure that their answers can be transcribed accurately into a scorable test booklet, answer document, or iTester.

After Testing:
- Student responses generated using an electronic braille notetaker or braille writer must be transcribed verbatim by a Test Administrator into the student's standard test booklet, answer document, or iTester. Only transcribed responses will be scored. Responses must be transcribed by the teacher of the student with visual impairment or a Test Administrator supervised by the teacher of the student with visual impairment.
- Refer to <u>Appendix B: Protocol for the Use of the Scribe Accommodation and for Transcribing Student Responses</u>.

Test Administrators are responsible for collecting all nonscorable student work created using assistive technology devices. Test-related content must be deleted from all devices. Nonscorable student work must be securely shredded

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ELA Text-to-Speech English (see Presentation Options for ELA)	See ***Human Reader, Human Signer***

CBT Accommodation and Guidelines	PBT Accommodation and Guidelines

Headphones as Noise Buffer

Before Testing:
- Assignment in iTester: must be assigned prior to testing
- Materials: Test Administrator provides student with headphones.

During Testing: The student uses headphones or noise buffers to minimize distraction or filter external noise during testing. If headphones are used only as noise buffers, they should not be plugged into the student's device.

Human Reader (English or Spanish)

(see also Presentation Options for ELA)
Before Testing:
- Assignment in iTester: must be assigned prior to testing
- Materials: Human Reader Kits, which include one copy of the student test booklet (and answer document for grades 4–8) and an extra test booklet for Test Administrators.
- Test Administrator Training: Test Administrators providing these accommodations must do the following, as applicable:
  - Review Human Reader Kits at least two school days prior to paper-based testing, with kits provided to schools for this purpose. Review of Human Reader Kits must occur in a SECURE ENVIRONMENT.
  - Review Appendix A: Test Administration Protocol for the Human Reader Accommodation for English Language Arts (ELA) Assessments, and the Human Reader Accessibility Feature for Mathematics Assessments.
  - Review Appendix I: The 2022 Math and ELA Assessments for Students with Visual Impairments, Including Blindness.

During Testing: A human reader will read the test to a student. The student may either be tested in a small group or a separate setting based on the student's experiences during classroom assessments.

Human Scribe

(see Response Options)

Human Signer

(see also Presentation Options for ELA)
Before Testing:
- Assignment in iTester: must be assigned prior to testing
- Test Administrator Training: Human Signers must review:
  - Test administration scripts included in the *Test Administrator's Manual.*
  - Appendix H: Human Signer Guidelines (signers only).

During Testing: A human signer will sign the test to a student. The student may either be tested in a small group or a separate setting based on the student's experiences during classroom assessments.

Human Signer for Test Directions

Before Testing:
- Assignment in iTester: must be assigned prior to testing
- Test Administrator Training: Human Signers must review:
  - Test Administrator Scripts included in the *Test Administrator's Manual.*
  - Appendix H: Human Signer Guidelines (signers only).

CBT Accommodation and Guidelines	PBT Accommodation and Guidelines

During Testing: A human signer will sign the test directions to a student. The student may either be tested in a small group or a separate setting based on the student's experiences during classroom assessments.

Mathematics Tools (Non-Calculator Sections)

Before Testing:
- Purpose: The purpose of the mathematics tools on the non-calculator sections accommodation is to provide access for students with a disability that *severely limits or prevents* their ability to perform basic calculations (i.e., student is unable to perform single-digit addition, subtraction, multiplication, or division). For these students, a calculation device may be used on the non-calculator AND calculator sections of the mathematics assessments. The IEP or 504 plan must specify which device(s) or manipulatives.
- Assignment in iTester: must be assigned prior to testing
- Materials:
  - Allowable mathematics tools include:
    - Arithmetic tables (e.g., addition charts, subtraction charts, multiplication charts; division charts).
    - Two-color chips (e.g., single-sided or double- sided).
    - Counters and counting chips.
    - Square tiles.
    - Base 10 blocks.
    - 100s chart.

A student with a visual impairment may need other mathematics tools, such as a large print ruler (embedded ruler is designed in 18 point font), braille ruler, tactile compass, or braille protractor. Note that braille mathematics kits will include the appropriate grade-level braille ruler and braille protractors

During Testing: A student uses a calculation device (e.g., four-function calculator, large key, or other adapted calculator), arithmetic table (including addition/subtraction and/or multiplication/division charts), and/or manipulatives (IEP or 504 plan must specify which device or manipulative) on the NON-CALCULATOR SECTIONS of the mathematics assessments. If a talking calculator is used, the student must use headphones or be tested in a separate setting.

Important Guidelines for identifying students to receive this accommodation: IEP teams and 504 Plan Coordinators should carefully review the following guidelines before identifying students to receive this accommodation. If all guidelines are NOT met, and the student is given Calculation Device and Mathematics Tools without proper documentation, the student's assessment score may be invalidated and the score would not be counted in the overall assessment results (i.e., the student would be considered a "non-participant" for the mathematics assessment.)

In making decisions whether to provide the student with this accommodation, IEP teams and 504 Plan Coordinators should consider whether the student has:
- A disability that *severely limits or prevents* the student's ability to perform basic calculations (i.e., single-digit addition, subtraction, multiplication, or division), even after varied and repeated attempts to teach the student to do so.

Before listing the accommodation in the student's IEP/504 plan, teams should also consider whether:
- The student is unable to perform calculations without the use of a calculation device, arithmetic table, or manipulative during routine instruction.
- The student's inability to perform mathematical calculations is documented in evaluation summaries from locally-administered diagnostic assessments.
- The student receives ongoing, intensive instruction and/or interventions to learn to calculate

without using a calculation device, in order to ensure that the student continues to learn basic calculation and fluency.

For a student who receives this accommodation, no claims should be inferred regarding the student's ability to perform basic mathematical calculations without the use of a calculator.

Paper-Based Edition

Before Testing:
- Assignment in iTester: not assigned/documented in iTester
- Materials: Paper-Based Edition of the assessment

During Testing: For schools administering the computer-based assessments, a paper-based assessment is available for students who (1) are unable to take a computer-based assessment due to a disability; (2) recently entered the school and has very little or no prior experience or familiarity with technology; (3) attend a school providing paper-based assessments as the primary mode; or (4) are unable to access an online assessment due to religion or beliefs.

Paper-Based Edition Braille

Before Testing:
- Assignment in iTester: not assigned/documented in iTester
- Materials: Braille Kits are required for administration. Braille Kits include Test Administrator Braille Scripts, one copy of the student's paper Braille Assessment, standard test booklet or answer document for transcription, and supplementary math materials (braille ruler, braille protractor) where appropriate.
- Test Administrator Training: Test Administrators of students with visual impairments must review:
  - Braille Kits, which will be provided to schools at least two full school days prior to testing in a SECURE ENVIRONMENT for the Test Administrator to verify that the braille code is accurate on the test booklet cover and review the braille test administration scripts, including information specific to administering paper-based braille. **Important:** Reading, viewing, copying, or reproducing passages or test items is prohibited.
  - Appendix I: The 2022 Math and ELA Assessments for Students with Visual Impairments, Including Blindness.
  - If needed by the student, braille test booklets or answer documents may be disassembled for testing (but must be reassembled for return). It is critical that Test Administrators count the number of pages in the test booklet or answer document prior to disassembling the test booklets or answer documents to help ensure that all pages are returned.

During Testing: A student who is blind or has a visual impairment and is unable to take the computer-based test with a refreshable braille display may take the ELA and mathematics assessments using the hard-copy contracted braille edition. Tactile graphics are already embedded in the hard copy braille edition. For students using braille forms, the Test Administrator directions for filling in a circle, making marks, and erasing do not apply. Students should number their responses to be sure that their answers can be transcribed accurately into a scorable test booklet or answer document.

After Testing:
- Responses must be transcribed verbatim by a Test Administrator in a standard student test booklet or answer document, which is included in the Braille Test Kit. Only transcribed responses will be scored.
- Refer to Appendix B: Protocol for the Use of the Scribe Accommodation and for Transcribing

CBT Accommodation and Guidelines	PBT Accommodation and Guidelines

Student Responses for protocol.
- Test Administrators are responsible for collecting all nonscorable student work created from assistive technology devices. Content must be deleted off all devices. Nonscorable student work must be securely shredded.
- If the braille test booklet or answer document was disassembled, it must be reassembled for return. To reassemble test booklets or answer documents, the Test Administrator may staple or binder clip all pages for return. Failure to return all pages will be considered a breach of security.

Paper-Based Edition Large Print

Before Testing:
- Assignment in iTester: not assigned/documented iTester
- Materials: Large Print Test Kit includes a large print test booklet, standard test booklet or answer document for transcription, and supplementary large print mathematics materials (large print ruler & protractor), when appropriate.
- Test Administrator Training: Test Administrators of students with visual impairments must review:
    o Appendix I: The Spring 2022 Math and ELA Assessments for Students with Visual Impairment, Including Blindness.

During Testing: A large print paper-based form of each assessment is available for a student with a visual impairment who is unable to take a computer-based assessment. The font size for the large print edition will be 18 point on paper sized 11" x 17". Students will not record their answers in standard print test booklets or answer documents. Instead, students will circle their answers in a large print test booklet. For constructed response items, students will write their answers on the lines provided in their large print test booklets. In mathematics, students will need to write their answers in boxes at the top of the answer grids, but they do not need to bubble in their answers. Test Administrators should refer to the TAM Scripts for instances where they should demonstrate an activity or display information. Demonstrations should be conducted where they are visible for each student (e.g., on the board, near the student).

After Testing:
- Responses must be transcribed verbatim by a Test Administrator in a standard student test booklet or answer document, which is included in the Large Print Test Kit. Only transcribed responses will be scored. At least two persons must be present during transcription of student responses (one transcriber and one observer confirming accuracy). It is recommended that one of the individuals be a District Test Coordinator or School Test Coordinator. Refer to Appendix B: Protocol for the Use of the Scribe Accommodation and for Transcribing Student Responses.

Presentation Options for ELA
- ***ELA Text-to-Speech English***
- ***ASL Video (ELA)***
- ***Human Reader***
- ***Human Signer***

Before Testing:
- Purpose: The purpose of the text-to-speech, ASL video, Human Reader, and Human Signer accommodations for the ELA assessment is to provide access to printed or written texts on the ELA assessments for a very small number of students with print-related disabilities who would otherwise be unable to participate in the assessment because their disability *severely limits or prevents* their ability to access printed text by decoding. This accommodation is not intended for students reading somewhat (i.e., only moderately) below grade level.

- Assignment in iTester: must be assigned prior to testing
- Tools for Identification: IEP teams/504 Plan Coordinators should use the decision-making tool

available in Appendix C: Text-to-Speech, ASL Video, or Human Reader/Human Signer Guidance for English Language Arts (ELA) Assessments to inform their decision-making.

- Materials: Human Reader Kits, which include one copy of the student test booklet (and answer document for grades 4-8) and an extra test booklet for Test Administrators (Human Reader/Signer).
- Test Administrator Training: Test Administrators providing these accommodations must review the following, as applicable:
  o Human Reader Kits at least two school days prior to paper-based testing, with kits provided to schools for this purpose. Review of Human Reader Kits must occur in a SECURE ENVIRONMENT.
  o Appendix A: Test Administration Protocol for the Human Reader Accommodation for English Language Arts (ELA) Assessments, and the Human Reader Accessibility Feature for Mathematics Assessments.
  o Appendix F: ELA Audio Guidelines.
  o Appendix H: Human Signer Guidelines (signers only).
  o Appendix I: The 2022 Math and ELA Assessments for Students with Visual Impairments, Including Blindness.
  o The *Kiosk User Guide*, available at newmexico.onlinehelp.cognia.org/cbt-guides/, for Text-to-Speech functionality

During Testing: A student receives an audio representation of the ELA assessment either through embedded text-to-speech, embedded ASL video, or a Human Reader/Signer. For Human Reader, the Test Administrator will need to reference Appendix F: ELA Audio Guidelines. **Note:** If headphones are *not* used for text-to-speech, or the student has a Human Reader or Signer, the student must be tested in a separate setting.

Important Guidelines on identifying students for these accommodations: IEP teams and 504 Plan Coordinators should carefully review the following guidelines before identifying students to receive these accommodations on the ELA assessments. If all guidelines are NOT met, and the student is given the text-to-speech, ASL video, or Human Reader/Human Signer accommodation on an English language arts (ELA) assessment, the student's assessment score may be invalidated and the score would not be counted in the overall assessment results (i.e., the student would be considered a "non-participant" for the English language arts (ELA) assessment.)

In making decisions on whether to provide a student with this accommodation, IEP teams and 504 Plan Coordinators should consider whether the student has:

- Blindness or a visual impairment and has not learned (or is unable to use) braille;
  OR
- A disability that *severely limits or prevents* him/her from accessing printed text, even after varied and repeated attempts to teach the student to do so (e.g., student is unable to decode printed text);
  OR
- Deafness or a hearing impairment and is severely limited or prevented from decoding text due to a documented history of early and prolonged language deprivation.

Before listing the accommodation in the student's IEP or 504 plan, teams/ coordinators should consider whether:
- The student has access to printed text during routine instruction through a reader, other spoken-text audio format, or signer;
- The student's inability to decode printed text or read braille is documented in evaluation summaries from locally-administered diagnostic assessments; and the student receives ongoing, intensive instruction and/or interventions in the foundational reading skills to continue to attain

CBT Accommodation and Guidelines	PBT Accommodation and Guidelines
the important college and career-ready skill of independent reading. Decisions about who receives this accommodation will be made by IEP teams and 504 Plan Coordinators. For a student who receives one of these accommodations, no claims should be inferred regarding the student's ability to demonstrate foundational reading skills (i.e., decoding).	

CBT Accommodation and Guidelines	PBT Accommodation and Guidelines
Read Aloud to Self **Before Testing:** • Assignment in iTester: must be assigned prior to testing **During Testing:** The student reads aloud the assessment to themselves. Students may use an external device such as a whisper phone. The student must be tested in a separate setting.	

CBT Accommodation and Guidelines	PBT Accommodation and Guidelines

Refreshable Braille Display with Screen Reader
 	
Before Testing:
   • Assignment in iTester: must be assigned prior to testing
   • Materials and Equipment: iTester screen reader compatibility has been tested with JAWS 19 and 20; for optimal screen reader usage, PED recommends using JAWS 19 or 20. A braille testing kit is required for test administration.
   • Screen Reader Testing: Screen reader software SHOULD be tested using a practice test to determine whether the assistive technology will interact with iTester and can be used successfully during computer-based testing. For more information, refer to the *Testing With Third Party Assistive Technology* guidelines available here: newmexico.onlinehelp.cognia.org/cbt-guides/.
   • Test Administrator Training: Test Administrators should review Appendix I: The 2022 Science, Math, and ELA Assessments for Students with Visual Impairments, Including Blindness.
   •
During Testing: A student who is blind or has a visual impairment takes the Mathematics or ELA assessments using his or her preferred screen reader software with a refreshable braille display. A student who uses a screen reader with refreshable braille will also need a tactile graphics booklet, which contains only the graphics portion of test questions and visual descriptions of pictures and multimedia where applicable. If the student is not using headphones, the student
	See ***Paper form Braille***

CBT Accommodation and Guidelines	PBT Accommodation and Guidelines
must be tested in a separate setting. **After Testing:** Tactile graphics booklets contain secure item content and should be handled as secure test materials. Test Administrators should return tactile graphics to Test Coordinators. Test Coordinators must return tactile graphics with the nonscorable materials.	

Response Options
- *Speech-to-Text*
- *Human Scribe*

Before Testing:
- Assignment in iTester:
    - must be assigned prior to testing
    - If a student is using an allowable 3rd party external Assistive Technology that provides speech-to-text functionality that will interact with iTester, see **Assistive Technology Device Responses** for additional information.
- Materials: External device provided by the student, if needed. If the student uses speech-to-text software, such as Dragon® Naturally Speaking, then a separate computer must be provided; one to
run the assessment on iTester and a second computer to run the software. iTester does not contain embedded speech-to-text software.
- Test Administrator Training: Test Administrators providing the scribe accommodation must review:
    - Appendix B: Protocol for the Use of the Scribe Accommodation and for Transcribing Student Responses.

During Testing: Student dictates responses either verbally, using an external speech-to-text device, an augmentative/assistive communication device (e.g., picture/word board), or by dictating, signing, gesturing, pointing, or eye-gazing. The student must be tested in a separate setting. The student must be familiar with any assistive technology external device used for test administration. **Note: iTester does not have embedded Speech-to-Text functionality—students must use allowable Assistive Technology or an external third party device (responses must be transcribed).**

After Testing:
- Responses must be transcribed exactly as dictated/signed (e.g., the human scribe may not change, embellish, or interpret a student's responses when transcribing) into the student's standard test booklet or answer document. Only transcribed responses will be scored.
- Refer to Appendix B: Protocol for the Use of the Scribe Accommodation and for Transcribing Student Responses.
- Test Administrators are responsible for collecting all paper nonscorable student work created using assistive technology devices. Test-related content must be deleted from all devices. Nonscorable student work must be securely shredded.

| *Screen Reader*

Before Testing:
• Assignment in iTester:
    ○ must be assigned in prior to testing | See *Paper form Braille* |

CBT Accommodation and Guidelines	PBT Accommodation and Guidelines
- o For ELA, the student does not use a refreshable braille display or hard copy braille edition because they have either not yet learned, or are unable to use, braille. - Materials and Equipment: iTester screen reader compatibility has been tested with JAWS 19 and 20; for optimal screen reader usage, PED recommends using JAWS 19 or 20. A braille testing kit is required for test administration. - Screen Reader Testing: Screen reader software SHOULD be tested using a practice test to determine whether the assistive technology will interact with iTester and can be used successfully during computer-based testing. For more information, refer to the *Testing With Third Party Assistive Technology* guidelines available here: newmexico.onlinehelp.cognia.org/cbt-guides/. - Test Administrator Training: Test Administrators should review Appendix I: The 2022 Science, Math, and ELA Assessments for Students with Visual Impairments, Including Blindness. **During Testing:** A student who is blind or has a visual impairment takes the assessments using his or her preferred screen reader software. A student who uses a screen reader will also need a tactile graphics booklet, which contains only the graphics portion of test questions and visual descriptions of pictures and multimedia, where applicable. If the student is not using headphones, the student must be tested in a separate setting. **After Testing:** Tactile graphics booklets contain secure item content and should be handled as secure test materials. Test Administrators should return tactile graphics to Test Coordinators. Test Coordinators must return tactile graphics with the nonscorable materials.	
Speech-to-Text (see Response Options)	See ***Human Scribe, Human Signer***
Tactile Graphics **Before Testing:**	

CBT Accommodation and Guidelines	PBT Accommodation and Guidelines

- Assignment in iTester: must be assigned prior to testing
- See **Screen Reader** for additional information.

During Testing:
- A student who is blind or has a visual impairment who uses a screen reader or refreshable braille will also need a braille kit in order to access tactile graphics.
- Tactile graphics will be embedded in the braille Paper Form assessments, when needed.

After Testing: Braille booklets contain secure item content and should be handled as secure test materials. Test Administrators should return braille materials to Test Coordinators. Test Coordinators must return braille materials with the nonscorable materials.

Word Prediction (external)

Before Testing:
- Assignment in iTester:
  - must be assigned prior to testing
  - If a student is using an allowable 3rd party external Assistive Technology that provides speech-to-text functionality that will interact with iTester, see **Assistive Technology Device Responses** for additional information.
- Materials: External Word Prediction Device.

During Testing: The student uses an external word prediction device that provides a bank of frequently- or recently-used words on-screen after the student enters the first few letters of a word. The student must be familiar with the use of the external device prior to assessment administration. The device may not connect to the internet or save information.

After Testing:
- Student responses generated using the External Word Prediction Device software must be transcribed verbatim by a Test Administrator into iTester. Only transcribed responses submitted in iTester will be scored. **Note:** If the student is writing his/her responses directly into iTester through the external software for word prediction, then transcribing is not necessary.
- Refer to Appendix B: Protocol for the Use of the Scribe Accommodation and for Transcribing Student Responses.
- Test Administrators are responsible for collecting all nonscorable student work created using external word prediction device software. Test-related content must be deleted from all devices. Nonscorable student work must be securely shredded.

Important Guidelines for identifying students to receive this accommodation: IEP teams and 504 Plan Coordinators should carefully review the following guidelines before identifying a student to receive this accommodation.

In making decisions whether to provide the student with this accommodation, IEP teams and 504 Plan Coordinators are instructed to consider whether the student has:
- A physical disability that *severely limits or prevents* the student from writing or keyboarding responses;
  OR
- A disability that *severely limits or prevents* the student from recalling, processing, and expressing written language, even after varied and repeated attempts to teach the student to do so.

Before listing the accommodation in the student's IEP/504 plan, teams/ coordinators are instructed to consider whether:

CBT Accommodation and Guidelines	PBT Accommodation and Guidelines
• The student's inability to express in writing is documented in evaluation summaries from locally administered diagnostic assessments; • The student routinely uses a word-prediction device or software during classroom writing assignments; and The student receives ongoing, intensive instruction, and/or intervention in language processing and writing, as deemed appropriate by the IEP team/504 Plan Coordinator.	

Word Prediction (Embedded)
 	
Before Testing:
  • <u>Assignment in iTester</u>:
    o must be assigned prior to testing
    o available on English language and Spanish language tests
    o <u>available to users on Chromebook, Mac, and Windows</u>
  • This accommodation requires extra files to be downloaded to the student's workstation when they log into their test. Therefore it is recommended that students with this accommodation log in a few minutes before or after other students in the test group to minimize the download time.
 	
During Testing: Students will have access to the CoWriter word prediction application in any open-ended items. It does not require a current CoWriter account.
	See *Word Prediction (external)*

Accommodations for English Learners

Table 5 lists the ACCOMMODATIONS for EL students that describe changes in the assessment format and method in which the assessment is administered. The table also outlines the before, during, and after testing activities necessary to successfully administer these accommodations. Accommodations for students with disabilities must be assigned to the student in the iTester portal before testing. This information is included in the "before testing" guidance.

Table 5: Accommodations for English Learners (EL)

CBT Accommodation and Guidelines	PBT Accommodation and Guidelines
Commercial Word-to-Word Dictionary **Before Testing:** • Assignment in iTester: must be assigned prior to testing • Materials: Word-to-word dictionaries are provided to students by their school, based on those used by the student for routine classroom instruction. **During Testing:** The student uses a published bilingual, word-to-word dictionary that does not include definitions, pronunciation, phrases, sentences, or pictures. The student should be familiar with the dictionary they will use during testing. Students should be given ample time to complete the test using the accommodation. If no printed word-to-word dictionary can be found for a specific language, an electronic translator may be used. The device may not connect to the internet or store information, and therefore, web-based translators are not allowed	
Customized Dual Language Glossary **Before Testing:** • Assignment in iTester: must be assigned prior to testing	

Directions in Native Language
 	
Before Testing:
• Assignment in iTester: must be assigned prior to testing
• Materials:
   o The 2022 Science/Math/ELA assessments provide written test administration directions in Spanish
   o If written general test administration directions are not available in the student's native language, a local translator fluent both in English and the student's native language may translate and read the directions in the language of the student.
• Test Administrator Training: Test Administrators, or other qualified interpreters, providing the general administration directions in languages other than English must review the directions in advance in order to provide consistent transadaptations. Test Administrators providing this accommodation will ideally be literate and fluent in English, as well as in the student's native language; or may collaborate with a local translator, if available.
 	
During Testing: The Test Administrator, or other qualified interpreter, reads aloud the general administration instructions in the student's native language. The student may request that directions be repeated. The student must be tested in a separate setting.	

Picture Dictionary **Before Testing:** • Assignment in iTester: must be assigned prior to testing	

CBT Accommodation and Guidelines	PBT Accommodation and Guidelines

Pocket Word-to-Word Translator

Before Testing:
- Assignment in iTester: must be assigned prior to testing

Spanish Language Version

Before Testing:
- Assignment in iTester:
  - must be assigned prior to testing
    - Students must be placed in separate iTester class and that class must be assigned the Spanish version of the test when scheduling that class for a test session. Students must change the kiosk to the Spanish version before logging in.
- Test Administer Training: Test Administrators providing this accommodation should ideally be literate and fluent in English and Spanish, or may be assisted by a translator, if available, since test administration directions will be read to the student in Spanish.

During Testing: A student takes the science, mathematics, or English Language Arts assessment with content presented in Spanish

Note: If the student is also receiving a Human Reader or Text-to-Speech accessibility feature, the test can be read aloud in Spanish only (i.e., the test cannot be read aloud in English in addition to Spanish).

Table 6 lists the accommodations on 2022 Science/Math/ELA assessments that are available to ELs, cross-referenced with recommendations regarding the effectiveness of the accommodation based on the English Language Proficiency (ELP) level of the student.

Table 6: Guidance on Selection of Accommodations for English Learners on 2022 Science, Math, and ELA Assessments

Accommodations	Most likely to benefit ELs at this ELP Level		
	Beginning	**Intermediate**	**Advanced**
Commercial Word-to-Word Dictionary	◉	●	●
Speech-to-Text **Human Scribe**	●	◉	○
Directions in Native Language	●	◉	○
Spanish Language Version	●	◉	○
Paper-Based Edition of the Assessment in Spanish	●	◉	○
Large Print Edition of the Assessment in Spanish	●	◉	○
Text-to-Speech in Spanish **Human Reader Spanish**	●	◉	○

KEY for Table 6:

● Highly recommended for use by ELs at this ELP level
◉ Recommended for use by ELs at this ELP level
○ May not be appropriate for students at this ELP level

Appendix A: Test Administration Protocol for the Human Reader Accommodation for English Language Arts (ELA) Assessments, and the Human Reader Accessibility Feature for Mathematics Assessments

In cases where a student requires a text-to-speech accommodation on the English language arts (ELA) and/or a text-to-speech accessibility feature on the mathematics assessments, but cannot participate in the computer-based assessment and takes the paper-based assessment instead, a Human Reader must provide the accommodation to the student. Human Readers who provide the accommodation to a student on the English language arts (ELA) or the accessibility feature on the mathematics assessments must follow these procedures during testing to ensure the standardization of the oral presentation of the assessments.

Procedures for Human Readers Providing the Human Reader Accommodation for ELA Assessments or the Human Reader Accessibility Feature for the Mathematics Assessments

1. Readers must be trained locally to administer each assessment, as indicated in the *Test Administrator Manual (TAM). Readers must sign the Staff Confidentiality Agreement available at* **webnew.ped.state.nm.us/bureaus/assessment-3/district-test-coordinator/.**
2. Readers must speak in a clear and consistent voice throughout the test administration, using correct pronunciation, and without vocal inflections that may provide clues to, or mislead, a student.
3. Readers should be provided a Human Reader Kit (which includes a copy of the test and the test administrator's directions) two school days prior to the start of testing, in order to become familiar with the words, terms, symbols, signs, and/or graphics that will be read aloud to the student. Readers must also refer to Appendix F: ELA Audio Guidelines and/or Appendix G: Mathematics Audio Guidelines to ensure consistency in how items are read. **Note: Review of Human Reader Kits must occur in a SECURE ENVIRONMENT**.
4. Readers must read verbatim (word for word) only what is printed in the test book (or in rare cases, on the computer screen) without changing, emphasizing, or adding words. Readers may not clarify (except for test directions), provide additional information, assist, or influence the student's selection of a response in any way.
5. Readers should emphasize only the words printed in boldface, italics, or capital letters and inform the student that the words are printed that way. No other emphasis or vocal inflection is permitted.
6. Readers may repeat passages, test items, and response options, as requested, according to the needs of the student. Readers should not rush through the test and should ask the student if they are ready to move to the next item.
7. Readers may not attempt to solve mathematics problems, or determine the correct answer to a test item while reading, as this may result in pauses or changes in inflection which may mislead the student.
8. Readers must attempt to maintain a neutral facial expression, neither smiling nor frowning during the test, which may be interpreted by the student as approval or disapproval of the student's answers.
9. Readers must be familiar with the student's IEP or 504 plan, and should know in advance which accommodations are required by the student, and for which test (ELA and/or Mathematics) the student is designated to receive a Human Reader.
10. Readers must be aware of whether a student requires additional tools, devices, or adaptive equipment that has been approved for use during the test, such as a magnifier, closed circuit television (CCTV), abacus, brailler, slate and stylus, etc.

11. If a reader is unsure how to pronounce an unfamiliar word, advise the student of the uncertainty and spell the word.
12. When reading a word that is pronounced like another word with a different spelling, the reader may spell the word after pronouncing it, if there is any doubt about which word is intended.
13. Readers must spell any words requested by the student.
14. When reading passages, readers must be aware of punctuation marks. Readers may read the passage, or selected lines a second time, with all punctuation marks indicated.
15. When test items refer to a particular line, or lines, of a passage, reread the lines before reading the question and answer choices. For example, the reader should say, "Question X refers to the following lines...," then read the lines to the student, followed by question X and the response options.
16. When reading selected response items, readers must be careful to give equal stress to each response option and to read all of them before waiting for a response.
17. If a reader is also scribing the student's responses, or if another adult will scribe, and the student designates a response choice by letter only ("D," for example), the reader must ask the student if he/she would like the response to be reread before the answer is recorded in the answer booklet.
18. If the student chooses an answer before the reader has read all the answer choices, the Human Reader must ask if the student wants the other response options to be read.
19. After the reader finishes reading a test item and all response options, the reader must allow the student to pause before responding. If the pause has been lengthy, say: "Do you want me to read the question or any part of it again?" When rereading questions, readers must avoid emphasis on words not bolded, italicized, or capitalized.

Procedures for Providing the Human Reader Accommodation for ELA Assessments or the Human Reader Accessibility Feature for the Mathematics Assessments to a Small Group of Students

Human Readers may read the test aloud to a small group of students, rather than individually, provided that each student has the Human Reader accommodation/accessibility feature listed in an IEP or 504 Plan.

The following procedures must be followed:
- Check individual state policies on the maximum allowable number of students in a Human Reader group.
- Students with the Human Reader accessibility feature for mathematics or Human Reader accommodation for ELA that need to be grouped together must be taking the same test form, since test questions will differ on each form of the test.
- Students not receiving the Human Reader accessibility feature for mathematics or the Human Reader accommodation for ELA may not be tested in the same location as students who are receiving the human accessibility feature for mathematics or Human Reader accommodation for ELA.

Appendix B: Protocol for the Use of the Scribe Accommodation and for Transcribing Student Responses

Scribing a student's responses by an adult Test Administrator is a response accommodation that allows students to provide test responses to an adult Test Administrator who writes or types the responses directly onto the assessment for the student. Students receiving the scribe accommodation may respond to assessment items either:
- verbally,
- using a speech-to-text device or other augmentative/assistive communication device (e.g., picture/word board),
- signing (e.g., American Sign Language, signed English, Cued Speech),
- gesturing,
- pointing, or
- eye-gazing

Note: Scribing may include "dragging and dropping" selected response items, as appropriate.

The scribe accommodation is appropriate for students with a physical disability that *severely limits or prevents* the student's motor process of writing, typing, or recording responses during testing. This includes students with reduced ability to record responses due to pain, fracture, paralysis, loss of function, or loss of endurance, as well as students whose handwriting is indecipherable or illegible. Scribes are also an appropriate accommodation for students who have a documented disability in the area of written expression which results in significant interference in their ability to express their knowledge in writing/keyboarding, even after varied and repeated attempts to teach the student to do so.

If a student requires a scribe due to a recently-occurring, though temporary, illness or injury, a Nonstandard Accommodations Request Form (see Appendix D) must be completed and kept on file at the school.

If a student requires a scribe due to an ongoing inability to express his or her responses through writing/keyboarding, this should be documented in evaluation summaries from locally-administered diagnostic assessments, and must be listed in the student's IEP or 504 plan. The student should be receiving ongoing, intensive instruction and/or interventions to learn written expression, as deemed appropriate by the IEP team or 504 Plan Coordinator.

The use of a scribe is permitted in the following 2022 Science, Math, and ELA assessments:
- Science
- Mathematics
- English Language Arts (ELA) assessments for Evidence Based Selected Response, and Technology Enhanced Constructed Response items
- English Language Arts (ELA) assessments for Prose Constructed Responses. **Note:** For this accommodation, refer to selection and administration guidelines in the *Accessibility Features and Accommodations Manual*

Qualifications of the Scribe

Individuals who provide the scribe accommodation to a student must:
- be trained by the school or district, as indicated in the Test Administrator Manuals;
- sign a Confidentiality Agreement Form; and
- be fluent in receptive and expressive American Sign Language (ASL), signed English, or other sign system, for students who are deaf or hard of hearing.

Preferably, the scribe will already be familiar with and have experience scribing for the student. If the scribe is unfamiliar with the student, then scribe and student should have the opportunity to practice the scribing process together prior to taking the assessment.

Administering the Scribe Accommodation
- A scribe may administer the scribe accommodation only to one student at a time during a test session. The student must be tested in a separate setting.
- The scribe must write legibly, if transcribing a student's response into a test book.
- The scribe must transcribe responses verbatim from the student, and may not prompt or question the student, or correct a student's responses. The scribe may ask the student to restate (or sign) words or parts, as needed.
- A student using a scribe must be given the same opportunity as other students to plan and draft a constructed response. The scribe may write an outline, plan, or draft exactly as directed by the student without any cueing and guidance to the student.
- The scribe should be informed of the preferred method or format for recording the student's response before the date of the assessment. During testing, the student may dictate constructed responses either:
    1. Directly to a human scribe who records the responses at the time they are given (computer- and paper-based testing)
    2. Into a speech-to-text converter (e.g., voice recognition software), augmentative communication device, or assistive technology device to be transcribed by the scribe at a later time into the online testing platform or unto a paper-based book/answer document). A student must be given the opportunity to review and edit his or her responses before they are finalized into the online testing platform or paper-based test book/answer document.
- When using a speech-to-text converter, augmentative communication device, or other assistive technology device, hard copies of the student's response must be printed out for transcription purposes unless the device being used does not have the capability to print. In cases where printing a response is not possible, scribing must take place as the student dictates or otherwise produces the response. All electronic files must be deleted immediately after the testing session.
- The scribe must allow the student to review the scribed response in order to make edits. If requested by the student, the scribe may read the scribed response back to the student. The student may dictate changes or edits to the scribe, and the scribe must make those changes exactly as dictated by student, even if a change is incorrect. All changes must be made during the test session.

Additional Guidelines for the English language arts (ELA) Assessment–Prose Constructed Responses

Capitalization and Punctuation
For the English language arts (ELA) Assessment—Prose Constructed Responses only, the student is responsible for all capitalization and punctuation. This can be accomplished either after testing or during testing using one or more of the following Rules for Punctuation:
1. After dictation: The student can dictate the entire response at one time. The scribe will write/ type the response without capitalization and punctuation. When the student is finished dictating, the scribe will show the response to the student. The student will tell the scribe which letters are to be capitalized and where punctuation should be added.

2. During dictation: The student may add capitalization and punctuate as he/she dictates.
    a. For example, when stating the sentence "The fox ran." The student will say, "Capital T, the fox ran, period"
    b. If a sentence includes other punctuation, for example a comma, the student must indicate the comma. For example, when stating, "The boy bought apples, oranges, and bananas." The student will say, "Capital T, the boy bought apples, comma, oranges, comma, and bananas, period"

Students must be given the opportunity to proofread their responses, even if they provide capitalization and punctuation during dictation.

Rules for Capitalization

The *scribe can automatically capitalize in these cases:*
1. The scribe should capitalize the first letter of a sentence if the student has indicated the punctuation in the previous sentence. For example, if the student said, "Capital T, the fox ran, period. The fox jumped, period." The scribe would write "The fox ran. The fox jumped."
2. The first word in a new paragraph when students have indicated for the scribe to begin a new paragraph.

The *student must specify capitalization in the following cases:*
1. The first letter of a sentence, if the student has not indicated punctuation in the previous sentence. For example, if the student said, "Capital T, the fox ran, the fox jumped, period." The scribe would write "The fox ran the fox jumped."
2. Other capitalization (e.g., capitalization of proper nouns, acronyms, etc.)

Scribe Parameters during the Assessment

The following scribing practices are acceptable:
• The scribe may ask "Are you finished?" Or "Is there anything you want to add or delete?"
• The scribe may respond to procedural questions asked by the student such as, "Do I have to use the entire space to answer the question?" The scribe may indicate "no."
• If the student requests that the scribe read a response that was already dictated, the scribe must read what the student dictated previously in an even voice, being careful not to cue the student to errors.

The following scribing practices are unacceptable:
• The scribe cannot influence the student's response in any way.
• The scribe cannot give the student specific directions, clues, or prompts; e.g., "First, set the equations equal to one another;" or "Make sure that the equation is set equal to zero."
• The scribe cannot tell the student if his/her answer is correct or incorrect.
• The scribe cannot answer a student's questions related to the content; e.g., "Is this the right way to set up the problem?" Or "Can you tell me what this word means?"
• The scribe cannot alert the student to mistakes he/she made during testing.

Special Considerations When Scribing for a Student Who Uses Sign Language or Cued Speech
• The scribe for a student who signs their responses must be fluent in ASL, signed English, or other sign systems the student uses.
• When responses are dictated by a student using American Sign Language (or other signed system), the scribe may ask clarifying questions regarding the use of classifiers. Classifiers give descriptive information about a noun or verb such as location and kind.

- The scribe will write the student's responses in English. The transcription of ASL will not be done in a word-to-word format, but instead will be written in English without changing or enhancing the meaning of the content, adding information, or explaining concepts unknown to the student (e.g., student signs "HOUSE WHITE LIVE THERE ME." Scribe writes "I live in the white house.")
- Scribe must follow all other acceptable scribing practices.

Use of Speech-to-Text/Voice-Recognition Software/Devices

Speech-to-text conversion, or voice recognition, software allows students to dictate responses into their computer microphone and have the responses converted to printed text. For this accommodation, students will use their own assistive technology devices at a separate computer station equipped with speech-to-text/voice recognition software in order to respond to multiple-choice, open-ended items, and extended responses on the 2022 Science, Math, and ELA assessments. Students who use voice recognition software routinely, and for whom this accommodation is listed in their IEP, may use speech-to-text/ voice recognition software as an accommodation on the 2022 Science, Math, and ELA assessments. Students must become familiar with the software and must have opportunities to practice using it prior to testing. It is also important that students who use speech-to-text devices be given the opportunity to develop planning notes using speech-to-text, and to view what they produce via speech-to-text.

Upon completion of a test, the student's responses should be printed out and the guidelines for transcribing student responses followed.

Guidelines for Transcribing Student Responses (Paper-based testing only)

Certain situations involving scribing of responses during administration of 2022 Science, Math, and ELA assessments may require a Test Administrator to transcribe a student's response in a standard, scorable test booklet or answer document. These situations may include:
- Answers were recorded in the wrong section of a Test Booklet or Answer Document, or in an incorrect Test Booklet or Answer Document.
- A student takes the test using a special test format that requires answers to be transcribed (e.g., large print).
- A student uses a speech-to-text converter, augmentative communication device, or assistive technology device to be transcribed by the scribe at a later time.
- As an accommodation, a student records answers in a test booklet, answer document, or on blank paper, instead of in the required Test Booklet or Answer Document.
- A Test Booklet or Answer Document becomes unusable (e.g., torn, wrinkled).

If a student's responses must be transcribed after test administration is completed, the following steps must be followed:
- At least two persons must be present during any transcription of student responses. One of these persons will be the transcriber, and the other will be an observer confirming the accuracy of the transcription. It is highly recommended that one of the individuals be an authorized District Test Coordinator or School Test Coordinator.
- The student's response must be transcribed verbatim into the Answer Document or Test Booklet. The student's original response in an Answer Document/Test Booklet should be returned with secure test materials. The District Test Coordinator or School Test Coordinator should write "DO NOT SCORE" or draw an "X" in large font on the front of the original Answer Document/Test Booklet. Do not cover the barcode. Return them with nonscorable test materials.

- Braille transcription: Only an eligible Test Administrator who is a certified Teacher of Students with Visual Impairment, including Blindness, or someone working under the direct supervision of an eligible Test Administrator who is a certified Teacher of Students with Visual Impairment, including Blindness may transcribe the student's responses onto the paper form of the 2022 Science, Math, and ELA assessments.
- Any original student responses that were printed from an assistive technology device or recorded separately on blank paper (or on other external devices) must be securely shredded.

Procedures for Transcribing Student Responses for Computer-Based Testing

Selected Response and Technology Enhanced Items
For selected response and technology enhanced items, student responses must be entered into iTester during the test session by the Test Administrator. Once the student reaches the end of the test with all Selected Response and Technology Enhanced Items completed, the Test Administrator should have the student EXIT the test but not submit the test.

Constructed Response Items
During administration of computer-based 2022 Science, Math, and ELA assessments, students who require use of a speech-to-text converter, augmentative communication device, or assistive technology device will need constructed responses transcribed into iTester by a Test Administrator before the online testing window closes. In these situations, the following steps must be followed.
- As the student encounters constructed responses, he/she should use his/her device to respond to the questions. The student will then continue testing in iTester, leaving these items unanswered in iTester.
- Once the student reaches the item they should click "Finish" to take them to the test review screen. On the test review screen confirm all answers to be transcribed appear as "unanswered".
- Click on "Exit" *NOT* "Turn-In" to exit the testing kiosk.
    - Note: if a student clicks "Turn-In" in error, contact the support desk. The support desk can reactivate the student's test session which will allow the transcriber to log back into the test session that has been turned-in.
- When ready to transcribe responses into the test, log into the test using the students log in credentials, session access code and proctor password, if needed.
- Navigate to the unanswered items left for transcription and transcribe student's answers.
- At least two persons must be present during any transcription of student responses. One of the individuals must be an authorized Test Administrator.
- The student's responses must be transcribed verbatim into iTester. (See note above about scribing signed responses in English).
- Once all items have been transcribed, the Test Administrator will submit the test by clicking "Turn-In" on the test review screen.
- After transcription is complete, all original student responses that were printed from an assistive technology device must be securely shredded.

Appendix C: Text-to-Speech, ASL Video, or Human Reader/Human Signer Guidance for English Language Arts (ELA) Assessments

Individualized Education Program (IEP) or 504 Plan Decision-Making Tool

Directions: This is an <u>optional</u> tool that has been developed to assist IEP teams and 504 Plan Coordinators in identifying students who may be appropriate candidates to receive the accommodation for text-to-speech (computer-based), ASL video (computer-based), or Human Reader/Human Signer (paper-based) for the ELA summative.

Student's Name: _____ **D.O.B.:** _____ **Grade:** _____

School/Program: _____ **State ID #/Local ID#:** _____

District: _____ **State:** _____

IEP Team Members or 504 Plan Coordinator/Staff		
Title	**Name**	**Date**
IEP team Chairperson or 504 Coordinator:		
Special Education Teacher(s):		
General Education Teacher(s):		
IEP team member(s) qualified to interpret reading evaluation results:		
Parent(s)/Guardian:*		
Student (if a team participant):		
Other IEP team member(s):		
Verification of Parent/Guardian Notification (optional):* _____ *(Parent/Guardian Initials)* *I have been informed by my child's school that my child will receive a text-to-speech, ASL video or Human Reader/Human Signer accommodation for an English language arts (ELA) assessment.*		

* If the parent/guardian does not initial this form, the school should attach documentation of notification to the parent and date of notification to this form regarding the decision to provide the text-to-speech, ASL video, or Human Reader/Human Signer accommodation to the student, and keep this form with the student's records.

If all guidelines listed are met, and the student is given the **text-to-speech, ASL video, or Human Reader/Human Signer accommodation** for the English language arts (ELA) assessment, he/she will receive a valid score on the assessment. If all guidelines are not met, and the student is given the **text-to-speech, ASL video, or Human Reader/Human Signer** accommodation on an English language arts (ELA) assessment, the student's assessment score may be invalidated and the score would not be counted in the overall assessment results; i.e., the student would be considered a "non-participant" for the English language arts (ELA) assessment.

Guidelines for IEP Team or 504 Plan Consideration	Additional Guidance	Agree/ Disagree
The student has an Individualized Education Program (IEP) or 504 plan.	Student has an approved IEP or current 504 plan.	❑ Agree ❑ Disagree
In making decisions on whether to provide the student with this accommodation, IEP teams and 504 Plan Coordinators are instructed to consider whether the student has: • Blindness or a visual impairment and has not yet learned (or is unable to use) braille; OR • A disability that *severely limits or prevents* him/her from accessing printed text, even after varied and repeated attempts to teach the student to do so (e.g., student is unable to decode printed text); OR • Deafness or a hearing impairment and is severely limited or prevented from decoding text due to a documented history of early and prolonged language deprivation.	For the screen reader accommodation, the IEP team or 504 Plan Coordinator must determine whether the student is blind or has a visual impairment and has not yet learned (or is unable to use) braille. For the **text-to-speech, ASL video, or Human Reader/Human Signer accommodation**, the IEP team or 504 Plan Coordinator must determine whether the student has a disability that *severely limits or prevents* him or her from decoding text. This accommodation is not intended for a student reading somewhat (i.e., moderately) below grade level. The IEP or 504 plan must document objective evidence from a variety of sources (including state assessments, district assessments, AND one or more locally-administered diagnostic assessments or other evaluation) that indicate that the student's ability to decode text is severely limited or prevented or that the student is blind or visually impaired and has not yet learned (or is unable to use) braille. States may provide additional guidance for their respective states based on PED policy or practice.	❑ Agree ❑ Disagree
Before listing the accommodation in the student's IEP or 504 plan, teams and plan coordinators should also consider whether: • The student has access to printed text during routine instruction through a reader or other spoken-text audio format, or interpreter; • The student's inability to decode printed text or read braille is documented in evaluation summaries from locally-administered diagnostic assessments; or • The student receives ongoing, intensive instruction and/ or interventions in the foundational reading skills to continue to attain the important college and career-ready skill of independent reading.	States may provide additional guidance for their respective states in order to define intensive instruction and interventions based on PED policy or practice.	❑ Agree ❑ Disagree

List the data and/or evaluation sources that were used to document the decision to give the text-to-speech, ASL video, or Human Reader/Human Signer accommodation to the student on the English language arts (ELA) assessment(s):

1) Name of Diagnostic Evaluation or Educational Assessment: _____

_____
Name and Title of Test Administrator: _____
Most Recent Testing Date: _____
Score(s): _____
Provide a Summary of the Results: _____

_____
_____
_____

2) Name of Diagnostic Evaluation or Educational Assessment: _____

_____
Name and Title of Test Administrator: _____
Most Recent Testing Date: _____
Score(s): _____
Provide a Summary of the Results: _____

3) List any additional assessment data, scores, and/or evaluation results that were used to guide the decision-making process for IEP teams or 504 Plan Coordinators regarding the text-to-speech, ASL video, or Human Reader/Human Signer accommodation for the English language arts (ELA) assessment(s):

_____
_____
_____

List the instructional interventions and supports specifically related to reading that are currently provided through daily instruction to the student:
- Intensive reading interventions have been provided to the student for_____years.
- List the specific school years and frequency _____
- Describe and list the specific reading intervention(s) provided to the student: _____

_____
_____

List any additional relevant information regarding the student:

_____
_____

Appendix D: Unique and Emergency Accommodations

Directions: The form on the following page should be used for students with unique or emergency accommodations. If a student with a disability or an EL requires an accommodation (i.e., a "unique accommodation") that is not listed in the *Accessibility Features and Accommodations Manual,* and does not change the construct being measured by the test, the DTC may request the use of an accommodation not currently listed in this manual by using this form. This form is also appropriate in cases where a student needs a new accommodation immediately prior to the assessment due to unforeseen circumstances and there is not sufficient time for a 504 plan to be developed with appropriate accommodations. Cases could include students who have a recently-fractured limb (e.g., fingers, hand, arm, wrist, or shoulder); whose only pair of eyeglasses has broken; or a student returning from a serious or prolonged illness or injury. If the principal or School Test Coordinator determines that a student requires an emergency accommodation on the day of the test, this form must be completed and submitted to the District Test Coordinator. The DTC will submit to PED for approval.

Request for Nonstandard Assessment Accommodation 2021–22

Public Education Department

Purpose of Form: This form is to request a unique accommodation (e.g., testing at home, use of electronic devices for medical monitoring) that is not identified in the accommodations manual and is to be used on a state-required assessment. The New Mexico Student Assessment Accommodations Manual can be found on the DTC Resources web page.

Procedure for Requesting Accommodation:
- The nonstandard accommodation request must be documented in a student's IEP, 504, or EL Plan, and the district or charter school must retain the form for a period of five (5) years from the date of the test.
- This form must be emailed to ped.assessment@state.nm.us a minimum of two (2) weeks prior to the test administration window.
- PED will review the request and provide a response within five (5) business days.

Student Information

Student State Identification (SSID) Number (9 digits):	
Student Initials Only:	Student Date of Birth:

District/Charter/BIE School Contact Information

District Name:	School Name:
Name of District Test Coordinator:	Email:
Name of person requesting accommodation:	Email:

For which assessment(s) is this accommodation requested?

Assessment(s):
Accommodation Requested:
Justification for Request:

Is the requested non-standard accommodation documented in the IEP, 504 Plan, EL Plan, or Individualized Healthcare Plan? ☐Yes ☐No

Is the requested accommodation routinely used in classroom instruction/testing? If no, explain in Justification for Request section. ☐Yes ☐No

For PED Use Only	
Assigned to:	Date:
☐ Reason for Denial:	
☐Approved for:	
Date District Notified:	

Appendix E: Student Accommodation Refusal Form

Directions: If a student refuses an accommodation listed in his or her Individualized Education Program (IEP), 504 plan, or an EL plan, the school should document in writing that the student refused the accommodation, and the accommodation must be offered and remain available to the student during testing. This form must be completed and placed in the student's file and a copy sent to the parent on the day of refusal. Principals (or designee) should work with Test Administrators to determine who, if any others, should be informed when a student refuses an accommodation documented in an IEP, 504 plan or an EL plan.

Student Name: _____ Date: _____

Grade: _____ Student ID#: _____

School Name: _____

School District: _____

Assessment Type: _____

Test Administrator: _____

Accommodation(s) refused: _____

Reason for refusal: _____

_____

_____

Comments: _____

_____

_____

Student's Signature (optional): _____

Signature of Test Administrator: _____

Keep this form on file at the school.
A copy must be sent home to the parent.

Appendix F: ELA Audio Guidelines
Version 3.0

Table of Contents

Visuals

Guidelines for Text-to-Speech Descriptions
Use these guidelines to describe visuals for text-to-speech scripts:
- Read the title.
- Provide a general overview of the image (i.e., A map of South America, a graphic organizer with a center circle and four circles radiating outward).
- Begin with the main section of the image.
- Describe the details in a succinct manner using grade-level appropriate vocabulary.
- Omit minor details that are irrelevant (a box to the left of the person).
- If facial expressions or body language are important, do not assume a blind student can interpret them. For example, it is better to describe a person as worried than to state that the person has furrowed brows.
- When describing several people in an image, label each one clearly so they are not mixed up (i.e., tall man, elderly man, little boy).
- Describe only what is seen in the image. Do not provide interpretation or additional information.

Classifications for Embed Coding Scheme for Text Descriptions
An embed code within the alt text will be included for all test items with visual elements. The embed code will be classified as a 1, 2 or 3. The description of each level is listed below:

[1] is not construct-relevant and can be eliminated (e.g., it is only there for engagement purposes). For example, a picture of an elephant added purely for engagement would has alt text that reads "elephant [1]" or "picture of elephant [1]."

[2] is construct-relevant and can be represented using accompanying textual description. Example of text where reading the graph is construct-relevant: The graph title is Roller Rink costs. Key, dashed line represents Roller Rink A, solid line represents Roller Rink B. The x-axis is labeled number of people. The y-axis is labeled cost in dollars. The dashed arrow starts at zero people, sixty dollars and points to a little less than sixteen people, midway between one hundred and one hundred ten dollars. The solid arrow starts at zero people, a little less than ten dollars and points to a little more than fourteen people, a little less than one hundred ten dollars. [2]

[3] is construct-relevant and can be represented using accompanying textual description together with a tactile representation or physical manipulative. Example of text where reading the graph is construct-relevant: The graph title is Roller Rink costs. Key, dashed line represents Roller Rink A, solid line represents Roller Rink B. The x-axis is labeled number of people. The y-axis is labeled cost in dollars. [3]

Ellipses

Example

22. Which statement best represents
    a turning point in the story?

    A. "Suddenly he seemed to
       know that if he were to
       survive, he must learn how to
       fly . . . "
    B. "Albert jumped up and down
       and screeched for them to
       rescue him, but they could
       do nothing."
    C. "When he tried to climb the
       rocks to the ridge top, he slid
       backward on his rear."
    D. "Albert watched as his
       brother pumped his wings
       wildly and zigzagged far
       above the ground."

Audio Guideline

Text Only/Text and Graphics

When an ellipsis is used to signify missing text in a sentence, read as "pause 'dot, dot, dot' pause."

Note: Pauses in each application of the audio guidelines in this document are represented by an En Dash with a space on either side of the En Dash.

Application of Audio Guideline

Example

Which statement best represents a turning point in the story?

A: Suddenly he seemed to know that if he were to survive, he must learn how to fly – dot – dot – dot –

Quotations and Quotation Marks

Example 1

⑤ In this poem, "the smell of the damp" reminds the speaker of the

○ A. dark shade.
○ B. strips of sunlight.
○ C. moss that is growing.
○ D. wooden porch boards.

Example 2

⑩ Inside the bottle, the "white-tipped waves" are made out of

A. water.
B. paper.
C. clay.
D. wood.

Example 3
Mill argues against using St. Paul's epistles as a means for discrimination against women because "The powers that be are ordained of God' gives his sanction to military despotism to that alone, as the Christian form of political government, or commands passive obedience to it."

Audio Guideline
Text Only/Text and Graphics
    a.   Quotation marks should be read as "quote" before the text and "end quote" after the text.
    b.   If the quotes surround the title of a work, do not say, "quote."
    c.   If both single and double quotes occur in a single passage, item, or paragraph, specify with "single quote," "end single quote," "double quote," and "end double quote."

Application of Audio Guideline
Example 1:
In this poem – quote – the smell of the damp – end quote – reminds the speaker of
A dark shade.
B strips of sunlight.
C moss that is growing.
D wooden porch boards.

Example 2:
Inside the bottle, the – quote – white-tipped waves – end quote – are made out of
A water.
B paper.
C clay.
D wood.

Example 3

Mill argues against using St. Paul's epistles as a means for discrimination against women because – double quote – single quote – the powers that be are ordained of God – end single quote – gives   his sanction to military despotism to that alone, as the Christian form of political government, or commands passive obedience to it – end double quotes –

Emphasis for Underline, Bold, Italics, Capitalization

Example 1

❸ Based on the first paragraph, a <u>cradle</u> is a kind of

○ A. bed.
○ B. house.
○ C. craft.
○ D. weapon.

Example 2

⓫ In paragraph 11, what do the words <u>to its fullest</u> **most likely** mean?

○ A. with each other
○ B. some of the time
○ C. with other tribes
○ D. as much as they could

Example 3

❷ The suffix *-less* in the words <u>helpless</u> and <u>careless</u> means

A. most.
B. tiny.
C. some.
D. without.

Audio Guideline
Text Only/Text and Graphics

Emphasize words that are underlined, bolded, italicized, or capitalized.

Pause before and after the emphasized word(s) to differentiate between emphasis and normal formatting.

Do not read differently or pause for italics, underline, or bold if they are being used for the directions before a passage or item and are not part of the prompt, question, or answers.

Application of Audio Guideline

Example 1
Based on the first paragraph, a – cradle – is a kind of
A: bed.
B: house.
C: craft.
D: weapon.

Example 2
In paragraph eleven, what do the words – to its fullest – most likely – mean?
A: with each other
B: some of the time
C: with other tribes
D: as much as they could

Example 3
The suffix – less – in the words – helpless – and – careless – means
A: most.
B: tiny.
C: some.
D: without.

Word Webs

Example 1

13. Using the reading selection, write two other tricks caterpillars use to try to get away from their enemies.

hump up their backs

Tricks Caterpillars Use

1. _____

2. _____
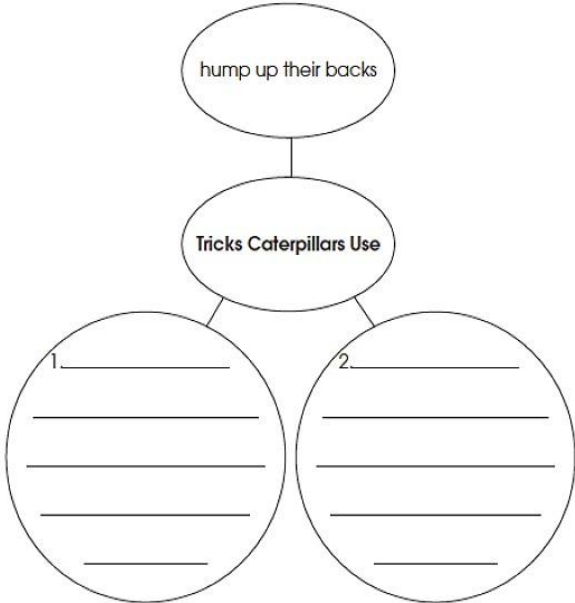
Example 2

10. Use details from the reading selection to complete the web below.

Facts about snowflakes

float to the ground
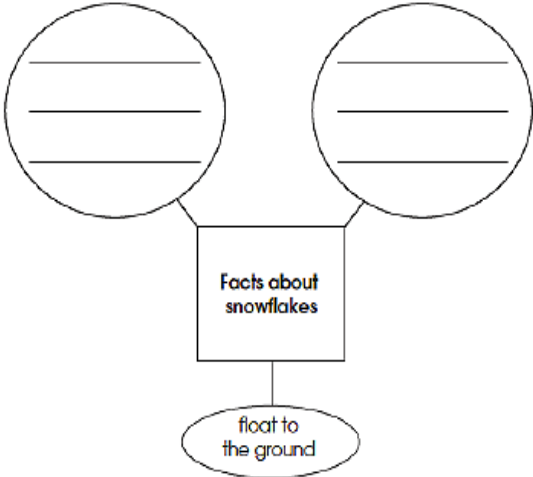
Example 3

Jimmy made this web. Use it to answer questions 14 and 15.
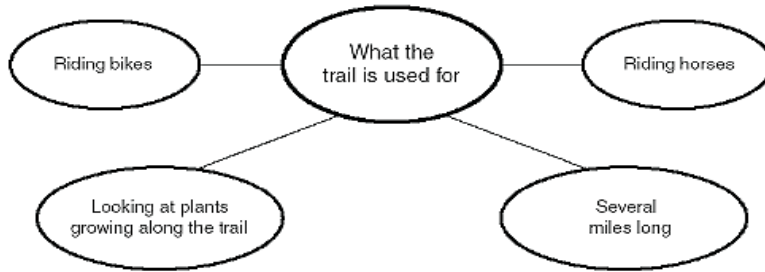
Audio Guideline

Text Only
Read the title of the word web, if available, before reading the rest of the text in the word web.

Text and Graphics
Begin by giving a very brief orientation that includes
- that it is a word web
- the attributes of the word web (number of cells, rows, etc.)

Read the word web in a logical manner that helps the student easily navigate the information. While many word webs can be read left to right, top to bottom, some word webs are better read bottom to top or from the middle.

Use common language throughout the item and the test when referring to word webs and their attributes (labels, blank cells, stems, etc.).

Application of Audio Guideline

Example 1
A word web containing four cells. The center cell is labeled "Tricks Caterpillars Use." A cell connecting to the center cell is labeled "hump up their backs." The two other cells connecting to the center cell contain space to write two other tricks caterpillars use.

Example 2
A word web containing four cells. The center cell is labeled "Facts about snowflakes." A cell connecting to the center cell is labeled "float to the ground." The two other cells connecting to the center contain space to write.

Example 3
A web containing five cells. The center cell is labeled "What the trail is used for." The four cells connecting to the center cell are labeled "Riding bikes," "Riding horses," "Looking at plants growing along the trail," and "Several miles long."

Pronunciation

Example 1

2 Which word rhymes with <u>cone</u>?

○ A. both
○ B. done
○ C. corn
○ D. own

Example 2

11 Which word has the same vowel sound as <u>soak</u>?

○ A. stir
○ B. look
○ C. kick
○ D. rope

Example 3

62 Which phrase from the report contains an underlined word that is spelled incorrectly?

A <u>ancient</u> mazes
B friends and <u>nieghbors</u>
C <u>previous</u> ones
D several <u>surprises</u>

Audio Guideline

Text Only
If the question or stem has the word that rhymes or has a specific sound, read that word, but do not read the answers.

Do not try and read aloud misspelled words as pronunciation is somewhat subjective.

Text and Graphics
When an item is measuring rhyming of words or sounds of words, speak the individual letters in the word instead of speaking the word. If the question or stem has the word that rhymes or has a specific sound, read that word and spell out the answer options.

For questions containing intentionally misspelled words, spell out any word for which the student needs to consider spelling correctness/incorrectness.

Do not try and read aloud misspelled words as pronunciation is somewhat subjective.

Application of Audio Guideline

Example 1

Text Only
Which word rhymes with cone?
A: A
B: B
C: C
D: D

Text and Graphics
Which word rhymes with – cone?
A: B – O – T – H
B: D – O – N – E
C: C – O – R – N
D: O – W – N

Example 2

Text Only
Which word has the same vowel sound as soak?
A: A
B: B
C: C
D: D

Text and Graphics
Which word has the same vowel sounds as – soak?
A: S – T – I – R
B: L – O – O – K
C: K – I – C – K
D: R – O – P – E

Example 3

Text Only
Which phrase from the report contains an underlined word that is spelled incorrectly?
A: A
B: B
C: C
D: D

Text and Graphics
Which phrase from the report contains an underlined word that is spelled incorrectly?
A: A – N – C – I – E – N – T mazes
B: friends and N – I – E – G – H – B – O – R – S
C: P – R – E – V – I – O – U – S ones
D: several S – U – R – P – R – I – S – E – S

Graphic Organizers

Example 1

38.   "We put the crushed cocoa beans into a chocolate pot."

Which column in the graphic organizer below would include this detail?
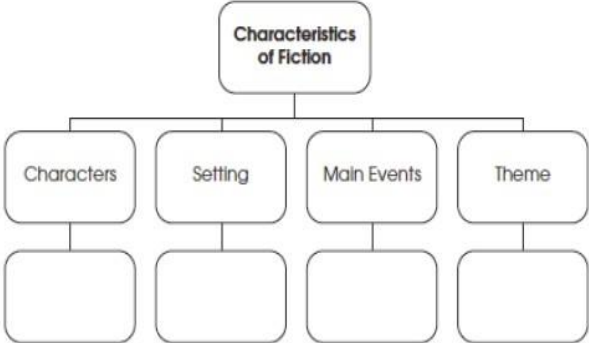
A. Characters

B. Setting

C. Main Events

D. Theme

Example 2

41.
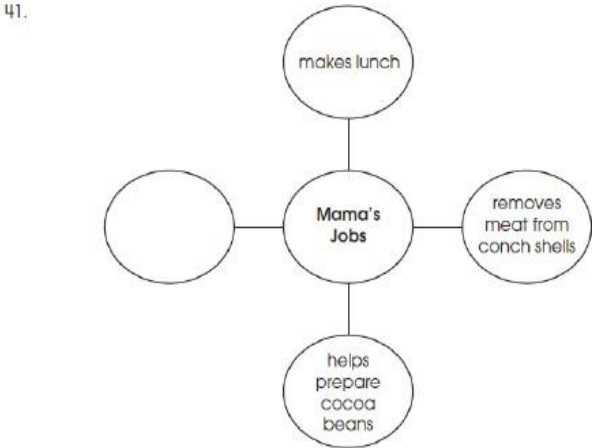
According to information in the selection, which phrase should be added to the graphic organizer above?

A. makes chowder from conchs

B. hollows a log to make a canoe

C. plants cacao trees in the shade

D. crushes cocoa beans in a mortar

Audio Guideline

Text Only
Read the title of the graphic organizer, if available, before reading the rest of the text in the graphic organizer.

Text and Graphics

If the organizer is structured like a table or has a structure similar to a table, refer to the Math Audio Guidelines document.

If the organizer is structured like a word web, follow the rules in this document for word webs.

Application of Audio Guideline
Example 1

Graphic organizer with a cell labeled "Characteristics of Fiction" at the top. Below the top cell there are four columns and two rows. The first row has columns labeled "Characters," "Setting," "Main Events," and "Theme." Below each labeled cell is a blank cell.

Example 2

Center cell, Mama's Jobs; connecting cells, read clockwise from the top, makes lunch, removes meat from conch shells, helps prepare cocoa beans, blank.

Different Types of Text

Play, Example 1
Setting: Deep in the forest. Tall stool is center, shorter stool is left.
At Rise: Leopard is seated on tall stool, beating drum. Turtle enters left and slowly moves to center and sits on smaller stool.
Leopard (pounding drum and chanting): The forest is mine all night and all day. . .
Turtle (shouting over drum): Good morning, Leopard. I've been listening to your music. You have a fine sounding drum and a fine voice as well.
(Leopard stops pounding drum and looks up.)

Play, Example 2
Jay: Who's that? (Turning the flashlight on the man)
Louie: Get that light outta my face and go back to sleep, Kid.
Jay: There's nothing here to steal, Mister. I swear.
Louie: Is that you, Jay?
Jay: Yeah, who are you?
Louie: It's Uncle Louie.
Jay: Uncle Louie? No kidding? . . . Arty! It's Uncle Louie.

Application of Audio Guideline

Example 1
Setting: – (Voice 1) – Deep in the forest. Tall stool is center, shorter stool is left.
At Rise: – (Voice 1) – Leopard is seated on tall stool, beating drum. Turtle enters left and slowly moves to center and sits on smaller stool.
Leopard – (Voice 1) – pounding drum and chanting: – (Voice 2) – The forest is mine all night and all day – dot – dot – dot -
Turtle – (Voice 1) – shouting over drum: – (Voice 2) – Good morning, Leopard. I've been listening to your music. You have a fine sounding drum and a fine voice as well. – (Voice 1) – Leopard stops pounding drum and looks up.

Example 2

Jay – (Voice 1) – Who's that? – (Voice 2) – Turning the flashlight on the man.
Louie – (Voice 1) – Get that light outta my face and go back to sleep, Kid.
Jay – (Voice 1) – There's nothing here to steal, Mister. I swear.
Louie – (Voice 1) – Is that you, Jay?
Jay – (Voice 1) – Yeah, who are you?
Louie – (Voice 1) – It's Uncle Louie.
Jay – (Voice 1) – Uncle Louie? No kidding? – dot – dot – dot – Arty! It's Uncle Louie.

Poem, Example 1

Carrying the Snake to the Garden
In the cellar
was the smallest snake
I have ever seen.
It coiled itself
in a corner
and watched me
with eyes
like two little stars
set into coal,
and a tail
that quivered.
One step
of my foot
and it fled
like a running shoelace,
but a scoop of the wrist
and I had it
in my hand.
I was sorry
for the fear,
so I hurried
upstairs and out the kitchen door
to the warm grass
and the sunlight
and the garden.
It turned and turned
in my hand
but when I put it down
it didn't move.
I thought
it was going to flow
up my leg
and into my pocket.
I thought, for a moment,
as it lifted its face,
it was going to sing.
And then it was gone.
　　　—Mary Oliver

Sheepdog

In the green field stand the scattered sheep,
pretending innocence,
and the Shepherd standing
just beyond the field—
5   and at the Shepherd's feet, poised,
the rough-coat collie dog, with one thought only.
It is the woolies.
Her eyes, one blue, one brown
never leave them.

10   When the Shepherd's whistle
releases her,
she's off, like an arrow, running east,
her bared teeth showing
the wolf that still lives in her.
15   She circles wide, closing in,
a black and white blur at
the edge of a sheep's bad dream.
But the Shepherd whistles, twice for *right*
and once for *left,*
20   and the dog holds back,
bringing order out of her own wildness,
serving the man's need.

By sundown,
the circle is complete.
25   The sheep are penned.
The tired Shepherd, the panting dog
head for home, each
more than they would be alone,
the ring the dog marked, running,
30   symbol of their union.

Audio Guideline

Text Only
Read the poem paying attention to the layout of the stanzas. Do not reference given line numbers.
Use extended pauses for the start of a new stanza.

Text and Graphics
Read the poem paying attention to the layout of the stanzas. Reference the line numbers associated with the first and last line of a stanza. For example, say, "Start of stanza line 12 . . . End of stanza line 18."
Use extended pauses for the start of a new stanza or reference the new stanza if deemed necessary.
Use the above rules for emphasis.

Application of Audio Guideline
Example 1
Read the poem as is line by line.

Example 2
In the green field stand the scattered sheep,
pretending innocence,
and the Shepherd standing
just beyond the field
and at the Shepherd's feet, poised,
the rough–coat collie dog, with one thought only.
– *It is the woolies.* –
Her eyes, one blue, one brown
never leave them. – End of stanza – line 9
Start of stanza – line 10 – When the Shepherd's whistle
releases her,
she's off, like an arrow, running east,
her bared teeth showing
the wolf that still lives in her.
She circles wide, closing in,
a black and white blur at
the edge of a sheep's bad dream.
But the Shepherd whistles, twice for – right
and once for – left,
and the dog holds back,
bringing order out of her own wildness,
serving the man's need. – end of stanza – line 22
start of stanza – line 23 – By sundown,
the circle is complete.
The sheep are penned.
The tired Shepherd, the panting dog
head for home, each
more than they would be alone,
the ring the dog marked, running,
symbol of their union. – end of stanza – line 30 –

Political Cartoons

Example

Look at the cartoon below. Then answer the following.

"I'M SORRY, KID, BUT IT REALLY HURTS ME MORE THAN IT HURTS YOU"

According to the cartoon, what is a criticism of the juvenile justice system?

A. The system gives judges little choice in punishment.
B. The juvenile justice system wastes too much money.
C. The government has too much control over the lives of juveniles.
D. The courts make the community responsible for juveniles' actions.

Audio Guideline

Text Only
Read the title of the political cartoon, if available, before reading the rest of the text in the political cartoon.

Text and Graphics
Start by stating that it is a political cartoon.
Pay special attention to any writing in the cartoon (labels, titles, signs, etc.).
Read the caption of the cartoon.

Application of Audio Guideline

Example
A political cartoon showing an officer standing behind a boy who is standing before a judge. The judge has an open book that is titled "Comprehensive guidelines for sentencing juvenile offenders." The caption of the cartoon is I'm sorry, kid, but it really hurts me more than it hurts you.

Maps

Example
(Part of a passage and section on Machu Picchu that references many of the countries, cities, and geographical features labeled)

Audio Guideline

Text Only
Read the title of the map if available, then read the key, compass rose, and map from top to bottom, left to right as much as possible.

Text and Graphics
Read the title of the map if available, then read the key, compass rose, and map from top to bottom, left to right as much as possible.
For maps, a few words can be used to describe the map unless the item requires the student to use the map to answer the question.

Application of Audio Guideline

Example
A map showing a portion of South America: Ecuador; Amazon River; Urbamba River; Peru; Vilcabamba, Brazil; Machu Picchu; Andes Mountains; Cuzco, Bolivia; Atacama Desert; Chile; Argentina.

Timelines

Example 1

Timeline

Edmund Halley is born	Halley observes the comet for the first time	Halley visits Isaac Newton to discuss the laws of gravity	Halley focuses on the study of comets	Halley dies	The comet returns to view as Halley predicted
1656	1682	1684	1704	1742	1759

Example 2

Born in an Indian village in Mexico	Left home and walked 41 miles to Oaxaca	Began his education at a seminary	Became governor of the state of Oaxaca	Escaped to New Orleans after General Santa Anna seized the government	Returned to Mexico and helped the revolution overthrow Santa Anna	Became Minister of Justice	Elected President of Mexico	Died in Mexico City
1806	1818	1821	1847	1853	1855	1857	1861	1872

Audio Guideline

Text Only
Read the title of the timeline and text from top to bottom, column to column.

Text and Graphics
State that it is a timeline and read the title first or any brief note of what the timeline represents.

State the direction of the timeline and direction of reading.

Read the timeline in chronological order, keeping text with the corresponding date.

Read the date first, followed by the corresponding text that accompanies it.

Application of Audio Guideline

Example 1
A timeline of Edmund Halley's life. From left to right, the timeline reads, sixteen fifty-six, Edmund Halley is born; sixteen eighty-two, Halley observes the comet for the first time; sixteen eighty-four, Halley visits Isaac Newton to discuss the laws of gravity; seventeen oh-four, Halley focuses on the study of comets; seventeen forty-two, Halley dies; seventeen fifty-nine, The comet returns to view as Halley predicted.

Example 2
A timeline of Benito Juarez's life. From left to right the timeline reads, eighteen oh-six, Born in an Indian village in Mexico; eighteen eighteen, Left home and walked forty-one miles to Oaxaca; eighteen twenty-one, Began his education at a seminary; eighteen forty-seven, Became governor of the state of Oaxaca; eighteen fifty-three, Escaped to New Orleans after General Santa Anna seized the government; eighteen fifty-five, Returned to Mexico and helped the revolution overthrow Santa Anna; eighteen fifty-seven, Became Minister of Justice; eighteen sixty-one, Elected President of Mexico; eighteen seventy-two, Died in Mexico City.

Fill in the Blank

Example

❷ The word <u>clothes</u> belongs in which sentence?

    ○ A. My old _____ no longer fit me.
    ○ B. Please _____ the door on your way out.
    ○ C. The lights will come on at the _____ of the show.
    ○ D. She had to _____ the store because of the storm.

Audio Guideline

Text Only
Read the blank element with a pause, then "blank" followed by a pause.

Text and Graphics
Read the blank element with a pause, then "blank" followed by a pause.

If the space to be filled in has a question mark, read it as "unknown x" where x is the line, box, bubble, cell, etc.

For technology enhanced items where the blank is in the shape of a box, read the blank box with a pause, then "blank box" followed by a pause.

Application of Audio Guideline
Example
Text Only; Text and Graphics
A: My old – blank – no longer fit me.
B.: Please – blank – the door on your way out.
C: The lights will come on at the – blank – of the show.
D: She had to – blank – the store because of the storm.

Pictures

Example 1

An Air Force LC-130, equipped with skis for landing, transports scientists and workers to Antarctica and back.

American scientists and their helpers who are traveling to the interior of Antarctica fly from Christchurch, New Zealand, on U.S. Air Force planes, operated by the 109th Airlift Wing of the New York Air National Guard. These LC-130s are outfitted with skis instead of wheels for landing on the ice runways.

The flight from Christchurch to McMurdo Station, the biggest American base in Antarctica, takes eight hours. Boomerang flights—ones that turn around midway—are common. The planes can't carry enough fuel to fly to Antarctica and back again to New Zealand. They must refuel in Antarctica. But when there's a blizzard on the ice, the pilots can't land to refuel. So at the midway point, the pilot always radios ahead. If there's a chance of a storm, the plane turns around and flies back to New Zealand. One third of all flights headed for Antarctica are forced to turn around midway. This midway point is called the point of no return.

Example 2

Read the following two selections. Think about how they are alike and how they are different.

Reminiscing
by Ralph Cortez

1 Watermelons were so much sweeter then,
2 When boys were the stuff of super men,
3 And summers seemed so much longer too,
4 With nothing pending and nothing due.
5 We were swordsmen—swashbuckling heroes,
6 Eternal victors—never zeroes;
7 Second basemen and clean-up hitters;
8 Forever winners, never quitters.
9 Play was a ritual in those days,
10 To go on magical mind forays,
11 To play the game with aplomb and ease,
12 To venture forth when and where we'd please.
13 We would feign death, and then rise up again.
14 Watermelons were so much sweeter then.

Piano
by D. H. Lawrence

1 Softly, in the dusk, a woman is singing to me:
2 Taking me back down the vista of years, till I see
3 A child sitting under the piano, in the boom of the tingling strings
4 And pressing the small, poised feet of a mother who smiles as she sings.

5 In spite of myself, the insidious mastery of song
6 Betrays me back, till the heart of me weeps to belong
7 To the old Sunday evenings at home, winter outside
8 And hymns in the cozy parlor, the tinkling piano our guide.

9 So now it is vain for the singer to burst into clamor
10 With the great black piano appassionato. The glamour
11 Of childish days is upon me, my manhood is cast
12 Down in the flood of remembrance, I weep like a child for the past.

[Public Domain]

CSR1P008

Example 3

Whites and African Americans participated and sometimes worked together. Many of the African Americans were escaped slaves themselves, but they continued to risk their lives to help others. There were ordinary farmers, ministers, and housewives. Many well-known political and religious leaders from the black and white communities were also active supporters. In 1859, a congressman named Owen Lovejoy gave a speech in which he announced that he worked with the Underground Railroad. In the speech, he boldly said: *"Owen Lovejoy . . . aids every fugitive that comes to his door and asks it. Proclaim it then from the housetops. Write it on every leaf that trembles in the forest, make it blaze from the sun at high noon."*

Audio Guideline

Text Only
After the paragraph that refers to the picture, read the title, if available. Read embedded text and/or caption, and then read text.

Text and Graphics
Before describing the picture, it should be determined whether the details of the picture are necessary to understanding and responding to the item(s). In many cases, the picture will be used to accompany a passage or reading excerpt as a piece of visual interest that is not essential in responding to the item. In this case, a very brief description may suffice.

In other cases, the caption or embedded text will describe the picture and only limited additional information is necessary.

In general, read the title of the picture or caption (if it is meant to serve as a title) if there is one.

Application of Audio Guideline

Example 1
A picture showing an airplane.

American scientists and their helpers who are traveling to the interior of Antarctica fly from Christchurch, New Zealand, on U.S. Air Force planes, operated by the 109th Airlift Wing of the New York Air National Guard. These LC-130s are outfitted with skis instead of wheels for landing on the ice runways.

The flight from Christchurch to McMurdo Station, the biggest American base in Antarctica, takes eight hours. Boomerang flights—ones that turn around midway—are common. The planes can't carry enough fuel to fly to Antarctica and back again to New Zealand. They must refuel in Antarctica. But when there's a blizzard on the ice, the pilots can't land to refuel. So at the midway point, the pilot always radios ahead. If there's a chance of a storm, the plane turns around and flies back to New Zealand. One third of all flights headed for Antarctica are forced to turn around midway. This midway point is called the point of no return.

Example 2
A picture of a sliced watermelon.

A picture of a piano with musical notes coming from it.

Example 3
A picture of a slave with chains on his hands and feet. The caption reads "Am I Not a Man and a Brother?"

Boxed Sentences or Paragraphs

Example 1

| "This is your last chance to change your mind" said the operator. |

What does the sentence suggest about a ride on the Space Shot?

Example 2

| Nothing was different except the warm glow that was in my belly and my arms and my legs and my head and wouldn't go away. |

Which of the following words is an adjective as it is used in the sentence?

Audio Guideline

Text Only
Read the boxed sentence/word as is with a pause before and after to reflect a return to normal formatting.

Text and Graphics
Preface the boxed sentence/word by saying "boxed x" (x being sentence, word, etc.).

Pause after reading the information in the box to indicate a return to normal formatting.

Application of Audio Guideline

Example 1
What does the sentence suggest about a ride on the Space Shot?

Boxed sentence, – This is your last chance to change your mind, – said the operator. –
(Answer options are read.)

Example 2
Which of the following words is an adjective as it is used in the sentence?

Boxed sentence, – Nothing was different except the warm glow that was in my belly and my arms and my legs and my head and wouldn't go away. –

(Answer options are read.)

Appendix G: Mathematics Audio Guidelines
Version 3.3

Table of Contents

Visuals

Guidelines for Text-to-Speech Descriptions

Use these guidelines to describe visuals for text-to-speech scripts:

Read the title.

Provide a general overview of the image. (i.e., A map of South America, a graphic organizer with a center circle and four circles radiating outward)

Begin with the main section of the image.

Describe the details in a succinct manner using grade-level appropriate vocabulary.

Omit minor details that are irrelevant (a box to the left of the person).

If facial expressions or body language are important, do not assume a blind student can interpret them. For example, it is better to describe a person as worried than to state they have furrowed brows.

When describing several people in an image, label each one clearly so they are not mixed up. (i.e., tall man, elderly man, little boy)

Describe only what is seen in the image, do not provide interpretation or additional information.

Reading Inline Choice Items

Test Nav 8.4 does not yet have the capability to read the options in an inline choice item, therefore, follow these directions for providing phonetic markup.

Use the drop-down menus to complete the sentence.

Example Stem:

A twenty-three point six K-G grocery cart is pushed away from and then rolls back toward a cart rack. Use the graph to complete the sentence describing the motion of the grocery cart.

Example of Inline Choice

The graph shows that the cart travels (Inline Choice dropdown menu) meters between zero and five seconds.

When accessing the dropdown menu, the following answer options are available.

Two point zero
Three point zero
Four point zero
Five point zero
Six point zero

Example of Phonetic Markup

The graph shows that the cart travels - blank - meters between zero and five seconds. The answer choices are: two point zero, three point zero, four point zero, five point zero, six point zero.

Classifications for Embed Coding Scheme for Text Descriptions

An embed code within the alt text will be included for all test items with visual elements. The embed code will be classified as a 1, 2 or 3. The description of each level is listed below:

[1] is not construct-relevant and can be eliminated (e.g., it is only there for engagement purposes). For example, a picture of an elephant added purely for engagement would has alt text that reads "elephant [1]" or "picture of elephant [1]."

[2] is construct-relevant and can be represented using accompanying textual description. Example of text where reading the graph is construct-relevant: The graph title is Roller Rink costs. Key, dashed line represents Roller Rink A, solid line represents Roller Rink B. The x-axis is labeled number of people. The y-axis is labeled cost in dollars. The dashed arrow starts at zero people, sixty dollars and points to a little less than sixteen people, midway between one hundred and one hundred ten dollars. The solid arrow starts at zero people, a little less than ten dollars and points to a little more than fourteen people, a little less than one hundred ten dollars. [2]

[3] is construct-relevant and can be represented using accompanying textual description together with a tactile representation or physical manipulative. Example of text where reading the graph is construct-relevant: The graph title is Roller Rink costs. Key, dashed line represents Roller Rink A, solid line represents Roller Rink B. The x-axis is labeled number of people. The y-axis is labeled cost in dollars. [3]

Accessibility experts will be trained on this embedded coding scheme during the item tagging phase of item development.

Symbols

Money ($)
Example 1
$4.35

Example 2
$2.50

Example 3
$5,390

Audio Guideline

Read dollars and cents if there is a decimal point.

Do not read shortcuts for numbers. For instance $.25 and $1.50 should be read as twenty-five cents instead of a quarter. This will allow a more standardized presentation of monetary quantities.

If the amount is less than one dollar, read "X cents" and do not read the zero ($0.35 is "thirty-five cents" not "zero dollars and thirty-five cents"). Likewise, do not read "and zero cents" ($4.00 is read "four dollars" and not "four dollars and zero cents").

Read the number place value unless the question is measuring place value (refer to the large number section for details).

Application of Audio Guideline

Example 1
Four dollars and thirty-five cents

Example 2
Two dollars and fifty cents

Example 3
Five thousand three hundred ninety dollars

Angles/Triangles (∠ and △)

Example 1
∠RST

Example 2
△RST

Example 3
△R'S'T'

Audio Guideline

Read angles and shapes by leading with "angle," "shape," etc. and then reading letters individually.

When reading a transformed or reflected angle or shape that uses " ' ", describe as "prime."

Do not reference the case of the letter unless an item includes uppercase and lowercase letters. In this instance, make reference to the uppercase letters guideline.

Application of Audio Guideline

Example 1
Angle *RST*

Example 2
Triangle *RST*

Example 3
Triangle *R* prime *S* prime *T* prime

Ratios (:)

Example
3:2

Audio Guideline

Read as "the ratio *x* to *y*."

Sometimes the ratio symbol is used for fractions. This can usually be determined by context. If this is the case, refer to the fraction guideline.

If the "the ratio of" is used in the item, read as "x to y" to avoid being redundant.

Application of Audio Guideline

Example
The ratio three to two

Equal Signs (=)

Example
2 + 3 = 5

Audio Guideline

Read as "equals."

Application of Audio Guideline

Example
Two plus three equals five.

Pi (π)

Audio Guideline

Read as "pi."

Other Greek letters

Audio Guideline

Read as the Greek letter in most cases, unless using the closest English letter is clearer.

Application of Audio Guideline

Example
sin α = 0.5 is read "sine alpha equals zero point five" but the density formula,

$$\rho = \frac{m}{V}$$

where "ρ" is the Greek letter rho, should be read "P equals fraction with …" since (a) there is no "P" in the formula, (b) the Greek letter closely resembles the English letter, and (c) use of the word "rho" is likely to be more distracting than helpful for text-to-speech users, since English readers may not know what a "rho" is. It is advisable to avoid formulas like this in item development (a "D" replaces the rho is some US textbooks), but given an item with uncommon Greek letters (other than alpha, beta, delta, theta, and perhaps a few others as may be determined on a case-by-case basis), math content specialists have found it most helpful in the past to use the closest English equivalent.

Approximately equal to (≈)

Example
π ≈ 3.14

Audio Guideline

Read as "is approximately equal to."

Application of Audio Guideline

Example
Pi is approximately equal to three point one four.

Less than (<)

Example 1
3<5

Example 2
x<y<z

Audio Guideline

Read as "is less than."

If there is more than one "less than" sign in a string, then read the whole relationship together. Read the last part as "is less than."

Example 1
Three is less than five.

Example 2
X is less than y is less than *z*.

Less than or equal to (≤)

Example
$2x \leq 6$

Audio Guideline

Read as "is less than or equal to."

Application of Audio Guideline
Two x is less than or equal to six.

Greater than (>)

Example 1
7>5

Example 2
x>y>z

Audio Guideline

Read as "is greater than."
If there is more than one "greater than" sign read the whole relationship together. Start the last part as "is greater than."

Application of Audio Guideline
Example 1
Seven is greater than five.

Example 2
X is greater than y is greater than z.

Greater than or equal to (≥)

Example
$3x \geq 6$

Audio Guideline

Read as "is greater than or equal to."

Application of Audio Guideline

Three *x* is greater than or equal to six.

Dashes (–)

Example 1
Pages 3–7

Audio Guideline

When the dash is used to reference material or as a group of conditions, use "through" for consecutive and non-consecutive numbers.

Application of Audio Guideline

Example 1
Pages three through seven

Temperatures (°F and °C)

Example 1
35°F

Example 2
25°C

Audio Guideline

Read as "degrees Fahrenheit" and "degrees Celsius."

Application of Audio Guideline

Example 1
Thirty-five degrees Fahrenheit

Example 2
Twenty-five degrees Celsius

Parallels (RS || X̄Ȳ)

Audio Guideline

Read as "is parallel to."

Line segment *RS* is parallel to line segment *XY.*

Perpendiculars (⊥)

Example
RS ⊥ *XY*

Audio Guideline

Read as "is perpendicular to."

Application of Audio Guideline

Line segment *RS* is perpendicular to line segment *XY*.

Abbreviations (ft., km)

Example 1
3ft.

Example 2
What is the correct abbreviation for kilometer?
A: kl
B: K
C: km
D: klm

Audio Guideline

Present abbreviations by speaking the whole word the abbreviation represents.

If the item measures the ability to identify the meaning of the abbreviation, then read the abbreviation letter by letter.

If speaking the abbreviation violates the construct being measured, then read letter by letter.

If the item has measurements that are all uppercase or lowercase, then it is not necessary to reference the cases.

Application of Audio Guideline

Example 1
Three feet

Example 2
What is the correct abbreviation for kilometer?
A: kl
B: K
C: km
D: klm

Measurement (" ' cm^2)

Example 1
6"

Example 2
12'

Example 3
4 cm^2

Example 4
5 cm^3

Audio Guideline

Present measurements by speaking the whole word the symbol represents.

Application of Audio Guideline

Example 1
Six inches

Example 2
Twelve feet

Example 3
Four square centimeters

Example 4
Five cubic centimeters

Number Signs (#)

Example
Refer to step #5.

Audio Guideline

Read as "number."

>Rule refers only to when symbol is being used to signify "number" as opposed to other non-mathematical uses of the symbol (for example, the pound key and the hash key).

Application of Audio Guideline

Example
Refer to step number five.

Empty/Unknown Boxes (□, [?])

Example 1
$4 + 2x = □$

Example 2
$3 + y = [?]$

Audio Guideline

Refer to an empty box in a formula or equation as "blank."
Refer to a box with a question mark in it as "question mark."

Application of Audio Guideline

Example 1
Four plus two x equals blank.

Example 2
Three plus y equals question mark.

Not equal to (≠)

Example
$2x \neq 7$

Audio Guideline

Read as "is not equal to."

Application of Audio Guideline

Two x is not equal to seven.

Arc (⌒)

Example
$\overset{\frown}{RT}$

Audio Guideline

Read as "arc."

Application of Audio Guideline

Example
Arc RT

Infinity (∞)

Example
As $x \rightarrow \infty$, $f(x) \rightarrow -\infty$

Audio Guideline

Read as "infinity."

Application of Audio Guideline

Example
As x approaches infinity, f of x approaches negative infinity.

Percent (%)

Example
35%

Audio Guideline

Read as "percent."

Application of Audio Guideline

Thirty-five percent

Lines: Line Segment, Line, and Ray

Example 1: Line Segment
$\overline{FG}$

Example 2: Line
$\overleftrightarrow{JK}$

Example 3: Ray
$\overrightarrow{LM}$

Audio Guideline

Read as "line segment," "line," or "ray" when they appear above letters or numbers.

Application of Audio Guideline

Example 1
Line segment *FG*

Example 2
line *JK*

Example 3
ray *LM*

Similar to (~)

Example
$\triangle EFG \sim \triangle JKL$

Audio Guideline

Read as "is similar to."

Application of Audio Guideline

Example
Triangle *EFG* is similar to triangle *JKL*.

Therefore (∴)

Example
$A=B$ and $B=C \therefore A=C$

Audio Guideline

Read as "therefore."

Application of Audio Guideline

Example
A equals *B* and *B* equals *C*, therefore *A* equals *C*.

Congruent (≅)

Example
$\angle FGH \cong \angle JKL$

Audio Guideline

Read as "is congruent to."

Application of Audio Guideline

Example
Angle *FGH* is congruent to angle *JKL*.

Factorial (!)

Example
$5! = x$

Audio Guideline

Read as "factorial."

Application of Audio Guideline

Example
Five factorial equals x.

Plus or Minus (±)

Example
The margin of error is 4.5 ± .8

Audio Guideline

Read as "plus or minus."

Application of Audio Guideline

Example
The margin of error is four point five plus or minus point eight.

Subscript (A_i)

Example
A_i represents the maximum amount of interest.

Audio Guideline

Read as "x subscript y."

Application of Audio Guideline

A subscript i represents the maximum amount of interest.

Numbers

Negative/Positive Numbers

Example 1
–4

Example 2
4 – –5

Example 3
What is the distance between +4 and –3 on the number line?

Audio Guideline

Read as "negative." Do not read the negative sign as a minus sign.

In most cases, consecutive negatives that are intended to show the negative of a negative will be represented with a set of parentheses. If this is the case, then refer to the parentheses section.

If the negative of a negative does not include parentheses, read as "negative (pause) negative."

Two consecutive negatives should not be read as "negative negative *X*" if the operation is focused on subtraction. In this case, read as "minus negative *X*." Note that this rule refers to numbers only. If, instead of a number, *X* is actually a variable or expression that includes variables, refer to the section entitled "Variables/Letters" below for the correct reading of expressions like –*y*.

If a positive sign precedes a number and is not part of an operation, then read as "positive."

Application of Audio Guideline

Example 1
Negative four

Example 2
Four minus negative five

Example 3
What is the distance between positive four and negative three on the number line?

Large Whole Numbers

Example 1
103,457

Example 2

Item 2:

Virginia covers one hundred two thousand, five hundred fifty-eight square kilometers of land. Which shows this number?

A   1,258
B   12,558
C   102,558
D   1,200,558

Audio Guidelines

For items not measuring place value, read large numbers by referencing all of the number place values.

If the item measures place value knowledge, read the number digit by digit using commas.

If reading the number as a whole number violates the construct being measured, read the number digit by digit.

Application of Audio Guideline

Example 1
One hundred three thousand, four hundred fifty-seven
Note: Use this application unless cueing occurs; then use the application in Example 2.

Example 2
A: one comma two five eight
B: one two comma five five eight
C: one zero two comma five five eight
D: one comma two zero zero comma five five eight

Fractions/Improper Fractions
Example 1
$$\frac{1}{2} + \frac{3}{8}$$

Example 2
$$\frac{3}{14} + \frac{15}{100} + \frac{x}{2y}$$

Example 3
$$\frac{3x + y}{z}$$

Example 4
$$\frac{6}{3}$$

Example 5

$$\frac{3x}{5} + x^2$$

Audio Guidelines

Read common fractions by presenting the numerator as the number it represents and the denominator as the ordinal number using two words for the whole presentation.

Read any fraction with numerator of _____ (pause) and denominator of _____.

If the denominator is between 2 and 10 then read it is as one third, one fourth, one sixth, one sixth, one seventh, one eighth, one ninth, or one tenth.

An exception to the first guideline is $\frac{1}{2}$, which should always be read as one-half.

An exception to the first guideline is 1 in the denominator. For example, $\frac{3}{1}$ should be read as numerator of 3 (pause) and denominator of 1.

When a fraction is complex (e.g., has more than one number in the numerator/denominator, includes an arithmetic operation, or involves parentheses/exponents) denote the numerator and denominator using the language "fraction with numerator of … (pause) and denominator of …"

When an operation follows a fraction, pause between the fraction and the next operation.

Application of Audio Guidelines

Example 1
One-half plus three-eighths

Example 2
Fraction with numerator of 3 (pause) and denominator of 14 (pause) plus fraction with numerator of fifteen (pause) and denominator of one hundred (pause) minus fraction with numerator of *x* (pause) and denominator of two *y*

Example 3
Fraction with numerator of three *X* plus *Y* (pause) and denominator of *Z*

Example 4
Six-thirds

Example 5
Fraction with numerator of three *x* (pause) and denominator of 5 (pause) plus *x* squared

Mixed Numbers

Example 1

$$4\frac{3}{4}$$

Example 2
$$5\frac{13}{28}$$

Audio Guidelines

Read with "and" between the whole number and the fraction.
Use fraction audio guidelines for reading fraction portion of mixed numbers.

Application of Audio Guidelines

Example 1
Four and three fourths

Example 2
Five and (pause) fraction with numerator of thirteen (pause) and denominator of 28

Decimal Points

Example 1
40.6500

Example 2
0.100000

Example 3
0.0000000002

Example 4
0.333. . .

Example 5
3,450.0844397

Audio Guidelines

If there are up to six repeating zeroes or numbers before or after the decimal point, read them as "zero and three repeating."

If there are more than six repeating zeroes or numbers after the decimal point (beyond millionths), say "point" and read the digits in order from left to right.

Read "repeating" where "…" represents the number of group of numbers that repeats.

Application of Audio Guidelines

Example 1
Forty point six five zero zero

Example 2
Zero point one zero zero zero zero zero

Example 3
Zero point zero zero zero (pause) zero zero zero (pause) zero zero zero two

Example 4
Zero point three repeating

Example 5
Three thousand four hundred fifty point zero eight four (pause) four three nine seven

Roman Numerals

Example 1
Find the point in quadrant II that is furthest from the origin.

Example 2
V. Three students walked to school taking different routes.

Example 3
What is the numeric value of Roman numeral VII?

Audio Guidelines

If an item uses Roman numerals but is not measuring knowledge of Roman numerals, read the Roman numeral reference and then the number.

If the item measures knowledge of Roman numeral value, read "Roman numeral" followed by the letters one at a time.

Application of Audio Guidelines

Example 1
Find the point in quadrant two that is furthest from the origin.

Example 2
Question five. Three students walked to school taking different routes.

Example 3
What is the numeric value of Roman numeral V I I?

Time

Example 1
6:30

Example 2
9 a.m.

Example 3
5:45

Example 4
5:00 p.m.

Audio Guidelines

Read the time literally without using shortcuts or reading the time in reference to a different version of time (e.g., noon, quarter of six, ten after five).

Read a.m. and p.m. without adding language about the time of day (e.g., "in the morning" or "at night.")

Application of Audio Guidelines

Example 1
Six thirty

Example 2
Nine a m

Example 3
Five forty five

Example 4
Five o'clock p m

Date

Example 1
1976

Example 2
Feb. 5, 2003

Example 3

Population of Two Cities from 1975 to 2025

City	1975	2000	2010	2025
Tokyo	26.6 million	34.4 million	36.9 million	37.1 million
Delhi	4.4 million	15.7 million	21.9 million	28.6 million

Audio Guidelines

Read years as they would be read in plain language usage. For years after 1999, read "two thousand six" (for example) before 2010 and "twenty twelve" for years after 2009. However, when years comprise the axis of a graph or a sequence of table cells, maintain consistency in going from 2009 … 2010 … 2011 and use either convention (both are acceptable usage), except do not use the "two-thousand" style for years after 2019. For years after 2099, use the same style as for years between 1900 and 1999.

Read months as the full name even if abbreviations are presented in text.

Read days as you would when reading a date instead of reading the day as number (e.g., "second" instead of "two," "third" instead of "three," or "fourth" instead of "four").

Application of Audio Guidelines

Example 1
Nineteen seventy six

Example 2
February sixth, two thousand three

Example 3
… city … nineteen seventy five … two thousand … two thousand ten … twenty twenty five … (Refer to the section entitled "Tables" for more information.)

Ordered Pairs

Example
Point *X* is (−2, 4)

Audio Guideline

Read coordinate pairs as "ordered pair X, Y."

Application of Audio Guideline

Point X is ordered pair negative two, four.

Probability

Example
$P(orange) = \frac{1}{6}$

Audio Guideline

"P(text)" is the notation for probability. When reading a probability, do not read parentheses as "open parenthesis/close parenthesis." Read as "P of" word in parentheses "is" remaining text.

Application of Audio Guideline

Example
P of orange is one-sixth

Expressions/Equations/Operations

Multiplication

Example 1
3 x 5 = *X*

Example 2
xy + 4*x* = 10

Example 3
(3 + *x*)(*y* − 2)

Audio Guidelines

Read the multiplication symbol as "times" when it appears in a math item.

When a number, symbol, or another set of parentheses appears before a set of parentheses, read the number or symbol as is and "open parenthesis" before what is within the parentheses. When multiple sets of parentheses appear consecutively, read as "open parenthesis" and "close parenthesis."

If there are two variables or a variable and a number consecutively, do not read "times" to represent implied multiplication.

Application of Audio Guidelines

Example 1
Three times five equals *X*.

Example 2
Xy plus four x equals ten.

Example 3
Open parenthesis three plus *x*, close parenthesis, (pause) open parenthesis *y* minus two, close parenthesis.

Addition

Example
4 + 2 + 3

Audio Guideline

Read as "plus."

Application of Audio Guideline

Four plus two plus three

Subtraction

Example
5 – 3

Audio Guideline

Read as "minus."

Application of Audio Guideline

Five minus three

Division

Example 1
12 ÷ 4

Example 2
What is 57 ÷ 5
A: 10 R7
B: 11 R2
C: 12

Audio Guideline

Read as "divided by."

If the item presents the remainder as "R" read as "remainder" unless the item is measuring the meaning of "R." In this case, read it as "R."

Application of Audio Guideline

Example 1
Twelve divided by four

Example 2
What is fifty-seven divided by five?
A: ten, remainder seven
B: eleven, remainder two
C: twelve

Parentheses

Example 1
$3(x + y) = 6$

Example 2
$2(x + 3) + \dfrac{(y-2)}{3} = 9$

Example 3
$(x + 4)[(x + 4) - (x - 2)]$

Audio Guideline

Read the parentheses by referring to the opening of the parentheses using the language "open parenthesis" and the closing of the parentheses using the language "close parenthesis."

It is important to reference the close of the parentheses to be clear on when the parenthetical expression ends.

When reading an equation or expression with multiple parts and sets of parentheses, pause to help differentiate between sections.

Read brackets using the same language as parentheses in the first guideline.

Application of Audio Guideline

Example 1
Three (pause) open parenthesis *x* plus *y* close parenthesis (pause) equals six.

Example 2
Two (pause) open parenthesis *x* plus three close parenthesis (pause) plus (pause) fraction with numerator of open parenthesis *y* minus two close parenthesis (pause) and denominator of three (pause) equals nine.

Example 3
Open parenthesis *x* plus four close parenthesis, open bracket, open parenthesis, *x* plus four close parenthesis minus open parenthesis x minus two close parenthesis, close bracket.

Mathematical Exponents ($x^2, x^3, 4^5$)

Example 1
$y = x^2$

Example 2
$y = 4^5 + 2$

Example 3
$y = 2^{x+5} + 3$

Example 4
$16^{3/2} = 8^2$

Example 5
$3^{5.5} = (z+8)^{x/z}$

Audio Guidelines

Read the base first—the base can be either a numeral or the variable.

If the exponent has a value of 2, then read "squared." If the exponent has a value of 3, read "cubed;" otherwise, read "raised to the_ power" where_ denotes either the ordinal of the number   (fourth, sixth, negative seventy-sixth, etc.) if the exponent is an integer or the expression, as specified elsewhere in these guidelines, if the exponent is anything other than an integer.

To indicate a return to the base, use a pause.

Read fraction exponents following the fractions rule.

Application of Audio Guidelines

Example 1
Y equals *x* squared.

Example 2
Y equals four raised to the sixth power (pause) plus two.

Example 3
Y equals two raised to the *x* plus five power (pause) plus three.

Example 4
Sixteen raised to the three halves power equals eight squared.

Example 5
Three raised to the five point five power equals open parenthesis *Z* plus 8 close parenthesis, raised to the fraction with numerator of *x* and denominator of 2 power.

Variables/Letters

Example 1
$x + y = 3$

Example 2
In the triangle, what is the measurement of angle *A* that is opposite side *a*?

Example 3
$N + 4$

Example 4
$- x^3$

Audio Guideline

Read lowercase variables in a math item without referring to case.

If uppercase variables are used in a math item along with lowercase variables, then specify both cases using the language "lowercase" and "uppercase."

If an uppercase variable appears in a math item without a lowercase variable, then do not specify uppercase.

If a variable is preceded by a negative sign, read as "opposite of" the variable, rather than the "negative of" the variable.

Application of Audio Guideline

Example 1
X plus y equals three.

Example 2
In the triangle below, what is the measurement of angle uppercase A that is opposite side lowercase a?

Example 3
N plus four

Example 4
Opposite of x cubed

Logs

Example 1
$Log_{10} 100 = 2$

Example 2

$\boxed{69}$ If $\log 2 \approx 0.301$ and $\log 3 \approx 0.477$, what is the approximate value of $\log 72$?

   A   0.051

   B   0.778

   C   0.861

   D   1.857

Example 3
$\ln x$

Audio Guidelines

Read "log" followed by the base, the word "of," and then the number or variable.

If the log is shown without an explicit base, then read as "log" and the number or variable shown. Do not interpret the implied base of 10 if it is not written.

Read "$\ln x$" as "natural log of x."

Application of Audio Guidelines

Example 1
Log base ten of one hundred equals two.

Example 2
If log two is approximately equal to zero point three zero one and log three is approximately equal to zero point four seven seven, what is the approximate value of log seventy-two?

Example 3
Natural log of x

Radicals

Example 1
$\sqrt{7}$

Example 2
$\sqrt[4]{144} = \sqrt[x]{288}$

Example 3
$\sqrt[m+n]{x+y}$

Example 4

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

Audio Guidelines

For radicals with an implied radical index of two, read as "the square root of *x*."

For radicals with a radical index of three, read as "the cube root of *x*."

For radicals with a number for a radical index other than two or three, start by reading the index as "the *X*th root of."

If the radical index is a variable, read as "the *x* root of *y*."

When multiplying numbers by radicals (e.g.,), say "*x* times the square root of *y*."

Application of Audio Guidelines

Example 1
The square root of two

Example 2
The fourth root of one hundred forty-four equals the x root of two hundred eighty-eight.

Example 3
The *m* plus n root of quantity *x* plus *y*

Example 4
X equals, fraction with numerator of, opposite of *B*, plus or minus the square root of quantity, *B* squared minus four *A C*, and denominator of two *A*.

Absolute Values

Example 1
|−16|

Example 2
|2 + 7|

Example 3
|*x*| + 1

Audio Guidelines

Read as "the absolute value of."

Pause if an absolute value is part of a larger expression or equation.

Application of Audio Guidelines

Example 1
The absolute value of negative sixteen

Example 2
The absolute value of quantity two plus seven

Example 3
The absolute value of x (pause) plus one.

Functions (*f(x)*)

Example 1
$f(x) = 5$

Example 2
$f(x + 1)$

Example 3
$f(g(x))$

Example 4
$f^{-1}(x) = -x - 2$

Audio Guidelines

For function notation in general, read the first letter shown then the word "of," followed by the variable and/or number in parentheses.

When the expression inside the parentheses is more complex or includes another function, use the same rule of reading the letter first, then the word "of," followed by the variable or expression in parentheses.

When the inverse of a function is presented, read it as "f inverse of x."

Application of Audio Guidelines

Example 1
F of *x* equals five

Example 2
F of open parenthesis *x* plus one close parenthesis

Example 3
F of g of *x*

Example 4
The inverse of *f* of *x* equals negative two-thirds *x* minus two.

For function tables where one column/row is paired with one row/column:

The table should be read as it is organized, as (*x*, *y*) pairs, according to p. 44 (If the orientation of the table lends itself to reading the table information column by column and this is a more logical manner to present the table, then do so.)

Example
This table shows a relationship between x and y:

x	y
3	14
7	30
9	38

"The table has two columns and three rows. The first column heading is, *x*; the second column heading is, *y*. First row, 3, 14; second row, 7, 30; third row, 9, 38."

Example
This table shows a relationship between *x* and *y*:

x	3	7	9
y	14	30	38

"The table has two rows and three columns. The first row heading is, *x*; the second row heading is, *y*. First column, 3, 14; second column, 7, 30; third column, 9, 38."

System of Equations/Inequalities

Example 1
$$\begin{cases} x + y = 4 \\ x - y = 2 \end{cases}$$

What is the solution to the system of equations?

Example 2

7 Which point lies in the solution set for the

system $\begin{cases} 2y - x \geq -6 \\ 2y - 3x < -6 \end{cases}$?

A $(-4, -1)$
B $(3, 1)$
C $(0, -3)$
D $(4, 3)$

Audio Guidelines

Start by reading "system of equations" or "system of inequalities." Then read the information in the system starting from the top to the bottom; reference the row position and insert a pause between rows.

Read equations and inequalities according to equation and inequality guidelines above.

Application of Audio Guidelines

Example 1
System of equations. Top row, x plus y equals four (pause) bottom row, *x* minus *y* equals two. What is the solution to the system of equations?

Example 2
Which point lies in the solution set for the system, top row, two *y* minus *x* is greater than or equal to negative six (pause) bottom row, two *y* minus three *x* is less than negative six.

Trigonometry

Example 1
$\sin15°=\cos75°$

Example 2
$\tan\theta = -1$

Audio Guidelines

Read the abbreviated versions of trigonometry functions in full words if doing so does not violate the construct being measured.

If the item is measuring knowledge of these abbreviations read letter by letter.

Use the Greek alphabet in reading trigonometric functions and items. The most used letter is theta (Θ)

Application of Audio Guidelines

Example 1
Sine fifteen degrees equals cosine seventy five degrees

Example 2
Tangent theta equals negative 1

Tables

Example 1

Seashell Collection

Size	Number of Seashells
Small	3
Medium	6
Large	4

Example 2

Rock Types

	Shiny	Air Holes	Flat Layers	Fossils
Metamorphic	X		X	X
Igneous	X	X		
Sedimentary			X	X

Audio Guideline

Text Only

Read the table title only. Allow for all content elements in the table to be read on demand.

Text and Graphics

Read the table title, and then state the number of rows and columns. Then read the column headings from left to right followed by reading the information in each row from left to right.

If the orientation of the table lends itself to reading table information column by column and this is a more logical manner to present the table, then do so.

Read the units of measure for each cell unless they are not specified in the table.

When reading a data table that has blank cells, skip over them if they are unnecessary to answer the question. Blank cells should be read if this information is essential to answer the item.

Remain consistent with the style of reading from table to table. Using a standardized version will help students better understand the patterns of the descriptions.

Many charts that are set up in a table format can be read in the manner described. Determine the layout of such charts before deciding the best way to read the information being presented.

Application of Audio guidelines

Example 1
The table title is Seashell Collection. The table has two columns and three rows. The first column heading is Size, the second column heading is Number of Seashells; first row, Small, three seashells; second row, Medium, six seashells; third row, Large, four seashells.

Example 2
The table title is Rock Types. The table has four columns and three rows. The first column heading is Shiny, the second column heading is Air Holes, the third column heading is Flat Layers, and the fourth column heading is Fossils; first row, Metamorphic, Shiny, Flat Layers, Fossils; second row, igneous, Shiny, Air Holes; third row, Sedimentary, Flat Layers, Fossils.

Tally Charts

Example

Name	Number of Votes
Tigers	ⵂ⵾	
Rockets	|||
Sharks	ⵂ⵾ ||
Bobcats	||||

Audio Guideline

Text Only

Read the tally chart title only. Allow for all content elements in the chart except for the tally marks to be read on demand.

Text and Graphics

Read the tally chart title, column headings, and row headings.

Read the number of tally marks only if it does not violate the construct being measured. If reading tally marks does violate the construct being measured, tactile representation is required to make this item accessible to blind students and some low-vision students.

Application of Text and Graphics Guidelines

Example
The tally chart has two columns and four rows. The first column heading is Name, and the second column heading is Number of Votes; first row, Tigers, six votes; second row, Rockets, three votes; third row, Sharks, seven votes; fourth row, Bobcats, four votes.

Bar Graphs

Example 1
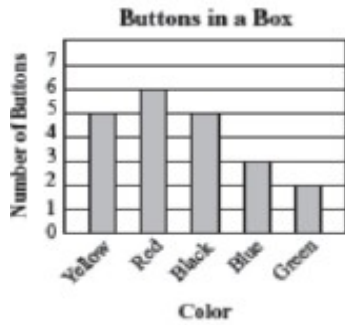
Example 2
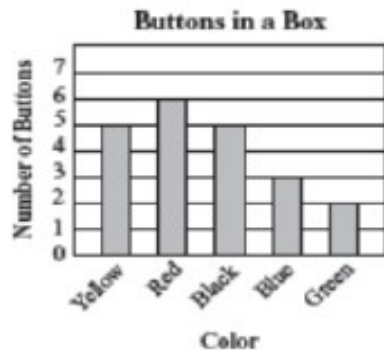
How many red buttons are in the box?

Example 3
Kate asked the students in her class what their favorite fruit was. The results of her survey are shown in the graph below.
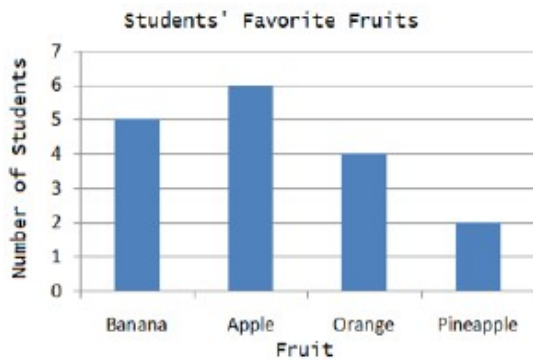
Audio Guideline

Text Only

Read the bar graph title. Allow for all words and numbers on the bar graph to be available to be read on demand.

Text and Graphics

Read the bar graph title first, followed by the x-axis label and the y-axis label. Do not read values on either axes until describing the bars.

Describe each bar, being careful to take into account the question, so as not to violate the construct being measured. In each description, use the units of measure for the values on the x- and y- axes if applicable.

If a bar is between two horizontal lines, then do not estimate or approximate numbers. Instead, use more general language such as "a little less than," "a little more than," and "midway between."

If the item measures the student's ability to identify the number associated with the bar, then describe the graph without noting the heights of the bars. In this case, tactile representation is required to make this item accessible to blind students and some low-vision students.

Application of Text and Graphics Guidelines

Example 1
The bar graph title is Buttons in a Box. The x-axis label is Color and the y-axis label is Number of Buttons; Yellow bar, five buttons; Red bar, six buttons; Black bar, five buttons; Blue bar, three buttons; Green bar, two buttons.

Example 2 (item specifically asks students to identify the value associated with a bar)
The bar graph title is Buttons in a Box. The x-axis label is Color and shows five colors: Yellow, Red, Black, Blue, and Green. The y-axis label is Number of Buttons.

Example 3
The bar graph title is Students' favorite fruits. The x-axis label is Fruit, and the y-axis label is Number of students. Four bars are shown, from left to right, banana, apple, orange, pineapple.

Three functions plotted on a graph
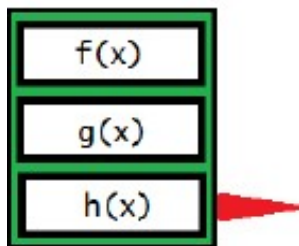
If this graph is described with a tool like that above used to select different graphs on the same coordinate plane, it should be read as follows:

First row, F of X; second row, G of X; third row, H of X.

Note: If only two types of graph can be selected with the tool, it may be appropriate to read according to instructions beginning on page 43 for systems of equations (top row … bottom row …).

Histograms

Example 1

13   Abe tested 85 Brand X light bulbs to determine their life spans. The histogram below shows the results of his test.

**Life Spans of
85 Brand X Light Bulbs**
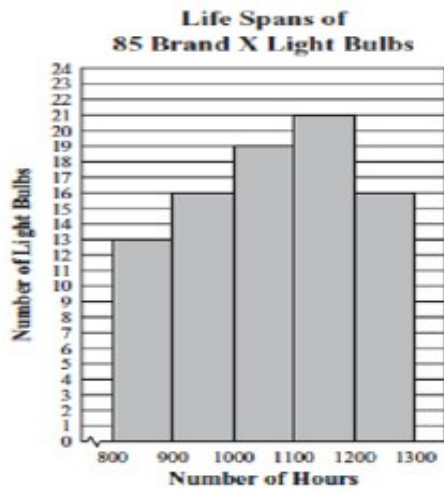
What was the total number of Brand X light bulbs that had life spans greater than or equal to 1000 hours?

A. 72
B. 56
C. 51
D. 21

Example 2

13 Abe tested 85 Brand X light bulbs to determine their life spans. The histogram below shows the results of his test.

Life Spans of 85 Brand X Light Bulbs
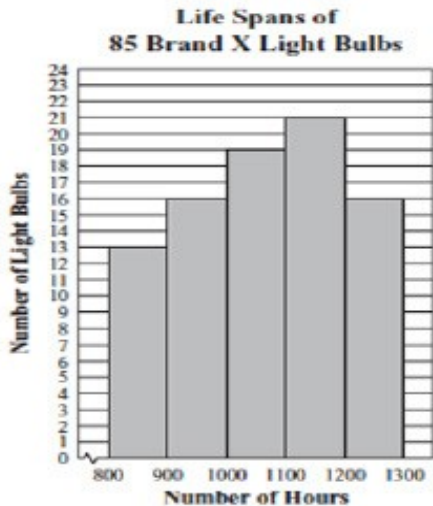
What was the total number of Brand X light bulbs that had life spans greater than or equal to 1000 hours?

A. 72
B. 56
C. 51
D. 21

Audio Guideline

Text Only

Read the histogram title. Allow for all words and numbers on the histogram to be available to be read on demand.

Text and Graphics

Read the histogram title first, followed by the x-axis label and the y-axis label.

Describe each bar range on the x-axis, being careful to take into account the question, so as not to violate the construct being measured. In each description use the units of measure on the x- and y-axis labels if applicable.

If a bar is between two horizontal lines, then do not estimate or approximate numbers. Instead, use more general language such as "a little less than," "a little more than," and "midway between."

If the item measures the student's ability to identify the number associated with the bar, then describe the graph without noting the heights of the bars. In this case, this item is not accessible to blind and some low-vision students without tactile representation.

If there are a large number of bars (more than 10) consider associating bars together or focusing on trends or more general frequency in your description.

Application of Text and Graphics Guidelines

Example 1
The histogram title is Life Spans of Eighty-Five Brand X Light Bulbs. The x-axis label is Number of Hours and the y-axis label is Number of Light Bulbs; bar one, eight hundred through eight hundred ninety nine hours, thirteen light bulbs; bar two, nine hundred through nine hundred ninety nine hours, sixteen light bulbs; bar three, one thousand through one thousand ninety nine hours, nineteen light bulbs; bar four, one thousand one hundred through one thousand one hundred ninety nine hours, twenty one light bulbs; bar five, one thousand two hundred through one thousand two hundred ninety nine hours, sixteen light bulbs.

Example 2 (item specifically asks student to read information from one of the bars)
The histogram title is Life Spans of Eighty-Five Brand X Light Bulbs. The x-axis label is Number of Hours and the y-axis label is Number of Light Bulbs. Five bars show the number of light bulbs with a life span of eight hundred through eight hundred ninety nine hours, nine hundred through nine hundred ninety nine hours, one thousand through one thousand ninety nine hours, one thousand one hundred through one thousand one hundred ninety nine hours, one thousand two hundred through one thousand two hundred ninety nine hours.

Line Graphs

Example 1

Example 2

Roller Rink Costs

Key
- - - Roller Rink A
——— Roller Rink B
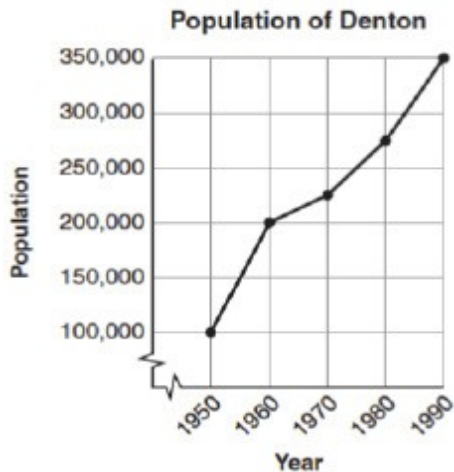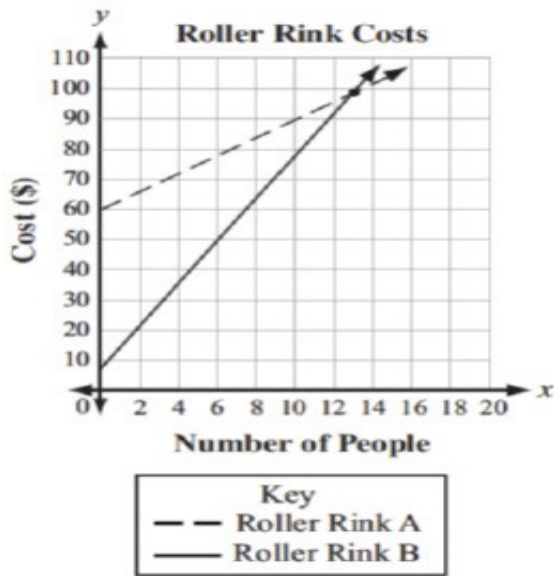
Audio Guidelines

Text Only

Read the graph title only. Allow for all words and numbers in the graph area to be available to be read on demand.

Text and Graphics

For all graphs, read the title first.

Read the Key title and then key section (refer to Key rule specifically).

Read the axis labels.

When describing the graph, be as concise as possible while providing the necessary information to understand and answer the question.

If a line or point being described falls between two marked x- or y-axis values, then do not estimate or approximate numbers Instead, use more general language such as "a little less than," "a little more than," and "midway between."

It is not necessary to describe the visual attributes of the graph unless there is an explicit need, such as a key that references line types or an item referencing the attributes or if doing so would help the student is reading a tactile or a magnified version of the test.

If the description violates the construct being measured, then consider amending it to give less specific information. In this case, tactile representation is required to make this item accessible to blind students and some low-vision students.

When possible, reference the starting and ending point of the line segments or starting points of rays to provide context to the student.

Application of Text and Graphics Guidelines

Example 1
The graph title is Population of Denton. The *x*-axis label is Year and the *y*-axis label is Population. The line starts at nineteen fifty, one hundred thousand, rises to nineteen sixty, two hundred thousand, then nineteen seventy, midway between two hundred and two hundred fifteen thousand, then nineteen eighty, midway between two hundred fifty and three hundred thousand, and ends at nineteen ninety, three hundred fifty thousand.

Example 2
The graph title is Roller Rink Costs. Key, dashed line represents Roller Rink A, solid line represents Roller Rink B. The *x*-axis is labeled Number of People. The *y*-axis is labeled Cost (in dollars). The dashed line starts at zero people, sixty dollars and moves up through midway between twelve and fourteen people, one hundred dollars and fourteen people, a little more than one hundred dollars. The solid line starts at zero people, a little less than ten dollars and moves up through between twelve and fourteen people, one hundred dollars and fourteen people, a little less than one hundred ten dollars.

Box Plots

Example 1
The box plot shows the distribution of the daily high temperatures, in degrees Fahrenheit, in the town of Clifton during the year 2004.

Daily High Temperatures (in degrees Fahrenheit)
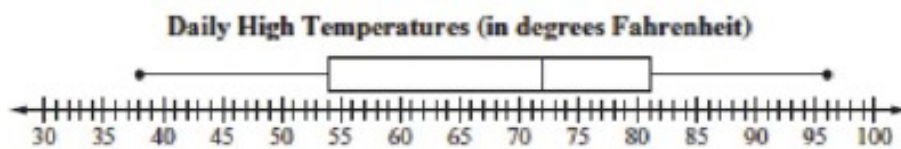
Based on the box plot, in which of the intervals of temperatures is it most likely that exactly 50% of the daily high temperatures are located?

Example 2

The box plot represents the daily high temperatures at a beach in April

Daily High Temperatures
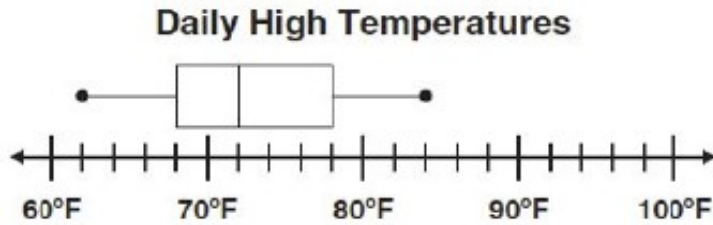
What was the median daily high temperature?

Example 3

Heights of Plants (cm)
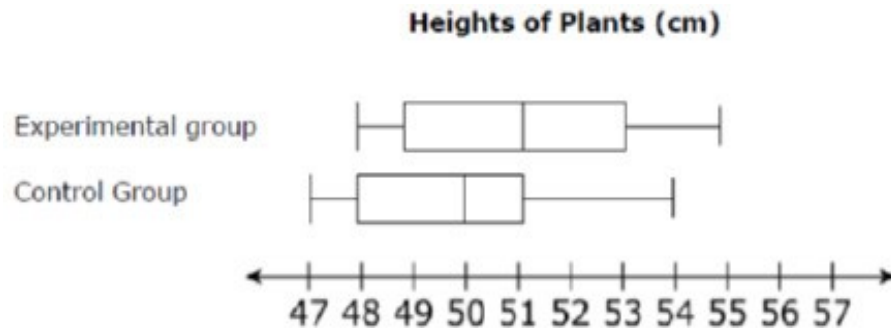
Audio Guidelines

Read the box plot title. Allow for all words and numbers on the box plot to be available to be read on demand.

Text and Graphics

Start by reading the title of the plot and reference that it is a box plot. Read the box titles or any other words on the plot if applicable.

Read the information along the bottom of the graph from left to right.

If the item measures knowledge of the box plot or if the description violates the construct being measured, then describe the box plot without using specific terminology (e.g., whiskers, quartiles, or median). In this case, tactile representation is required to make this item accessible to blind students and some low-vision students.

If a line or point being described falls between two marked values, then do not estimate or approximate number. Instead use more general language such as "a little less than," "a little more than," and "midway between."

Describe the graph elements using specific box plot terminology—including whiskers, quartiles, box, and median—unless doing so violates the construct being measured.

Application of Text and Graphics Guidelines

Example 1
The title of the box plot is Daily High Temperatures (in degrees Fahrenheit). The number line ranges from thirty degrees Fahrenheit to one hundred degrees Fahrenheit. The whiskers range from thirty-eight degrees to ninety-six degrees and the box ranges from fifty-four to eighty-one degrees with a median of seventy-two degrees.

Example 2
The title of the box plot is Daily High Temperatures. The number line ranges from sixty degrees Fahrenheit to one hundred degrees Fahrenheit with markers every ten degrees. The whiskers range from sixty-two degrees to eighty-four degrees and the box ranges from sixty-eight degrees to seventy-eight degrees with an **interior vertical line segment** at seventy-two degrees.

Example 3
The title of the box plot is Heights of Plants (centimeters). The number line ranges from 47 to 57 with markers every whole number. For the experimental group, the whiskers range from 48 centimeters to 55 centimeters and the box ranges from 49 centimeters to 53 centimeters with a median of 51 centimeters. For the control group, the whiskers range from 47 centimeters to 54 centimeters and the box ranges from 48 centimeters to 51 centimeters with a median of 50 centimeters.

Scatter Plots

Example 1

Shipping Shoes

Example 2

RAINFALL AND PLANT GROWTH
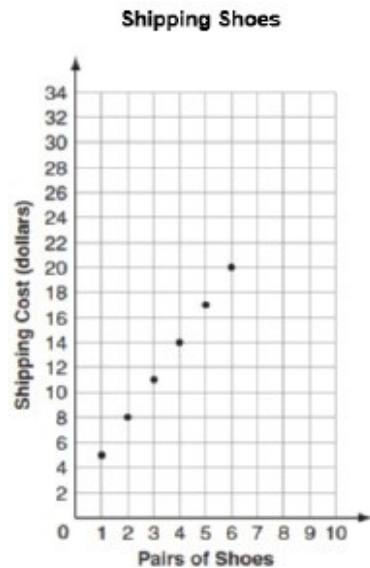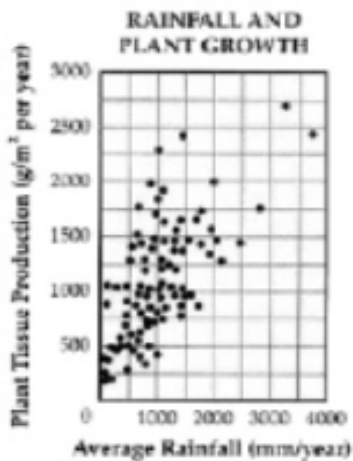
Audio Guidelines

Text Only

Read the title of the scatter plot. Allow for all words and numbers on the scatter plot to be available to be read on demand.

Text and Graphics

For scatter plots, start by reading the title and x-axis and y-axis labels. Include the x- and y-axes ranges if necessary to access the item. In some cases, the rightmost extension of the x-axis and/ or topmost extension of the y-axis has no value specified. When specifying the ranges, use either the greatest number listed or the actual value at the rightmost or topmost extension of the axes, whichever is more appropriate.

For a scatter plot with fewer than ten data points, reference each data point. Include units of measure while describing data points only if deemed relevant.

If a line or point being described falls between two marked x- or y-axes values do not estimate or approximate numbers. Instead use more general language such as "a little less than," "a little more than," and "midway between."

If a scatter plot has more than ten data points, then focus on the change of concentration. When possible, read at least a couple of data points (first and last preferably) to put the plot into context.

For some items with scatter plots, tactile representation is required to make the item accessible to blind students and some low-vision students.

Application of Text and Graphics Guidelines

Example 1
The graph is a scatter plot titled "Shipping Shoes." The x-axis is labeled Pairs of Shoes and ranges from zero to ten in increments of one. The y-axis is labeled Shipping Cost (dollars) and ranges from

zero to thirty-four in increments of two. The scatter plot has points at one, midway between four and six; two, eight; three, midway between ten and eleven, four, fourteen; five, midway between sixteen and eighteen; and six, twenty.

Example 2

The graph is a scatter plot titled Rainfall and Plant Growth. The x-axis is labeled Average Rainfall and ranges from zero to four thousand, in units of millimeters per year, in increments of one thousand. The y-axis is labeled Plan Tissue Production in units of grams per meter squared per year, ranging from zero to three thousand, in increments of five hundred. The graph has approximately eighty-five points scattered in a pattern beginning in the lower-left corner where Plant Tissue Production and Average Rainfall are the lowest. The pattern extends toward the upper-right corner where Plant Tissue Production and Average Rainfall are the highest. The majority of points is concentrated in the lower-left corner and diminishes in concentration as the pattern extends toward the upper-right corner.

Coordinate Planes

Example 1

23. Points Q, R, and W are plotted on the coordinate grid.
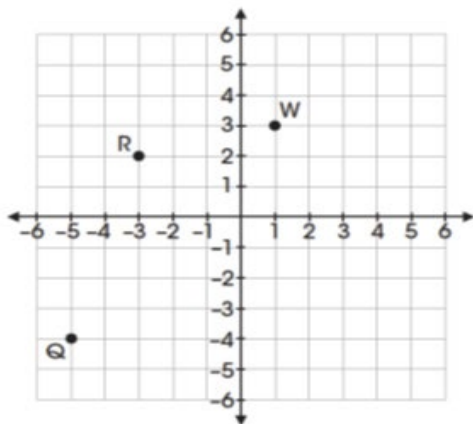
Where should point Z be plotted so that parallelogram QRWZ is formed?

A. $(-2, -6)$

B. $(-1, -3)$

C. $(3, -2)$

D. $(2, -1)$

Example 2

18. Mr. Yang is driving to the school located at (2, 0) on the coordinate grid.
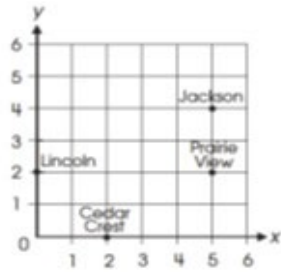
Which school is located at (2, 0)?

○ A. Cedar Crest

○ B. Jackson

○ C. Lincoln

○ D. Prairie View

Example 3

Use the diagram below to answer question 7.
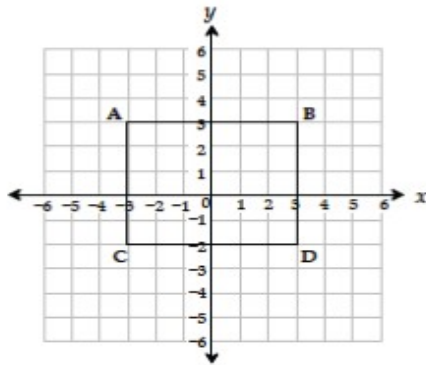
7. Which ordered pair identifies the location of vertex C?

A (−3, −2) *

B (−3, 3) | vertex A |

C (3, −2) | vertex D |

D (−2, −3) | vertex C reversed |

Audio Guidelines

Text Only

Start by reading the title of the coordinate plane. Allow for all words and numbers on the coordinate plane to be available to be read on demand.

Text and Graphics

Read the title of the coordinate plane first.

Read the range of each axis. In some cases, the extensions of the *x*- and/or *y*-axis have no value specified. When specifying the ranges, use either the greatest (or least for bottom and left extensions) number listed or the actual value at the furthest extension of the axes, whichever is more appropriate.

Read the points or words on the grid in a logical manner (clockwise, following the listing of a shape, etc.) referencing their location on the grid.

If a line or point being described falls between two marked *x*- or *y*-axis values, then do not estimate or approximate numbers. Instead, use more general language such as "a little less than," "a little more than," and "midway between."

If reading the location of the points violates the construct being measured, do not read the point, but reference that they are on the grid. In this case, tactile representation is required to make the item accessible to blind students and some low-vision students.

If there is a shape on the grid, then read the type of shape or name of it first, and then reference the axis points of all sides, if relevant. If referencing the axis points violates the construct being measured, then provide a description of the shape without these points.

If an empty grid is presented in an item as part of the prompt, question. Or answer, then read the title and the *x*- and *y*- axes scale.

Application of Text and Graphic Guidelines

Example 1
A coordinate plane with *x*- and *y*-axes ranging from negative six to six; point *Q*, negative five, negative four; point R, negative three, two; and point *W*, one, three.

Example 2
A coordinate plane with x- and y-axes ranging from zero to six. The grid shows the location of the four schools: Jackson, Prairie View, Cedar Crest, and Lincoln.

Example 3
A coordinate plane with *x*- and *y*-axes ranging from negative six to six. Rectangle *ABCD* is shown on the grid.

Exponential/Linear Function Graphs

Example 1

31. The graph of the function $f(x)$ is shown below.
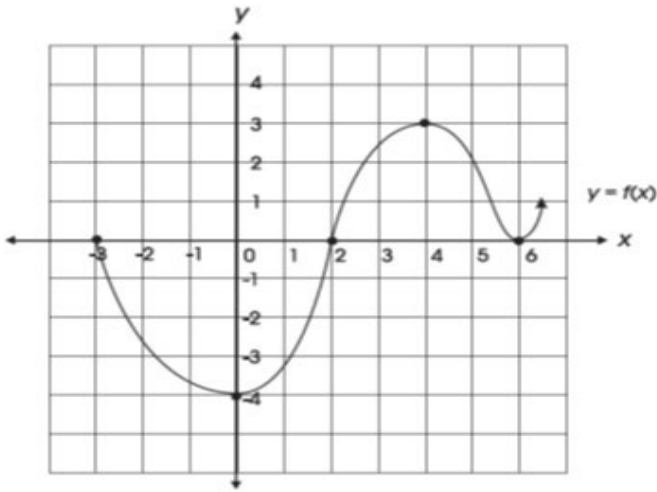
Which of the following is NOT a zero of $f(x)$?

A. −4
B. −3
C. 2
D. 6

Example 2

10 Look at this graph of $y = x^2$.
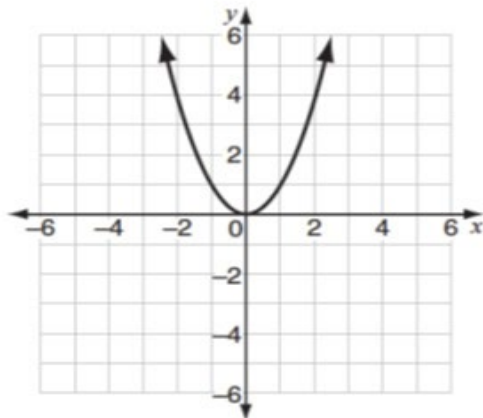
If $y = x - 2$ is graphed on the same coordinate plane, at how many points would the two graphs intersect?

A. 0
B. 1
C. 2
D. 3

Audio Guidelines

Text Only

Start by reading the title of the graph. Allow for all words and numbers on the graph to be available to be read on demand.

Text and Graphics

Read the title of the graph first.

Read the range of each axes and any words or symbols that are on the graph. In some cases, the extensions of the x- and/or y-axis have no value specified. When specifying the ranges, use either the greatest (or least for bottom and left extensions) number listed or the actual value at the furthest extension of the axes, whichever is more appropriate.

Describe the shape of the graph. Use relevant points including starting and ending points or x or y intersection points to aid the description.

If a line or point being described falls between two marked x- or y-axes values, then do not estimate or approximate numbers. Instead use more general language such as "a little less than," "a little more than," and "midway between."

If reading the location of any points violates the construct being measured, then do not read these points. If describing the shape or direction of the graph violates the construct, then do not read the details of the shape of the graph. In this case, tactile representation is required to make the item accessible to blind students and some low-vision students.

Application of Text and Graphics Guidelines

Example 1
A graph showing the function y equals f of x. The x-axis ranges from negative four (or three) to seven (or six), and the y-axis ranges from negative six (or negative four) to five (or four). The graph is in the shape of a wave. The graph starts at negative three zero, goes through zero negative four, then two zero, then four three, then six zero, and ends with an arrow pointing up at a midway between six and seven, one.

Example 2
A graph showing y equals x squared. The x- and y-axes ranges from negative six to six. The graph is a parabola that starts with an arrow at midway between negative two and negative three, six, and then the line moves down through zero zero, and ends with an arrow at midway between two and three, six.

System of inequalities

Example
Which graph represents the solution to this system of inequalities?
$y > 2x - 4$
$3x - 6y \geq 6$
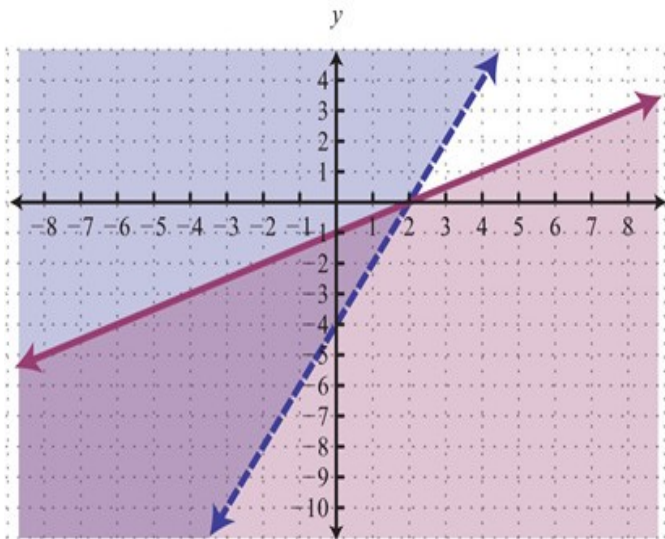
Application of Audio Guidelines

Text and Graphics

Which graph represents the solution to this system of inequalities, top row, Y is greater than 2 X minus 4; bottom row, 3 X minus 6 Y is greater than or equal to 6. A. A graph showing two lines and shaded regions. The X axis ranges from negative 9 to 9. The y axis ranges from negative 11 to 5. The purple line is solid and starts at negative 9, a little less than negative 5; rises to zero, negative 1; then 2, zero; and ends at 9, a little more than 3. The area below the solid line is shaded purple. The blue line is dashed and starts at a little less than negative 3, negative 11; rises to zero, negative 4; then 2, zero; and ends at a little more than 4, 5. The area to the left of the dashed line is shaded blue. The area in between the solid purple line and the dashed blue line is shaded light gray.

Diagrams/Figures/Keys

Tree Diagram

Example 1

11 The tree diagram below shows all of the outfits Jay can choose to wear today. An outfit has one color of shirt, one color of pants, and one color of shoes.
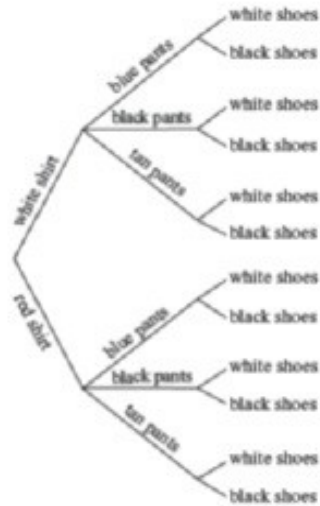
What is the total number of possible outfits with a white shirt?

A. 9
B. 6
C. 3
D. 1

Audio Guidelines

Text Only

Read the tree diagram title. Allow for all words and numbers on the tree diagram to be available to be read on demand.
Text and Graphics

Read the tree diagram title and brief description along with stating the direction of the tree diagram.

Start with the innermost parts of the tree and describe the different limbs in an order that is easy to follow.

Describe all of the elements of the tree diagram with standardized language.

Application of Text and Graphics Guidelines

A tree diagram showing outfit combinations of shirts, pants, and shoes. The diagram displays information from left to right starting with shirts on the leftmost branches. On the top half of the

tree, white shirt branches to blue pants, black pants, and tan pants. Each of these pants branches stems to the outermost branches of white shoes and black shoes. On the bottom half of the tree, red shirt branches to blue pants, black pants, and tan pants. Each of these pants branches stems to the outermost branches of white shoes and black shoes.

Keys

Example
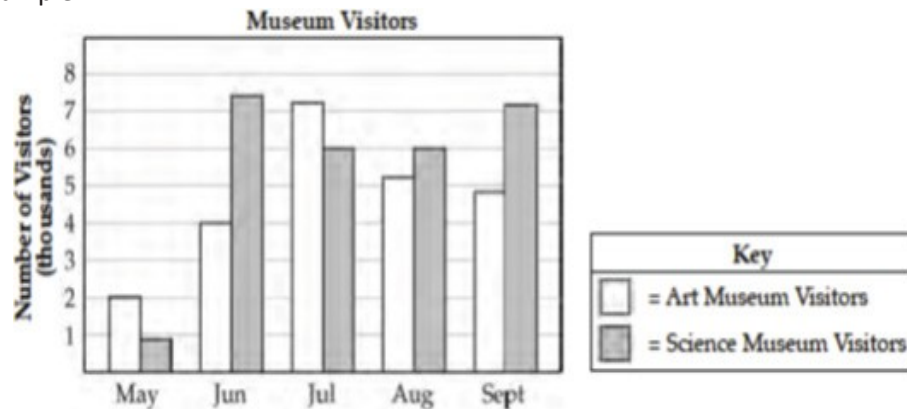
Audio Guidelines

Text Only

Read the word Key after reading the graph/diagram title. Allow for all words and numbers in the key to be available to be read on demand.

Text and Graphics Guidelines

Read the graph/diagram title and then the key.

Describe the key in detail, including shapes, shades, and so on. Use "represents" to associate icon with text. (e.g., –10 miles. Dashed line represents ten miles.)

Read the graph/diagram using the key symbols. (e.g., May, white bar, two; May, gray bar, a little less than one)

Application of Text and Graphics Guidelines

Example
The bar graph title is Museum Visitors. In the Key, the white bar represents Art Museum Visitors, while the gray bar represents Science Museum Visitors. The x-axis shows five months; the y-axis is labeled Number of Visitors (thousands); May, white bar, two; May, gray bar, a little less than one; June, white bar, four; June, gray bar, midway between seven and eight; July, white bar, a little more than seven; July, gray bar, six; August, white bar, a little more than five; August, gray bar, six; September, white bar, a little less than five; September, gray bar, a little more than seven.

Line Plots

Example

16 Look at this line plot.

Books We Read in May

Number of Books

Key
× represents 1 student
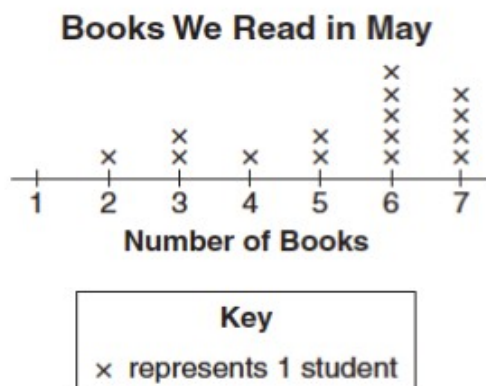
Audio Guideline

Text Only

Read the line plot title. Allow for all words and numbers on the line plot and on the key to be available to be read on demand.

Text and Graphics

Read the title of the line plot, the key, and then the *x*-axis title (refer to this as the number line plot title if the term "axes" has not been taught in the grade being assessed).

Use the key symbol to describe the line plot instead of interpreting the symbol.

If there are no x's or symbols above a number, then read this as zero instead of skipping it.

Be careful not to violate the construct being measured. Read the range of numbers on the *x*-axis without reading the data, if necessary. In this case, tactile representation is required to make the item accessible to blind students and some low-vision students.

Application of Text and Graphics Guidelines

Example
The title of the line plot is Books We Read in May. The key shows that an x represents one student. The number line title is Number of Books and ranges from one to seven in increments of one; at line plot one, zero x's are shown; at line plot two, one x is shown; at line plot three, two x's are shown; at line plot four, one x is shown; at line plot five, two x's are shown; at line plot six, five x's are shown; and at line plot seven, four x's are shown.

Shaded Figures (Grids, Bars, and Shapes)

Example

❶ A fraction of the fish shown below are shaded gray.

Which grid is shaded gray to represent a fraction with the same value?

A.

B.

C.

D.
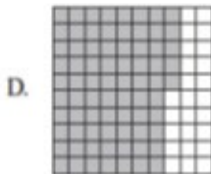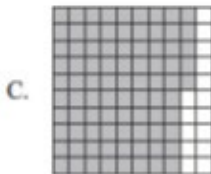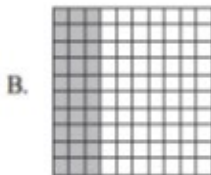
Audio Guidelines

Text Only

Read the title of the shaded figure. Allow for all words and numbers in the figure to be available to be read on demand.

Text and Graphics

Read the title if there is one, and then describe the dimensions of the figure first. If possible, read the dimensions of the figure (ten by ten) instead of just the number of boxes.

Explain how many boxes are shaded, but do not use the terminology "*x* of *y*" boxes are shaded. This creates the fraction for the student and will often violate the construct being measured.

Do not state the total number of boxes shaded when information can be provided that students should use to determine the number of boxes shaded. (e.g., seven columns of ten boxes shaded, instead of seventy boxes)

Application of Text and Graphics Guidelines

Example
A fraction of the fish shown below is shaded gray. The graphic shows four fish. Three of them are shaded gray.
Which grid below is shaded gray to represent a fraction with the same value?
A: ten by ten box grid with seven boxes shaded
B: ten by ten box grid with three columns of ten boxes shaded
C: ten by ten box grid with eight columns of ten boxes shaded and five additional boxes shaded
D: ten by ten box grid with seven columns of ten boxes shaded and five additional boxes shaded

Pictographs

Examples
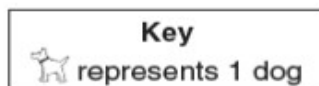
Audio Guidelines

Text Only

Read the title of the pictograph. Allow for all words and numbers in the pictograph or key to be available to be read on demand.

Text and Graphics

Start by reading the title of the pictograph and then the key.

If the pictograph is in a table format, then refer to the table guidelines.

If the pictograph is in a graph format, then refer to the graph guidelines.

Reference the picture being used in general terms without describing it in detail. Use the key to read the pictograph without interpreting it. When the pictograph, reference "picture of x," since the scale may not be one to one.

In some cases, tactile representation is required to make the item accessible to blind students and some low-vision students.

Application of Text and Graphics Guidelines

Example
The pictograph title is Dogs at the Park. The Key shows a picture of a dog represents one dog. The table has two columns and four rows; column heading one is Type of Dog; column heading two is Number of Dogs; row one, Beagle, picture of two dogs; row two, Collie, picture of three dogs; row three, Poodle, picture of one dog; row four, Dalmatian, picture of four dogs.

Figures/Illustrations

Example 1

Scale: 1 inch = 20 feet
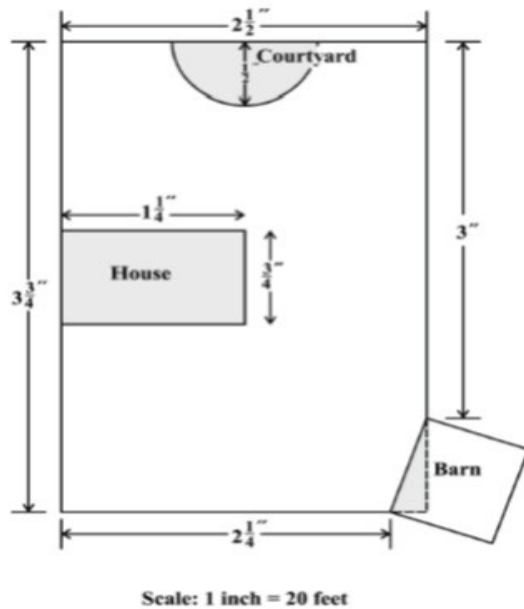
Use the scale to find the actual dimensions, in feet, of the house. Show or explain how you found your answer.

Example 2

40 Triangle *PQR* in the diagram below represents Pam's trip across a river.
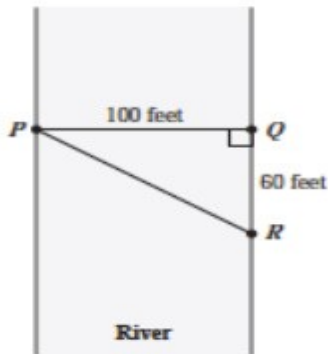
In the diagram, $\overline{PQ}$ represents her planned trip across the river, and $\overline{PR}$ represents her actual trip across the river.

Based on the dimensions in the diagram, which of the following is closest to the length of $\overline{PR}$?

A. 104 feet
B. 117 feet
C. 120 feet
D. 160 feet

Audio Guidelines

Text Only

Read the title of the figure/illustration or any caption that is being used in the title format. Allow for all words and numbers in the pictograph or key to be available to be read on demand.

Text and Graphics

Read the title of the figure or illustration. Include the caption in the description if it is not included in the surrounding text.

Read any scale before describing parts of the figure.

Separate the information into pieces using sentences, bullet points, or lists.

Use similar language to describe all parts of the diagram or illustration. Standardized language will help ensure comprehension.

Remember that the goal is to help the student understand the pertinent information in the diagram. Try to include descriptions of all shapes and figures, but try not to overload the student with descriptions that are overly wordy or not needed to answer the question.

Application of Text and Graphics Guideline

Example 1
A drawing showing a rectangular plot of land is illustrated. The scale shows that one inch equals twenty feet. The left and right sides of the plot are three and three-fourths inches, and the top and bottom sides of the plot are two and a half inches. The rectangular house has side lengths of one and one-fourth inches and three-fourths of an inch. The barn is a square, mostly outside the plot, with a shaded right triangle inside the plot. The hypotenuse of the right triangle and the side of the square inside the plot are the same line segment. One corner of the triangle is at the two and one-fourth inch line at the bottom of the plot and another corner is at the three inch line on the side of the plot. The courtyard is a semicircle with a radius of one-half inch.

Example 2
A diagram showing a rectangular section of a river is illustrated. Triangle PQR shows Pam's trip across the river with all three points of the triangle touching a side of the river. Point P is on the left side of the river, and points Q and R are on the right side of the river. Point Q is the vertex of a right angle. The distance from P to Q is one hundred feet. The distance from Q to R is sixty feet.

Number Lines

Example 1

Which point on the number line below best represents 0.8?
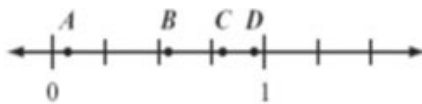
A. point *A*
B. point *B*
C. point *C*
D. point *D*

Example 2
Look at this number line.
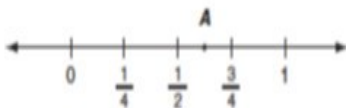
Point *A* is halfway between $\frac{1}{2}$ and $\frac{3}{4}$. What fraction does point *A* represent? Show your work or explain how you know.

Example 3

37 The graph below is the solution of which of the following inequalities?
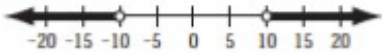
A. $|x| > 10$

B. $|x| < 10$

C. $x > 10$

D. $x < -10$

Audio Guidelines

Text Only

Read the title of the number line only or any caption that is being used in the title format. Allow all letters, words, and number on the number line to be available on demand.

Text and Graphics

Start by reading the title of the number line.

Read the range on the bottom along with the increments displayed.

Read the letters or words on the number line along with their location. Be careful not to violate the construct being measured in doing so. In some cases, tactile representation is required to make the item accessible to blind students and some low-vision students.

If a line or point being described falls between two marked values, then do not estimate or approximate numbers. Instead, use more general language such as "is located a little after," "is located a little before," "is closer to," and "is midway between."

For bolded number lines, describe which parts are bolded.

Application of Text and Graphics Guidelines

Example 1
A number line is shown with points *A*, *B*, *C*, and *D* and three equally spaced tick marks between the values of zero and one. Point *A* is located between zero and the first tick mark, and is closer to zero; point B is located between the second and third tick marks, and is much closer to the second tick mark; while point *C* and point *D* are closer to the value one.

Example 2
A number line shows zero and one with three tick marks in between: one-fourth, one-half, and three-fourths. Point *A* is marked midway between one-half and three-fourths.

Example 3

A number line shows from negative twenty to positive twenty in increments of five. The areas from negative twenty to negative ten and positive ten to positive twenty are bolded with open circles at negative ten and positive ten. There are bolded arrows to the left of negative twenty and to the right of positive twenty.

Spinners

Example 1

⑩ Look at this spinner.

On what number is the arrow **least** likely to land?

○ A. 1
○ B. 2
○ C. 3
○ D. 4

Example 2

15 Look at these spinners.

Spinner A   Spinner B   Spinner C
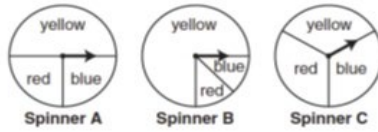
Julie, Greg, and Lori each used a different spinner to record the results of 40 spins.

a. This table shows Julie's results.

**Julie's Spinner
Results**

Color	Frequency
yellow	12
blue	14
red	14

Which spinner did Julie **most likely** use? Show your work or explain how you know.

b. This table shows Greg's results.

**Greg's Spinner
Results**

Color	Frequency
yellow	30
blue	5
red	5

Which spinner did Greg **most likely** use? Show your work or explain how you know.

c. Lori used the remaining spinner. Make a table to show the **most likely** results of Lori's 40 spins. Explain your reasoning.

Audio Guidelines

Text Only

Read the title of the spinner only. Allow for all letters, words, and numbers on the spinner to be available on demand.

Text and Graphics

Read the title of the spinner and reference it as a spinner.

Read any words, symbols, or numbers in the spinner, starting at the top and moving clockwise.

If necessary, describe the sizes of each section. Be sure not to violate the construct being measured in doing so. In some cases, tactile representation is required to make the item accessible to blind students and some low-vision students.

When describing the size of sections, do not estimate or approximate a specific size if it is not labeled. Instead, use more general language such as "less than," "more than," and "half of." Exceptions are for one-fourth, one-third, one-half, two-thirds, and three-fourths that are immediately apparent.

Application of Text and Graphics Guidelines

Example 1
Grades 7 and lower: A spinner is divided into eight sections of the same size. One number in each section is shown. From the top moving clockwise, the sections read three, four, two, one, three, one, two, one.

Grades 8 and higher: A spinner divided into eight congruent sections. One number in each section is shown. From the top moving clockwise, the sections read three, four, two, one, three, one, two, one.

Example 2
There are three spinners shown labeled Spinner A, Spinner B, and Spinner C. Each spinner is divided into three sections. In Spinner A, one-half of the spinner is labeled yellow, one-fourth of the spinner is labeled blue, and one-fourth of the spinner is labeled red. In Spinner B, three-fourths of the spinner is labeled yellow, and the other part is divided evenly and labeled blue and red. In Spinner C, about one-third of the spinner is labeled yellow, about one-third of the spinner is labeled red, and about one-third of the spinner is labeled blue.

Coins and Dollars

Example

❺ Cindy had $1.00. Then she bought a pencil for $0.37. How much money does she have now?

O A.

O B.

O C.

O D.

Audio Guidelines

Text and Graphics

Describe the money using standard language (penny, dime, quarter, or dollar).

Be sure to read each currency symbol as a symbol and not to interpret the value. (e.g., two quarters instead of fifty cents, or three dimes instead of thirty cents)

If reading the currency symbols violates the construct being measured, tactile representation is required to make the item accessible to blind students and some low-vision students.

Application of Audio Guidelines

Example
A shows two quarters, one dime, and three pennies.
B shows two quarters, two dimes, and three pennies.
C shows three quarters and two pennies.
D shows one one-dollar bill, one quarter, one dime, and two pennies.

Numbered/Step Diagrams

Example

9 Don made a pattern using circles and squares. The first four steps of his pattern are shown below.

Step 1   Step 2   Step 3   Step 4
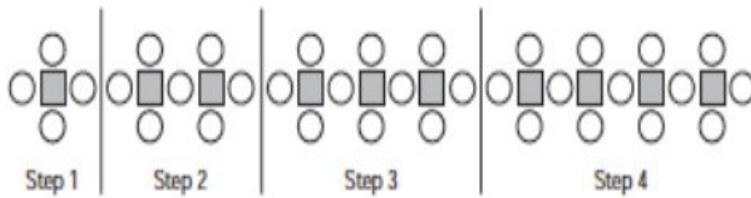
If Don continues his pattern, what is the total number of circles he will need to make Step 10?

A. 30
B. 31
C. 38
D. 40

Audio Guideline

Text Only

Read the title of the diagram only. Allow for all letters, words, and numbers on the diagram to be available to be read on demand.

Text and Graphics
Read the title of the diagram and a brief orientation of what the diagram shows.

In logical order (left to right or top to bottom), read the steps or diagram numbers along with a description of the figures in each step.

Describe the figures with enough detail to understand the item. Unless necessary, do not detail the specific characteristics of the figures being used. (e.g., color, size, location, shape, etc.)

If the description violates the construct being measured (e.g., if the question asked "How many circles are in step 1?"), then adjust the description to be vague. In this case, tactile representation is required to make the item accessible to blind students and some low-vision students.

Application of Audio Guidelines

Example
A diagram shows four steps of a pattern using circles and squares. Step one shows a square and four circles, step two shows two squares and seven circles, step three shows three squares and ten circles, and step four shows four squares and thirteen circles.

Geometric Figures

Example 1

These shapes are the 5 faces of a three-dimensional figure.
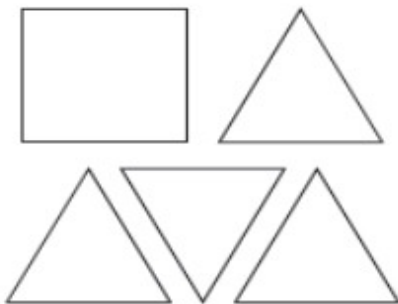
What is the three-dimensional figure?

A. cube
B. cone
C. prism
D. pyramid

Example 2

Look at this diagram.
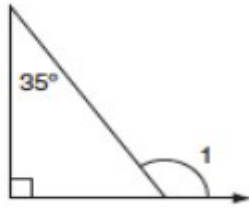
What is the measure of ∠1?

A.   55°
B.   115°
C.   125°
D.   135°

Example 3

Look at these figures.
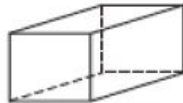
Figure P   Figure Q
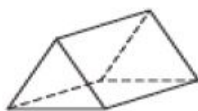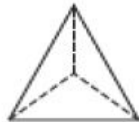
Figure R   Figure S

Which two figures have the same number of faces?

A.   Figure P and Figure Q
B.   Figure S and Figure R
C.   Figure P and Figure R
D.   Figure S and Figure Q

Look at these figures.

Audio Guidelines

Text Only

Read the title of the shape(s) only. Allow for all labels of sides or angles to be available on demand.

Text and Graphics

Simple shapes (any 2D shape with eight sides or fewer): Reference simple shapes as is, unless the item is measuring identification of a shape. If the item contains a simple shape, reference it without description. If there are unique attributes to the shape, describe what type of shape it is in as few words as possible. Be sure to reference labels of s ides, angles, and so on.

3D shapes/figures: Reference the type of figure. If relevant and does not violate the construct being measured, describe the figure including the number of sides. In some cases, if a certain description would violate the construct, tactile representation is required to make the item accessible to blind students and some low-vision students.

Be sure to reference labels of sides, angles, and so on.

Refer to the coordinate plane section for reading shapes on coordinate planes.

Application of Text and Graphics Guidelines

Example 1
A square and four equally sized triangles are shown.

Example 2
A diagram shows a right triangle. The triangle shows a right angle in the left corner, a thirty-five degree angle at the top, with no angle reference in the bottom-right corner. Outside the bottom-right corner of the triangle there is a symbol for angle one, which arcs from the unknown angle in the triangle to touch the ray.

Example 3
Four figures are shown. Figure P is a pentagonal pyramid, Figure Q is a rectangular prism, Figure R is a triangular prism, and Figure S is a triangular pyramid.

For geometric figures with multiple lines

Diagrams with internal angles should generally be described clockwise, beginning at the 12:00 position or a logical point of origin in the diagram.

Example
Bicyclists at National Park can choose one of three bike paths from the visitors' center, as shown in this diagram.
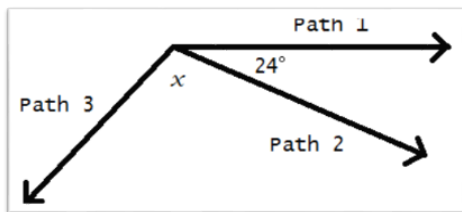
A diagram shows three rays, each originating at the same point. The first ray, drawn horizontally to the right, is labeled Path 1. The second ray, labeled Path 2, is drawn downward and toward the right. The angle that includes Path 1 and Path 2 is labeled 24 degrees. The third ray, labeled Path 3, is drawn downward and to the left. The angle that includes Path 2 and Path 3 is labeled x.

References

Smarter Balanced Assessment Consortium: Mathematics Audio Guidelines.
http://www.smarterbalanced.org/assessments/development/.

Appendix H: Human Signer Guidelines

Test Administration Protocol for the Human Signer Accommodation for English Language Arts (ELA) Assessments, and the Human Signer Accessibility Feature for Mathematics Assessments

In cases where a student requires a sign language accommodation on the English language arts (ELA) assessments and/or a sign language accessibility feature on the mathematics assessments, and for whom the American Sign Language (ASL) video accommodation is not appropriate, a human signer must be provided. Human signers for 2022 Math and ELA assessments must follow these procedures during testing to ensure the standardization of the signed presentation to the students.

Procedures for Human Signers Providing the Human Signer Accommodation for the ELA Assessments or the Human Signer Accessibility Feature for the Mathematics Assessments

1. Signers must be trained on test administration policies by local Test Coordinators, as indicated in the *Test Administrator Manuals* (TAM). Signers must sign the Staff Confidentiality Agreement available at https://webnew.ped.state.nm.us/wp-content/uploads/2021/07/StaffConfidentialityAgreement.pdf.

2. Signers should use signs that are conceptually accurate (except for SEE2 users), with or without simultaneous voicing, translating only the content that is printed in the test book or on the computer screen without changing, emphasizing, or adding information. Signers may not clarify (except for test directions), provide additional information, assist, or influence the student's selection of a response in any way. Signers must do their best to use the same signs if the student requests a portion repeated.

3. Signers must sign (or sign and speak when using Sim-Com [Simultaneous Communication]) in a clear and consistent manner throughout test administration, using correct production, and without inflections that may provide clues to, or mislead, a student. Signers should be provided a copy of the test and the *Test Administrator's Manual* (which includes the test administrator's directions) two school days prior to the start of testing, in order to become familiar with the words, terms, symbols, signs, and/or graphics that will be signed to the student. Review of the test materials must occur in a SECURE ENVIRONMENT.

4. Signers should emphasize only the words printed in boldface, italics, or capital letters and inform the student that the words are printed that way. No other emphasis or inflection is permitted.

5. Signers may repeat passages, test items, and response options, as requested, according to the needs of the student. Signers should not rush through the test and should ask the student if they are ready to move to the next item.

6. Signers may not attempt to solve mathematics problems, or determine the correct answer to a test item while signing, as this may result in pauses or changes in inflection which may mislead the student.

7. Signers must use facial expressions consistent with sign language delivery and must not use expressions which may be interpreted by the student as approval or disapproval of the student's answers.

8. Test Administrators must be familiar with the student's Individualized Education Plan (IEP) or 504 plan, and should know in advance which accommodations are required by the student,

and for which test (NM-ASR, NM-MSSA Math, NM-MSSA ELA, and/or NM-MSSA SLA) the student is designated to receive a human signer. Test Administrators must be aware of whether a student requires additional tools, devices, or adaptive equipment that has been approved for use during the test, such as a magnifier, closed circuit television (CCTV), abacus, brailler, slate, stylus, etc., and if use of these tools impacts the translation of the test, the signer should be made aware of this.

9. Upon review of the test, if a human signer is unsure how to sign and/or pronounce an unfamiliar word, the signer should collaborate with an ASL-fluent content expert (if available) which sign is most appropriate to use. If the signer is unable to obtain this information before the test, the signer should advise the student of the uncertainty and spell the word.

10. When using an ASL sign that can represent more than one concept or English word, the signer must adequately contextualize the word, in order to reduce ambiguity. The signer may also spell the word after signing it, if there is any doubt about which word is intended.

11. Signers must spell any words requested by the student during the test administration.

12. When test items refer to a particular line, or lines, of a passage, resign the lines before signing the question and answer choices. For example, the signer should sign, "Question X refers to the following lines…," then sign the lines to the student, followed by question X and the response options.

13. When signing selected response items, signers must be careful to give equal emphasis to each response option and to sign options before waiting for the student's response.

14. When response choices will be scribed, the signer should inform the student at the beginning of the test that if the student designates a response choice by letter only ("D", for example), the signer will ask the student if he/she would like the response to be signed again before the answer is recorded in the answer booklet or the computer-based test.

15. If the student chooses an answer before the signer has signed all the answer choices, the human signer must ask if the student wants the other response options to be signed.

16. After the signer finishes signing a test item and all response options, the signer must allow the student to pause before responding. If the pause has been lengthy, ask: "Do you want me to sign the question or any part of it again?" When signing questions again, signers must avoid emphasis on words not bolded, italicized, or capitalized.

17. Signers should refer to the ASL Glossary for technical vocabulary (signs used on the ASL video accommodation) for consistency in providing the accommodation.

Procedures for Providing the Human Signer Accommodation for ELA Assessments or the Human Signer Accessibility Feature for the Mathematics Assessments to a Small Group of Students

Human signers may sign the test to a small group of students, rather than individually, provided that each student has the human signer accommodation/accessibility feature listed in an IEP or 504 Plan. See PED policy for group size and TA to student ratios.

The following procedures must be followed:

- Check individual state policies on the maximum allowable number of students in a human signer small group.
- Students with the human signer accessibility feature for mathematics or human signer accommodation for ELA that will be grouped together must be administered the SAME TEST FORM, since test questions will differ on each form of the test. In Spring 2022, all paper forms are the same.
- Students not receiving the human accessibility feature for mathematics or human signer accommodation for ELA may not be tested in the same location as students who are receiving the human signer accessibility feature for mathematics or human signer accommodation for ELA.

Sign-System-Specific Procedures
Human signers must deliver the accommodation in the language or communication mode used by the student according to the student's IEP or 504 plan.

American Sign Language (ASL)
Human signers delivering the accommodation via ASL must use appropriate ASL features (including signs, sentence structure, non-manual markers, classifiers, etc.) while protecting the construct being measured by the assessment. Although it is necessary for a human signer to use appropriate non-manual markers to ensure proper delivery of test content in ASL, the human signer must be careful not to cue students while doing so.

English-Based Sign Systems (SEE2, CASE, Sim-Com, etc.)
Human signers delivering the accommodation via an English-based signing system must use the features of the communication mode used by the student. Human signers delivering the test in Signing Exact English (SEE2) should use the rules of that signing system (e.g. specific signed vocabulary, prefixes, suffixes, etc.). Human Signers delivering the test in other English-based signing systems (CASE, Sim-Com, etc.) should use the rules of those signing systems (conceptually accurate signs, English word order, etc.), with or without simultaneous voicing.

Mathematics Sign Language Glossary
Human signers should refer to the online Mathematics Sign Language Glossary for guidance on how to deliver mathematics symbols and terms. The guidance provided in the glossary is the same as what has been used in development of the ASL video accommodated 2022 Math and ELA assessments and provides a standardized approach for students who use sign language accommodations. The glossary provides signs that can be used for both ASL and English-Based Sign Systems.

Appendix I: The 2022 Science/Math/ELA Assessments for Students with Visual Impairments, Including Blindness

2022 Science, Math, and ELA Assessments and Students with Visual Impairment, Including Blindness

I.   **Purpose of this Guidance**

The 2022 Science, Math, and ELA Assessments are provided online, in regular print, large print and braille. This document is for Test Coordinators, Test Administrators, test transcribers and teachers to clarify issues and potential questions for students with visual impairments, including blindness. Given the innovative approach to the 2022 Science, Math, and ELA assessments, students with visual impairments who receive instructional and assessment accommodations, and those professionals that work with them, will need to plan ahead for testing to ensure that students have all necessary tools and materials available to complete assessment tasks. All accommodations must be documented in the student's Individualized Education Program (IEP) or 504 plan.

II.   **Frequently Asked Questions (FAQ)**

1. Who is an Eligible Test Administrator?
    In general, the following individuals may serve as a Test Administrator:

    - Individuals employed by the district as teachers
    - District and school-level administrators
    - Other certified educational professionals

    Eligible Test Administrators and proctors must attend training and follow test procedures and protocol.

2. What is included in the braille/large print versions of the tests? What additional materials do I need?
    Large print and braille versions of the tests are used by students who have this presentation format identified in their IEPs or 504 plans for instruction and assessment. Charts in Section III of the Test Administrator Manual identify the materials packaged with each large print and braille test and additional needed materials. Additional materials needed must be documented in the student's IEP or 504 plan, except for the following items:
    - Test Administrator Manual
    - No. 2 pencils with erasers
    - Blank scratch paper
        - Blank scratch paper may include: abacus, slate, stylus, Braille Math Window or Brannan Cubarithm.
    - Highlighter
    - Graph paper
    - Calculator
        - Use of a grade-level appropriate calculator is available to all students during designated portions of the mathematics assessment.

o Students who have calculators identified as a needed accommodation in an IEP or 504 plan may use the calculator on all portions of the mathematics assessment.

3. What special issues exist regarding the use of optical or electronic magnification of the test?

Electronic magnification systems enlarge print materials in black/white or color combinations. Magnification for viewing text and graphics can be increased up to 800% with option for changing font colors, background colors, using a line marker, etc. They come in a variety of models – desktop or handheld, near or distance, stand alone or connected to a computer. Electronic magnification systems provide students with access to all printed materials, and the size of the print can be customized for the task. Students who require magnification by using an electronic magnification system can use a regular paper-based test book.

- If the electronic magnification system used by the student has the ability to capture images, these images must be deleted at the end of the test session.
- Graphics enlarged on an electronic magnification system may be problematic for some students with low vision. When an image is magnified, the student may not be able to see the whole graphic at once. If the student has difficulty with graphics, a large print test should be ordered. Large print is the regular print book enlarged to 150% which is equivalent to 18 point font size.

4. What special issues should be considered regarding students with a visual impairment, including blindness who may take the online test?

For any student taking the online test, it will be delivered using iTester.

Screen readers

A screen reader is a software application, separate from text-to-speech embedded in iTester, which conveys web content through audio. Screen readers are appropriate for students who are experienced with using the software, including those who are blind or have a visual impairment. Students who take the 2022 Science, Math, and ELA assessments online using a screen reader must be able to independently navigate the online testing environment. Professionals who work with students who are screen reader users are encouraged to work with students during instructional activities to ensure that they have independent computer-access skills. The skills used to navigate the 2022 Science, Math, and ELA assessments are the same needed to access a variety of internet resources, including the ability to navigate by regions and headings and the ability to use keyboard shortcuts and lists, such as link lists. See a more comprehensive list of prerequisite skills in Section IV of this document.

As with all students taking a 2022 Science, Math, and ELA assessment, students with a visual impairment, including blindness are encouraged to use the practice tests which include screen reader, large print or access to Braille Ready Files (.brf) to download a braille practice test. Practice tests are currently posted in the following locations on the New Mexico Help and Support site:
NM-MSSA: https://newmexico.onlinehelp.cognia.org/practice-tests-nm-mssa/
NM-ASR: https://newmexico.onlinehelp.cognia.org/practice-tests-nm-asr/

For more information about prerequisite skills, refer to the Technology Skills Checklist below.

Refreshable Braille Display

Students who use a screen reader can also access the English language arts (ELA), Spanish language arts (SLA), and Mathematics assessments using a refreshable braille display. Students who choose to take advantage of refreshable braille during the assessment should be comfortable and independent with using a refreshable braille display in instructional activities prior to using one in an assessment environment. As stated above, students and professionals are encouraged to use the Practice Tests in order to become familiar and comfortable with the Computer Based Assessments.

For more information about prerequisite skills, refer to the Technology Skills Checklist below.

Screen enlargement

The online 2022 Science, Math, and ELA assessments come with a built-in screen zoom/magnifier that can be used by all students at any time during the assessment period. The screen zoom enlarges the entire screen by increments of 150, 200, and 300%.

Note that some graphical information may become "pixelated" at very high magnification. Students and teachers should explore the Practice Items in order to determine the efficacy of using the kiosk-based screen zoom/magnification tool in a testing environment. Note that screen zoom/magnification is not available in the browser-based practice test, therefore students needing to practice with this tool should access the practice test using the kiosk.

For students who will use screen enlargement software with a Human Reader, refer to the *Accessibility Features and Accommodations Manual*, Appendix A: Test Administrator Protocol for the Human Reader Accommodation for English Language Arts (ELA) Assessments, and the Human Reader Accessibility Feature for Mathematics Assessments.

For more information about prerequisite skills, refer to the Technology Skills Checklist below.

Color Contrast/Reverse Contrast

The iTester system provides a built-in method for changing the color contrast settings and is available to all students. Currently, there are twelve color contrast options students can choose from and the option to reverse the color contrast.

Braillers and Braille Note-Takers

Students who are accustomed to using a brailler, slate and stylus or a braille note-taker to produce work during instructional activities will be able to do so with the online test. In these cases, the student will produce their answers and transcribe them into iTester or have them transcribed into the iTester.

5. Who can transcribe the tests?

Only an Eligible Test Administrator who is a certified Teacher of Students with Visual Impairment, including Blindness or someone working under the direct supervision of an Eligible Test Administrator who is a certified Teacher of Students with Visual Impairment, including Blindness may transcribe the student's responses into the test booklet, answer document or online form of the 2022 Science, Math, and ELA assessments.

Answers written on braille paper must be transcribed onto the standard-size paper form of the 2022 Science, Math, and ELA assessment. If responses are written on an electronic braille note-taker, they should be printed and transcribed into a standard-size paper test booklet or answer document. The file in the electronic braille note-taker must be deleted following successful transcription of the student's responses. **Note:** A student response can be embossed for their reviews, after which copies must be securely shredded after transcription.

III. Testing Materials

Science			
Materials/Language	**Large Print**	**Braille**	**Online**
Included with the Test English	• Large Print Test Booklet – English version • Large Print test administrator special instructions • Standard size test booklet - English • Standard size answer document for transcription • Grade 11 Periodic Table Large Print – English version	• Braille Test Booklet – English version • Braille test administrator special instructions • Standard size test booklet – English • Standard size answer document for transcription • Grade 11 Periodic Table Braille – English version	• Embedded grade 11 periodic table – English
Spanish	• Large Print Test Booklet – Spanish version • Large Print test administrator special instructions • Standard size test booklet - Spanish • Standard size answer document for transcription – Spanish • Grade 11 Periodic Table Large Print – Spanish version • Spanish Glossary of Science Terms for grades 5, 8, 11 Large Print version	• Braille Test Booklet – Spanish version • Braille test administrator special instructions • Standard size test booklet - Spanish • Standard size answer document for transcription – Spanish • Grade 11 Periodic Table Braille – Spanish version • Spanish Glossary of Science Terms for grades 5, 8, 11	• Embedded grade 11 periodic table – Spanish • Embedded Spanish glossary of science terms for grades 5, 8, and 11
Additional Materials Needed English and Spanish	• Test Administrator Manual • No. 2 pencils with erasers • Other materials included in student's IEP or 504 plan, such as Large Print writing devices, etc. • Scratch paper	• Test Administrator Manual • No. 2 pencils with erasers • Other materials included in student's IEP or 504 plan, such as Braille writing devices, etc. • Scratch paper	• Test Administrator Manual • No. 2 pencils with erasers • Other materials included in student's IEP or 504 plan, such as Large Print and Braille writing devices, etc. • Scratch paper • Student's preferred access technology

English Language Arts (ELA)			
Materials	**Large Print**	**Braille**	**Online**
Included with the Test	• Large Print Test Booklet • Standard Print Test Booklet or Answer Document for transcription	• Braille test booklet or answer document with embedded tactile graphics (certain forms) • Standard Print Test Booklet or Answer Document for transcription	• Tactile graphics – must order a Braille kit.
Additional Materials Needed	• Test Administrator Manual • No. 2 pencils with erasers • Blank scratch paper • Highlighter • Other materials included in the student's IEP or 504 plan	• Test Administrator Manual • No. 2 pencils with erasers • Other materials included in student's IEP or 504 plan, such as braille writing devices	• Test Administrator Manual • No. 2 pencils with erasers • Other materials included in student's IEP or 504 plan, such as braille writing devices • Student's preferred access technology

Mathematics			
Materials	**Large Print English or Large Print Spanish**	**Braille**	**Online**
Included with the Test	• Instructions for Large Print • Administration, including Test Administrator Scripts • Large Print Test Booklet • Standard Print Test Booklet or Answer Document for transcription	• Instructions for Braille • Administration, including Test Administrator Scripts • Braille test booklet or answer document with embedded tactile graphics • Standard Print Test Booklet or answer document for transcription	• Tactile graphics – must order a Braille kit.
Additional Materials Needed	• Test Administrator Manual • No. 2 pencils with erasers • Blank scratch paper • Highlighter • Regular classroom compass • Grade-level appropriate calculator – four-function or scientific • Other materials included in the student's IEP or 504 plan	• Test Administrator Manual • No. 2 pencils with erasers • Braille writing devices, such as a Perkins Brailler or an electronic braille note-taker • Grade-level appropriate tactile compass • Grade-level appropriate calculator – four-function or scientific • Braille materials that can be used as scratch paper • Cranmer Abacus • Braille Math Window • Brannan Cubarithm	• Test Administrator Manual • No. 2 pencils with erasers • Blank scratch paper or braille materials that can be used as scratch paper • Cranmer Abacus • Braille Math Window • Brannan Cubarithm • Grade-level appropriate tactile compass • Grade-level appropriate calculator – four-function or scientific • Other materials included in the student's IEP or 504 plan • Student's preferred access technology

IV. **Technology Skills Checklist**

Accessibility of testing materials for all students is an important part of the 2022 Science, Math, and ELA assessments. For a student with visual impairment, including blindness to take the online test, he or she will need to have a minimum level of skills with computer technology and the assistive technology he or she uses to access instructional materials. The following is a list of skills a student should be using regularly during instructional activities and be proficient with on the day of testing in order to independently access the 2022 Science, Math, and ELA assessments online. Students should, at a minimum, be able to complete these tasks independently and should be given multiple opportunities to practice using the Practice Tests and the Sample Items available on the New Mexico Help and Support Site at https://newmexico.onlinehelp.cognia.org/.

Screen Reader
- Use arrow keys to navigate
- Navigate by headings
- Access and use the Headings List
- Access and use the Links List
- Activate Links using keyboard commands
- Activate Buttons
- Adjust voice settings
- Select text using keyboard commands
- Copy text to clipboard
- Paste text from clipboard
- Access edit fields
- Use check boxes
- Use radio buttons
- Enter and exit forms mode
- Navigate, locate and read text on a webpage
- Navigate and understand a table

Refreshable Braille Display
- Complete all of the functions listed under Screen Reader
- Use corresponding commands to run a screen reader with a supported refreshable braille display

Screen Magnification
- Adjust color and contrast settings
- Adjust magnification settings

APPENDIX F
WRITING PROMPT ITEM-WRITING WORKSHOP
PARTICIPANT PROFILES

Table F-1. Writing Prompt Item-Writing Workshop Participant Profiles

Gender	Ethnicity	District Name	Bilingual Education Endorsement	MCNL Endorsement	Background: ELA Grades	Other Educational Endorsements or Specializations
Female	Hispanic	Eunice Public Schools	TESOL Endorsement		Special Education PreK-12	TESOL endorsement
Female	Hispanic	Ruidoso Municipal School District	Bilingual Education Endorsement		Level 3	Early Childhood and Bilingual
Female	White (Not Hispanic)	Gallup McKinley County	TESOL Endorsement		K-8 Level 2	TESOL, National Boards Middle Child Generalist (Ages 7-12)
Female	American Indian / Alaskan Native	Farmington Municipal Schools	TESOL Endorsement		Level 2- 25 years	TESOL
Female	Asian/Pacific Islander	GMCS	TESOL Endorsement		Level 3-A Instructional Leader K-8 Elementary License	
Female	White (Not Hispanic)	Rio Rancho Public Schools			Level 3	Reading
Female	Hispanic	Gadsden Independent School District	Bilingual Education Endorsement		Level 2	BA Elementary Education with a concentration in English and Language Arts
Female	Hispanic	Clovis Municipal Schools	TESOL Endorsement		Level 3-A, K-8 Elementary	National Board Certification
Female	Hispanic	Deming Public Schools	TESOL Endorsement		Level 2, Specialty Pre-K - 12, (working on Level 3)	TESOL, English Language Arts
Female	White (Not Hispanic)	Moriarty Edgewood			Level 3	
Female	White (Not Hispanic)	Farmington Municipal School	TESOL Endorsement		Level 3-A, K-8 Elementary	National Board Certified
Female	White (Not Hispanic)	Ruidoso Municipal Schools			Level 2	K-8 Elementary
Female	White (Not Hispanic)	Farmington	TESOL Endorsement		Level 3	TESOL
Female	White (Not Hispanic)	Albuquerque Public Schools			Level 3-A Instructional Leader K-8 Elementary Education	Masters in Curriculum and Instruction with a focus on Data, Social Studies, and ELA endorsement
Female	White (Not Hispanic)	Rio Rancho Public School District			Level 3-A	National Board Certified and Re-certified Middle Childhood Generalist, Literacy Endorsement pending from SC and will be transferred to NM ASAP
Female	Black (Not Hispanic)	Farmington Municipal Schools	TESOL Endorsement		5th Grade ELA	
Female	White (Not Hispanic)	Albuquerque Public Schools	TESOL Endorsement		Tier 3	TESOL
Female	White (Not Hispanic)	Alamogordo			Level 3	
Female	White (Not Hispanic)	Ruidoso Municipal Schools			Level 2 K-8 Elementary	
Female	Hispanic	Silver Consolidated Schools			Level 2	Reading, SPED, Language Arts, Science, Take Flight Dyslexia Program
Female	Hispanic	West Las Vegas	Bilingual Education Endorsement		Level 3	Business, TESOL, reading, bilingual
Female	White (Not Hispanic)	Sandoval Academy of Bilingual Education	TESOL Endorsement		Level 2	Bilingual, TESOL, Gifted
Female	White (Not Hispanic)	Cimarron Municipal Schools			Level 3	Special Education, English Language Arts
Female	Black (Not Hispanic)	Cobre Consolidated School District			Level 3	Reading
Female	Hispanic	Deming Public Schools	TESOL Endorsement		Level 2, Specialty Pre-K - 12, (working on Level 3)	TESOL, English Language Arts

Gender	Ethnicity	District Name	Bilingual Education Endorsement	MCNL Endorsement	Background: ELA Grades	Other Educational Endorsements or Specializations
Female	White (Not Hispanic)	Central Consolidated School District	TESOL Endorsement		Level 3-B administrative, Level 3-A K-8 Elementary	Endorsements in TESOL and Reading
Female	American Indian/Alaskan Native	Farmington Municipal Schools	TESOL Endorsement		Level 2	Coaching License
Female	Asian/Pacific Islander	Gallup McKinley County Schools	TESOL Endorsement		Level 2	MA in Communication major in Applied Media Studies
Female	White (Not Hispanic)	Estancia Valley Classical Academy			Level 2	
Male	Hispanic	Las Cruces Public Schools	TESOL Endorsement	MCNL Endorsement	Level 2	Bilingual, TESOL, Modern and Classical Languages
Female	White (Not Hispanic)	Farmington Municipal Schools	TESOL Endorsement		6th Grade ELA, 7th Grade ELA, 8th Grade ELA	
Female	White (Not Hispanic)	Tularosa Municipal School District			I have a Level 3 K-8 License and a Pre-K-12 Specialty License	Science and Health
Female	White (Not Hispanic)	Des Moines Municipal Schools			Level 3 in English and Social studies	ELA and social studies
Female	White (Not Hispanic)	Alamogordo			Level 3-A with Endorsement in Reading	Curriculum writing; short cycle assessment writing
Female	Asian/Pacific Islander	Gallup McKinley County Schools District	TESOL Endorsement		Level 3	ELA, SPED, TESOL
Female	White (Not Hispanic)	APS	TESOL Endorsement		Level 3	National Board Certification in Reading Language Arts and Library media Endorsement
Male	Asian/Pacific Islander	Gallup McKinley County Schools	TESOL Endorsement		Level 2	Graduated Master of Arts in Education Major in English Language Teaching, and Doctor of Education
Female	Black (Not Hispanic)	Deming Public Schools	TESOL Endorsement		Level 3-A	English Language Arts, Reading
Female	White (Not Hispanic)	Ruidoso Municipal School District	TESOL Endorsement		Level 3-A	6-12 Secondary/Language Arts/TESOL, PreK-12 Special Education
Male	White (Not Hispanic)	Bloomfield Schools			Level 2	6-12 Secondary English Language Arts
Male	White (Not Hispanic)	Albuquerque Public Schools	Bilingual Education Endorsement		3-A Instructional Leader	Bilingual Education and Mathematics at both 5th-9th Middle Level and 6th-12th Secondary Level
Female	Hispanic	Las Vegas City Schools				
Female	White (Not Hispanic)	Los Alamos Public Schools	TESOL Endorsement		K-8, 3A, PreK-12 Specialty, 3A	K-8 Agriculture, Psychology, TESOL, PreK-12 Specialty: TESOL, ELA, Science, Agriculture, Psychology
Female	White (Not Hispanic)	Tularosa Municipal Schools			Level 3-A	

APPENDIX G
COMMITTEE MEMBERSHIP

Table G-1. New Mexico Participants in the Cognia 2022 Item Content and Bias Review Meetings by Content Area and Grade

Content Area	Grade	Name	Status
ELA	3–4	Erica LaPointe	
		Michelle Lopez	
		Sheryl White	PED Observer Grade 3
		Lynn Vasquez	PED Observer Grade 4
	5–6	Roxanne Mitchell	
		Anissa Myron	
		Sheryl White	PED Observer Grade 5
		Severo Martinez	PED Observer Grade 6
	7–8	Jennifer Brown	
		Sarahjane Kipp	
		Sheryl White	PED Observer Grade 7
Mathematics	3–4	Erin Baca	
		Sheryl White	PED Observer Grade 3
		Lynn Vasquez	PED Observer Grade 4
	5–6	Robbi Berry	
		Felicitas Adame-Reyes	
		Ronda Davis	PED Observer Grade 5
		Xavier DeLeon	PED Observer Grade 6
	7–8	Mary Ann Collings	
		Ronda Davis	PED Observer Grade 7
		Beth Russom	PED Observer Grade 8

Bias Review Committee			Status
Edward Pena			
Anya Dozier Enos			
Kadriye El-Atwani			PED Observer

Table G-2. New Mexico Participants in the 2022 NM-ASR Data Review Virtual Meetings by Grade – August 16-17, 2022

Content Area	Grade	Name
Science	5	Elisa Cumplido
		Deb Novak
		Antonio Gonzalez
		Christina Orozco
		Agnes LeDoux
	8	Tanya Baker
		Kristen Bandy
		Kathy Kraften
		Jennifer Neakrase
		Edward Pena
	11	Janet Bruelhart
		Anastacia Cadena
		Rito Escareno
		Inez Jacobs
		Willian Siefert

Table G-3. New Mexico AAAC Membership

Member Name	Member Job Title	Organization
Melissa Adkins	School Counselor	Cloudcroft Municipal Schools
Sandy Beery	Executive Director	New Mexico Connections Academy
Kenneth Bewley	Director of Data Support, Assessment and Research	Roswell Independent School District
LaShawn Byrd	Deputy Director of Data Analysis and Assessment	Hobbs Municipal Schools
Samuel Constant	Coordinator for District Testing	Gadsden Independent School District
Rachell Lynn Hochheim	Associate Director of Assessment and Research	Las Cruces Public Schools
Linda Kerr	District Assessment Coordinator	Farmington Municipal Schools
Boyd Lewis	Director of Curriculum and Instruction	Zuni Public School District
Lea Leyba	District Coordinator and Liaison	Chama Valley Independent School District
Dr. Happy Miller	Executive Director, RADA	Rio Rancho Public Schools
Carrie Nigreville	Executive Director of Strategic Planning and School Support	Clovis Municipal School District
James Olivas	Director of Operations and Data	Bloomfield Schools
Danny Parker	Assistant Superintendent	Artesia Public Schools
Edward Pena	District Coordinator and High School Counselor	Cobre Consolidated Schools
Dr. Suchint Sarangarm	Chief Assessment for Learning & School Improvement Officer	Santa Fe Public Schools
Nina Smith	Continuous School Improvement Director	Santa Fe Indian School
Frank Telge	Senior Director of Assessment	Albuquerque Public Schools
Teri Trejo	Director of Assessment, Research and Student Success	Deming Public Schools
Leandro Venturina	Data & Assessment Coordinator	Central Consolidated School District
Sharon West	TriStar Coordinator and SRCL/CLSD Literacy Coordinator	Santa Rosa Consolidated Schools

Table G-4. NM-ASR, grades 5, 8, 11 Bias & Sensitivity Review Committee – June 23-25, 2022

First Name	Last Name	Current Position	Gender	Ethnicity	District Name	School Name	Organization Represented
Wesley	Bobelu	Educator	Male	American Indian/ Alaskan Native	Naca	Six Directions Indigenous	Charter Schools
Monica	Charles	2nd Grade Teacher	Female	Hispanic	Albuquerque Public Schools	Coronado Elementary	Albuquerque Public Schools
Veronica	Chavez	3rd Grade Dual Language Teacher	Female	Hispanic	Deming Public Schools	Columbus Elementary	Deming Public Schools
Elisa	Cumplido	Instructional Coach Elementary	Female	Hispanic	Gadsden Independent School District	Sunland Park Elementary School	Gadsden Independent School District
Geizi	Dejka	Hs Science Teacher	Female	Asian/Pacific Islander	Farmington Municipal Schools	San Juan College High School	Farmington Municipal Schools
Kirk	Desoto	Elementary Principal	Male	White (Not Hispanic)	Roswell Independent School District	Valley View Elementary	Roswell Independent School District
Viola	Hoskie	Teacher	Female	American Indian/ Alaskan Native	Gallup McKinley County Schools	Turpen Elementary School	Turpen Elementary
Ida	Madrid	5th Grade Bilingual	Female	Hispanic	Mrs.	Mrs.	School
Crystal	Pineda	Middle School Science Teacher	Female	White (Not Hispanic)	Las Cruces Public Schools	Picacho Middle School	LCPS

Table G-5. NM-ASR, grades 5, 8, 11 Item Review Committees – June 22-24, 2020

First Name	Last Name	Current Position	Gender	Ethnicity	District Name	School Name	Organization Represented
Ma.Laarni	Abergos	Teacher, Curriculum Revision Member, School Pax Partner	Female	Asian/Pacific Islander	Central Consolidated School District	Kirtland Elementary School	CCSD teachers, KES Third Grade Teachers, NEA
Karen	Delay	C&I Coordinator	Female	White (Not Hispanic)	Rio Rancho Public Schools	Rio Rancho District Office	Rio Rancho Public Schools Curriculum & Instruction
Antonio	Gonzalez	Teacher	Male	Hispanic	Gadsden ISD	Anthony Elementary	AFT
Nicole	Hahn	Elementary Principal	Female	White (Not Hispanic)	Clovis	Cameo Elementary	Clovis Schools
Valerie	Sanchez	Hs Teacher	Female	Prefer not to answer	GISD	STHS	GISD
Pamela	Sandoval	2nd Grade Teacher	Female	Hispanic	Belen Consolidated Schools	La Merced	N/A
Sarah	Washburn	Fifth Grade Teacher	Female	White (Not Hispanic)	LCPS	Highland Elementary	LCPS
Brandy	Block	6th Science Teacher	Female	White (Not Hispanic)	Farmington Municipal Schools	Mesa View Middle School	
Cynthia	Dumayas	Science Teacher	Female	Asian/Pacific Islander	Central Consolidated School District	Tse Bit Ai Middle School	CCSD
Cara	Heck	Science Teacher	Female	White (Not Hispanic)	McKinley Middle School	Albuquerque Public Schools	APS
Steven	Kaestner	Teacher	Male	White (Not Hispanic)	Albuquerque Public Schools	Jefferson Middle School	
Allison	Minteer	Teacher	Female	Hispanic	Clovis Municipal Schools	Marshall Middle School	Clovis Municipal Schools
Anna	Suggs	Teacher	Female	White (Not Hispanic)	Las Cruces Public Schools	Zia Middle School	Las Cruces Public Schools
Elizabeth	Wick	Science Teacher (7-12)	Female	White (Not Hispanic)	Raton Public Schools	Raton High School	Raton Public Schools
Skye	Wilson	Science Teacher and Department Head	Male	White (Not Hispanic)	Hobbs Municipal Schools	Houston Middle School	Teachers
Alexis	Black	Teacher	Female	Black (Not Hispanic)	Las Cruces	Mayfield Hs	LCPS
Arnel	Dela Cruz	Instructional Coach	Male	Asian/Pacific Islander	Gallup-McKinley County Schools	Miyamura High School	
Allan	Dino	Stem Teacher	Male	Asian/Pacific Islander	Middle College High School - Gallup	Middle College High School - Gallup	MIDDLE COLLEGE HIGH SCHOOL - GALLUP
Stephanie	Fanselow	Assistant Professor of Secondary Education	Female	White (Not Hispanic)	Western New Mexico University	School Of Education	WNMU School of Education
Samuel	Hindi	Science Teacher (grades 7-11)	Male	Hispanic	Corona Public Schools	Corona High School	
Vandhana	Palliyarikkal Ramachandran	Ap Physics, Physics, Earth Science, Physical Science Teacher	Female	Asian/Pacific Islander	Clovis Municipal School District	Clovis High School	Clovis High School
Chelsey	Servantes	Science Instructional Coach	Female	White (Not Hispanic)	Belen Consolidated Schools	District Wide	Belen Schools
William	Siefert	Teacher	Male	White (Not Hispanic)	Albuquerque Public Schools	Cibola High School	

Table G-6. NM-ASR, grades 5, 8, 11 Census Field Test Range Finding Review Committee: June 1–5, 2020

First Name	Last Name	Current Position	Gender	Ethnicity	District Name	School Name	Organization Represented
Christina	Calentine	Instructional Specialist for Math and Science	Female	White (Not Hispanic)	Alamogordo Public Schools	Alamogordo High School	Alamogordo High School
Azza	Ezzat	Science Teacher	Female	White (Not Hispanic)	Socorro Consolidated Schools	Socorro High School	Socorro High School
Dinah	McAlister	Science Teacher	Female	White (Not Hispanic)	Dora Consolidated Schools	Dora High School	Dora High School
Rebekah	Mitchell	Science Department Chair, Instructor of Honors Biology and Anatomy and Physiology, Educators Rising Teacher Leader, Enmu Adjunct Faculty - Professor of Communication for Educators (edf 110), And State Ambassador for Nmped's Nmtln.	Female	Hispanic	Portales Municipal School District	Portales High School	Portales High School
Liza	Monserate	Science Teacher	Female	Asian/Pacific Islander	Central Consolidated School District	Newcomb High School	Nhs Science
Vandhana	Palliyarikkal Ramachandran	Ap Physics, Physics, Physical Science and Earth Science Teacher	Female	Asian/Pacific Islander	Clovis	Clovis Municipal Schools	Clovis High School
Edward	Pena	Counselor	Male	Hispanic	Cobre Schools	Cobre High School	Cobre Schools
Nate	Raynor	Science Teacher	Male	Black (Not Hispanic)	Mescalero Apache	Mescalero Apache School	High School Science Dept.
Sharla	Rusk	Secondary Science	Female	White (Not Hispanic)	San Jon Municipal Schools	San Jon Schools	Science Dept
Sara	Bloom	Teacher	Female	White (Not Hispanic)	Alamogordo Public Schools	Mountain View Middle School	Mountain View Middle School
Abdullah	Cakanlar	7th Grade Science Teacher	Male	White (Not Hispanic)	Albuquerque School Of Excellence	Albuquerque School Of Excellence	Albuquerque School Of Excellence
Amy	Durphy	Science Teacher	Female	White (Not Hispanic)	Farmington Municipal Schools	Tibbetts Middle School	
Tammy	Hernandez	Teacher	Female	Hispanic	North Valley Academy	North Valley Academy	North Valley Academy
Amy	John	8th Grade Science Teacher	Female	American Indian/Alaskan Native	Central Consolidated School Districts	Tse Bit Ai Middle School	Ccsd Tse Bit Ai Middle School Science Dept.
Amy	Lopeman	6th Grade Science Teacher	Female	White (Not Hispanic)	Las Cruces Public Schools	Vista Middle School	Nm Science Teachers
Earl	Sanchez	8th Science	Male	Hispanic	Gadsden ISD	Chaparral Middle School	Gadsden Isd
Nancy	Smith	6th And 7th Science Teacher	Female	White (Not Hispanic)	Tucumcari Public School	Tucumcari Middle School	Tucumcari Public School
Veaundrea	Smith	5th Grade Teacher	Female	Black (Not Hispanic)	Rio Rancho	Vista Grande Elementary	Rio Rancho Public Schools
Leslie	Wilson	Teacher	Female	White (Not Hispanic)	Deming Public Schools	Red Mountain	Science Department
Irish Alaine	Araza	5th Grade Teacher	Female	Asian/Pacific Islander	Lovington Municipal School	Yarbro Elementary School	Lovington Municipal School
Kristen	Bandy	Classroom Teacher Grades 3-5 (.5), Steam Lab Teacher Grades K-8 (.5)	Female	White (Not Hispanic)	Aps	Desert Willow Family School	Desert Willow Family School
Tori	Gilpin	Director Of Research Evaluation and State Testing	Female	White (Not Hispanic)	Gadsden	N/a	Gadsden ISD
Antonio	Gonzalez	Teacher	Male	Hispanic	Gadsden ISD	Anthony Elementary	Anthony Elementary
Chari	Kauffman	Science Coordinator	Female	White (Not Hispanic)	Santa Fe Public Schools	Santa Fe Public Schools	Santa Fe Public Schools
Jessica	Lopez	Elementary Instructional Specialist	Female	Hispanic	Alamogordo Public Schools	Sierra Elementary	Alamogordo Public Schools
Kelly	Mahboub	Teacher	Female	White (Not Hispanic)	Rio Rancho Public Schools	Vista Grande Elementary School	Vista Grande Elementary School/RRPS
Laurie	Ware	4th Grade Teacher	Female	White (Not Hispanic)	Bureau Of Indian Education	Alamo Navajo School	Alamo Navajo Elementary School
Christina	Calentine	Instructional Specialist for Math and Science	Female	White (Not Hispanic)	Alamogordo Public Schools	Alamogordo High School	Alamogordo High School

APPENDIX H
SCORER QUALIFICATION RATES

Tables H-1 and H-2 summarize the qualification rates for the 2022 operational assessment for NM-MSSA Mathematics and NM-ASR Science respectively. Rates of success during qualification varied. Multiple factors determine the success of a scorer during qualification. These include familiarity with the assessment, grade level, and variation of item types. Please note that not all scorers who failed Qual 1 attempted Qual 2.

Table H-1. Qualification Summary for NM-MSSA Mathematics

Grade 3	MACC007 Qual 1	MACC007 Qual 2	Scorers Qualified MACC007	MACC017 Qual 1	MACC017 Qual 2	Scorers Qualified MACC017	MACC027 Qual 1	MACC027 Qual 2	Scorers Qualified MACC027	MACC037 Qual 1	MACC037 Qual 2	Scorers Qualified MACC037
Total Passed	22	1	23	19	5	24	24	N/A	24	23	N/A	23
Total Failed	1	0	0	5	0	0	0	N/A	0	0	N/A	0
Grade 4	MACC007 Qual 1	MACC007 Qual 2	Scorers Qualified MACC007	MACC017 Qual 1	MACC017 Qual 2	Scorers Qualified MACC017	MACC028 Qual 1	MACC028 Qual 2	Scorers Qualified MACC028	MACC038 Qual 1	MACC038 Qual 2	Scorers Qualified MACC038
Total Passed	15	5	20	14	5	19	25	2	27	22	2	24
Total Failed	7	0	0	5	0	0	2	0	0	2	0	0
Grade 5	MACC007 Qual 1	MACC007 Qual 2	Scorers Qualified MACC007	MACC017 Qual 1	MACC017 Qual 2	Scorers Qualified MACC017	MACC028 Qual 1	MACC028 Qual 2	Scorers Qualified MACC028	MACC038 Qual 1	MACC038 Qual 2	Scorers Qualified MACC038
Total Passed	16	1	17	18	5	23	16	2	18	33	1	34
Total Failed	1	0	0	5	0	0	2	0	0	1	0	0
Grade 6	MACC008 Qual 1	MACC008 Qual 2	Scorers Qualified MACC008	MACC018 Qual 1	MACC018 Qual 2	Scorers Qualified MACC018	MACC031 Qual 1	MACC031 Qual 2	Scorers Qualified MACC031	MACC041 Qual 1	MACC041 Qual 2	Scorers Qualified MACC041
Total Passed	23	1	24	17	4	21	70	15	85	19	4	23
Total Failed	1	0	0	6	2	2	19	2	2	4	0	0
Grade 7	MACC008 Qual 1	MACC008 Qual 2	Scorers Qualified MACC008	MACC018 Qual 1	MACC018 Qual 2	Scorers Qualified MACC018	MACC031 Qual 1	MACC031 Qual 2	Scorers Qualified MACC031	MACC041 Qual 1	MACC041 Qual 2	Scorers Qualified MACC041
Total Passed	19	2	21	20	1	21	18	2	20	23	2	25
Total Failed	3	1	1	1	0	0	2	0	0	2	0	0
Grade 8	MACC008 Qual 1	MACC008 Qual 2	Scorers Qualified MACC008	MACC018 Qual 1	MACC018 Qual 2	Scorers Qualified MACC018	MACC031 Qual 1	MACC031 Qual 2	Scorers Qualified MACC031	MACC041 Qual 1	MACC041 Qual 2	Scorers Qualified MACC041
Total Passed	37	N/A	37	15	2	17	34	4	38	27	5	32
Total Failed	0	N/A	0	2	0	0	6	2	2	9	4	4

Table H-2. Qualification Summary for NM-ASR Science

Grade 5	SCCC005 Qual 1	SCCC005 Qual 2	Scorers Qualified / SCCC005	SCCC022 Qual 1	SCCC022 Qual 2	Scorers Qualified / SCCC022	SCCC040 Qual 1	SCCC040 Qual 2	Scorers Qualified / SCCC040
Total Passed	24	10	34	27	3	30	22	7	29
Total Failed	15	4	4	12	9	9	10	3	3
Grade 8	SCCC005 Qual 1	SCCC005 Qual 2	Scorers Qualified / SCCC005	SCCC022 Qual 1	SCCC022 Qual 2	Scorers Qualified / SCCC022	SCCC040 Qual 1	SCCC040 Qual 2	Scorers Qualified / SCCC040
Total Passed	37	32	69	37	4	41	61	6	67
Total Failed	42	10	10	11	7	7	13	6	6
Grade 11	SCCC006 Qual 1	SCCC006 Qual 2	Scorers Qualified / SCCC006	SCCC023 Qual 1	SCCC023 Qual 2	Scorers Qualified / SCCC023	SCCC043 Qual 1	SCCC043 Qual 2	Scorers Qualified / SCCC043
Total Passed	26	2	28	18	9	27	37	25	62
Total Failed	6	3	3	11	2	2	28	3	3

APPENDIX I
CLASSICAL ITEM STATISTICS

Calculations based on those students attempting 5 or more items on the English forms of the given NM-MSSA & ASR assessments. For 1-point items, the item-total correlation is the point-biserial. For 2 or more-point items, the item-total correlation is the point-polyserial.

Table I-1. Classical Item Statistics for the Operational Items on NM-MSSA ELA Grade 3*

PsyItemNumber	Item Type	Number of Students	Max Points	Item Mean	Item-Total Correlation
410756	MC	20,805	1	0.40	0.34
471158	MC	20,805	1	0.71	0.55
472136	MC	20,805	1	0.75	0.43
531273	MC	20,923	1	0.42	0.41
535773	MC	20,805	1	0.44	0.42
535779	MC	20,805	1	0.50	0.38
535783	MC	20,923	1	0.62	0.47
535785	MC	20,805	1	0.60	0.53
535787	MC	20,805	1	0.55	0.52
543201	MC	20,923	1	0.43	0.43
543207	MC	20,805	1	0.41	0.47
543217	MC	20,805	1	0.54	0.41
543219	MC	20,923	1	0.45	0.48
543221	MC	20,805	1	0.55	0.42
543341	MC	20,805	1	0.42	0.37
543347	MC	20,923	1	0.41	0.48
543353	MC	20,805	1	0.71	0.54
543359	MC	20,805	1	0.43	0.44
552233	MC	20,805	1	0.66	0.58
552235	MC	20,805	1	0.66	0.54
552251	MC	20,923	1	0.64	0.47
552255	MC	20,923	1	0.64	0.60
568986	MC	20,923	1	0.60	0.58
634993	MC	20,923	1	0.38	0.33
635014	MC	20,923	1	0.44	0.38
635016	MC	20,805	1	0.53	0.55
635018	MC	20,923	1	0.70	0.51
635021	MC	20,923	1	0.51	0.52
635023	MC	20,805	1	0.58	0.50
129626A	MC	20,923	1	0.52	0.43
129772A	MC	20,805	1	0.72	0.57
543355	MS-1	20,805	1	0.29	0.55
472140	EBSR-2	20,805	2	0.33	0.10
535797	EBSR-2	20,923	2	0.93	0.62
543199	EBSR-2	20,923	2	1.03	0.52
543339	EBSR-2	20,805	2	0.95	0.68
552223	EBSR-2	20,923	2	0.96	0.65
634989	EBSR-2	20,805	2	0.50	0.38

Calculations based on those students attempting 5 or more items on the English forms of the given NM-MSSA & ASR assessments. For 1-point items, the item-total correlation is the point-biserial. For 2 or more-point items, the item-total correlation is the point-polyserial.

Table I-2. Classical Item Statistics for the Operational Items on NM-MSSA ELA Grade 4*

PsyItemNumber	Item Type	Number of Students	Max Points	Item Mean	Item-Total Correlation
507388	MC	21,150	1	0.80	0.46
507392	MC	21,150	1	0.34	0.38
507400	MC	21,150	1	0.32	0.26
507402	MC	21,150	1	0.58	0.31
507408	MC	21,150	1	0.49	0.44
543905	MC	21,150	1	0.46	0.53
543909	MC	21,150	1	0.48	0.36
543913	MC	21,150	1	0.47	0.39
543915	MC	21,150	1	0.53	0.36
543919	MC	21,150	1	0.63	0.54
544455	MC	21,150	1	0.50	0.47
544457	MC	21,150	1	0.57	0.36
544460	MC	21,150	1	0.57	0.36
544476	MC	21,150	1	0.81	0.54
544483	MC	21,150	1	0.31	0.35
552931	MC	21,150	1	0.55	0.51
552933	MC	21,150	1	0.66	0.39
552940	MC	21,150	1	0.69	0.58
552946	MC	21,150	1	0.62	0.55
552948	MC	21,150	1	0.58	0.54
559872	MC	21,150	1	0.66	0.56
559874	MC	21,150	1	0.62	0.59
559888	MC	21,150	1	0.44	0.46
559890	MC	21,150	1	0.56	0.43
559892	MC	21,150	1	0.50	0.37
635061	MC	21,150	1	0.62	0.49
635063	MC	21,150	1	0.55	0.43
635081	MC	21,150	1	0.40	0.45
643502	MC	21,150	1	0.66	0.57
787293	MC	21,150	1	0.45	0.33
635065	MS-1	21,150	1	0.16	0.34
635079	MS-1	21,150	1	0.45	0.55
507406	EBSR-2	21,150	2	0.59	0.45
543911	EBSR-2	21,150	2	0.92	0.49
544453	EBSR-2	21,150	2	1.01	0.55
552927	EBSR-2	21,150	2	0.88	0.65
559880	EBSR-2	21,150	2	0.85	0.53
635057	EBSR-2	21,150	2	0.81	0.48

Calculations based on those students attempting 5 or more items on the English forms of the given NM-MSSA & ASR assessments. For 1-point items, the item-total correlation is the point-biserial. For 2 or more-point items, the item-total correlation is the point-polyserial.

Table I-3. Classical Item Statistics for the Operational Items on NM-MSSA ELA Grade 5*

PsyItemNumber	Item Type	Number of Students	Max Points	Item Mean	Item-Total Correlation
416355	MC	22,078	1	0.32	0.51
416377	MC	22,078	1	0.56	0.48
536199	MC	22,078	1	0.49	0.35
536203	MC	22,078	1	0.57	0.31
536205	MC	22,078	1	0.49	0.38
536209	MC	22,078	1	0.56	0.41
536213	MC	22,078	1	0.60	0.37
536393	MC	22,078	1	0.72	0.47
536395	MC	22,078	1	0.41	0.38
536397	MC	22,078	1	0.24	0.27
536405	MC	22,078	1	0.45	0.45
536411	MC	22,078	1	0.78	0.47
545263	MC	22,078	1	0.58	0.40
545265	MC	22,078	1	0.27	0.46
545279	MC	22,078	1	0.66	0.49
545281	MC	22,078	1	0.50	0.30
545283	MC	22,078	1	0.38	0.34
552559	MC	22,078	1	0.48	0.29
633769	MC	22,078	1	0.57	0.40
633778	MC	22,078	1	0.52	0.52
633783	MC	22,078	1	0.74	0.52
633789	MC	22,078	1	0.42	0.33
633791	MC	22,078	1	0.34	0.23
633795	MC	22,078	1	0.61	0.48
780665	MC	22,078	1	0.77	0.52
780667	MC	22,078	1	0.67	0.49
780669	MC	22,078	1	0.29	0.30
780671	MC	22,078	1	0.44	0.30
780673	MC	22,078	1	0.63	0.49
129312A	MC	22,078	1	0.36	0.41
129313A	MC	22,078	1	0.48	0.45
130722A	MC	22,078	1	0.27	0.23
536207	EBSR-2	22,078	2	1.18	0.63
536391	EBSR-2	22,078	2	1.07	0.46
545273	EBSR-2	22,078	2	0.63	0.42
552537	EBSR-2	22,078	2	0.73	0.46
633799	EBSR-2	22,078	2	0.73	0.49
129305A	EBSR-2	22,078	2	0.53	0.29

*Calculations based on those students attempting 5 or more items on the English forms of the given NM-MSSA & ASR assessments. For 1-point items, the item-total correlation is the point-biserial. For 2 or more-point items, the item-total correlation is the point-polyserial.

Table I-4. Classical Item Statistics for the Operational Items on NM-MSSA ELA Grade 6*

PsyItemNumber	Item Type	Number of Students	Max Points	Item Mean	Item-Total Correlation
409362	MC	22,207	1	0.71	0.35
409385	MC	22,207	1	0.40	0.40
409396	MC	22,207	1	0.42	0.43
409447	MC	22,207	1	0.31	0.25
409472	MC	22,207	1	0.56	0.38
505553	MC	22,207	1	0.74	0.39
505555	MC	22,207	1	0.82	0.45
505557	MC	22,207	1	0.64	0.45
505561	MC	22,207	1	0.77	0.43
505563	MC	22,207	1	0.39	0.29
537061	MC	22,207	1	0.63	0.38
537065	MC	22,207	1	0.56	0.41
537069	MC	22,207	1	0.49	0.29
537071	MC	22,207	1	0.51	0.46
537073	MC	22,207	1	0.86	0.47
542604	MC	22,207	1	0.53	0.34
542606	MC	22,207	1	0.47	0.31
552197	MC	22,207	1	0.45	0.39
552201	MC	22,207	1	0.63	0.47
552205	MC	22,207	1	0.54	0.51
552211	MC	22,207	1	0.43	0.28
553112	MC	22,207	1	0.45	0.32
553116	MC	22,207	1	0.63	0.52
553120	MC	22,207	1	0.51	0.31
553126	MC	22,207	1	0.40	0.25
553128	MC	22,207	1	0.38	0.26
553130	MC	22,207	1	0.46	0.37
635413	MC	22,207	1	0.54	0.38
635415	MC	22,207	1	0.35	0.21
635423	MC	22,207	1	0.31	0.19
635425	MC	22,207	1	0.39	0.40
635427	MC	22,207	1	0.37	0.17
409458	EBSR-2	22,207	2	0.92	0.53
505559	EBSR-2	22,207	2	0.95	0.54
537067	EBSR-2	22,207	2	0.77	0.55
552195	EBSR-2	22,207	2	1.23	0.57
553108	EBSR-2	22,207	2	0.74	0.44
635396	EBSR-2	22,207	2	0.45	0.31

*Calculations based on those students attempting 5 or more items on the English forms of the given NM-MSSA & ASR assessments. For 1-point items, the item-total correlation is the point-biserial. For 2 or more-point items, the item-total correlation is the point-polyserial.

Table I-5. Classical Item Statistics for the Operational Items on NM-MSSA ELA Grade 7*

PsyItemNumber	Item Type	Number of Students	Max Points	Item Mean	Item-Total Correlation
478253	MC	23,345	1	0.59	0.51
478263	MC	23,345	1	0.91	0.34
478265	MC	23,446	1	0.42	0.40
478269	MC	23,446	1	0.48	0.33
478271	MC	23,345	1	0.55	0.39
478277	MC	23,446	1	0.59	0.49
506279	MC	23,446	1	0.46	0.47
506282	MC	23,446	1	0.73	0.51
506285	MC	23,446	1	0.86	0.45
506287	MC	23,345	1	0.44	0.32
506302	MC	23,446	1	0.32	0.18
546546	MC	23,345	1	0.47	0.19
546548	MC	23,345	1	0.44	0.30
546554	MC	23,446	1	0.50	0.29
546559	MC	23,345	1	0.62	0.46
546561	MC	23,345	1	0.46	0.42
546940	MC	23,446	1	0.32	0.40
546948	MC	23,446	1	0.61	0.37
546952	MC	23,446	1	0.40	0.49
546957	MC	23,446	1	0.67	0.54
546959	MC	23,446	1	0.73	0.37
635295	MC	23,345	1	0.35	0.29
635299	MC	23,345	1	0.52	0.45
635303	MC	23,446	1	0.54	0.35
635307	MC	23,446	1	0.61	0.42
635313	MC	23,345	1	0.29	0.13
780583	MC	23,446	1	0.60	0.42
780596	MC	23,446	1	0.32	0.32
780599	MC	23,446	1	0.53	0.32
780602	MC	23,345	1	0.35	0.50
780604	MC	23,446	1	0.56	0.36
635309	MS-1	23,446	1	0.19	0.37
478255	EBSR-2	23,446	2	1.32	0.56
506297	EBSR-2	23,345	2	0.58	0.40
546544	EBSR-2	23,345	2	0.79	0.59
546945	EBSR-2	23,446	2	1.03	0.56
635291	EBSR-2	23,345	2	0.45	0.34
780585	EBSR-2	23,446	2	0.53	0.32

Calculations based on those students attempting 5 or more items on the English forms of the given NM-MSSA & ASR assessments. For 1-point items, the item-total correlation is the point-biserial. For 2 or more-point items, the item-total correlation is the point-polyserial.

Table I-6. Classical Item Statistics for the Operational Items on NM-MSSA ELA Grade 8*

PsyItemNumber	Item Type	Number of Students	Max Points	Item Mean	Item-Total Correlation
402075	MC	23,937	1	0.51	0.23
402077	MC	23,937	1	0.33	0.24
402111	MC	23,937	1	0.78	0.37
402116	MC	23,937	1	0.70	0.46
402118	MC	23,937	1	0.60	0.45
420872	MC	23,937	1	0.54	0.45
420913	MC	23,937	1	0.32	0.32
420925	MC	23,937	1	0.42	0.33
420929	MC	23,937	1	0.45	0.37
420946	MC	23,937	1	0.50	0.47
420952	MC	23,937	1	0.58	0.40
538732	MC	23,937	1	0.63	0.30
538734	MC	23,937	1	0.31	0.33
538745	MC	23,937	1	0.65	0.49
538751	MC	23,937	1	0.54	0.38
538753	MC	23,937	1	0.54	0.47
546795	MC	23,937	1	0.67	0.48
546797	MC	23,937	1	0.43	0.28
546807	MC	23,937	1	0.61	0.49
546809	MC	23,937	1	0.68	0.33
546811	MC	23,937	1	0.33	0.32
560476	MC	23,937	1	0.58	0.40
560483	MC	23,937	1	0.39	0.30
560487	MC	23,937	1	0.58	0.44
560494	MC	23,937	1	0.40	0.32
560500	MC	23,937	1	0.59	0.50
560504	MC	23,937	1	0.35	0.26
641557	MC	23,937	1	0.69	0.43
641559	MC	23,937	1	0.49	0.52
641563	MC	23,937	1	0.65	0.59
641565	MC	23,937	1	0.58	0.50
641579	MC	23,937	1	0.29	0.24
402079	EBSR-2	23,937	2	0.82	0.49
420980	EBSR-2	23,937	2	0.86	0.36
538743	EBSR-2	23,937	2	0.98	0.57
546803	EBSR-2	23,937	2	1.14	0.58
560466	EBSR-2	23,937	2	0.90	0.44
641567	EBSR-2	23,937	2	0.88	0.53

Calculations based on those students attempting 5 or more items on the English forms of the given NM-MSSA & ASR assessments. For 1-point items, the item-total correlation is the point-biserial. For 2 or more-point items, the item-total correlation is the point-polyserial.

Table I-7. Classical Item Statistics for the Operational Items on NM-MSSA Mathematics Grade 3*

PsyItemNumber	Item Type	Number of Students	Max Points	Item Mean	Item-Total Correlation
400432	MC	20,843	1	0.23	0.28
400434	MC	20,843	1	0.52	0.45
408129	MC	20,843	1	0.32	0.43
408165	MC	20,843	1	0.36	0.38
409840	MC	20,843	1	0.36	0.25
410981	MC	20,843	1	0.42	0.50
411119	MC	20,843	1	0.55	0.54
411154	MC	20,843	1	0.64	0.45
411280	MC	20,843	1	0.42	0.31
411642	MC	20,843	1	0.38	0.43
462345	MC	20,843	1	0.60	0.54
462672	MC	20,843	1	0.54	0.49
464204	MC	20,843	1	0.49	0.53
464322	MC	20,843	1	0.25	0.38
532135	MC	20,843	1	0.55	0.46
539890	MC	20,843	1	0.37	0.25
539940	MC	20,843	1	0.84	0.37
541272	MC	20,843	1	0.49	0.47
557246	MC	20,843	1	0.40	0.39
619098	MC	20,843	1	0.61	0.28
619106	MC	20,843	1	0.31	0.14
619113	MC	20,843	1	0.14	0.15
619117	MC	20,843	1	0.31	0.42
619121	MC	20,843	1	0.50	0.40
619137	MC	20,843	1	0.62	0.38
619213	MC	20,843	1	0.52	0.28
619229	MC	20,843	1	0.76	0.40
619239	MC	20,843	1	0.44	0.51
124462A	MC	20,843	1	0.58	0.41
125118A	MC	20,843	1	0.46	0.43
125246A	MC	20,843	1	0.38	0.40
462552	MS-1	20,843	1	0.48	0.52
619149	MS-1	20,843	1	0.29	0.46
785028B	CR-1	20,843	1	0.07	0.42
785057B	CR-1	20,843	1	0.16	0.56
785028A	CR-2	20,843	2	0.37	0.64
785032B	CR-2	20,843	2	0.35	0.63
785057A	CR-2	20,843	2	0.88	0.66
785068B	CR-2	20,843	2	0.24	0.61
785032A	CR-4	20,843	4	0.68	0.67
785068A	CR-4	20,843	4	1.11	0.77

Calculations based on those students attempting 5 or more items on the English forms of the given NM-MSSA & ASR assessments. For 1-point items, the item-total correlation is the point-biserial. For 2 or more-point items, the item-total correlation is the point-polyserial.

Table I-8. Classical Item Statistics for the Operational Items on NM-MSSA Mathematics Grade 4*

PsyItemNumber	Item Type	Number of Students	Max Points	Item Mean	Item-Total Correlation
405640	MC	21,050	1	0.61	0.49
411201	MC	21,050	1	0.62	0.52
411727	MC	21,050	1	0.40	0.37
411832	MC	21,050	1	0.56	0.46
469075	MC	21,050	1	0.19	0.35
540258	MC	21,050	1	0.73	0.40
540273	MC	21,050	1	0.52	0.41
540283	MC	21,050	1	0.29	0.38
540312	MC	21,050	1	0.25	0.38
540589	MC	21,050	1	0.35	0.41
540601	MC	21,050	1	0.49	0.42
540609	MC	21,050	1	0.71	0.41
541522	MC	21,050	1	0.26	0.15
560922	MC	21,050	1	0.47	0.39
560934	MC	21,050	1	0.37	0.34
560945	MC	21,050	1	0.44	0.36
629029	MC	21,050	1	0.58	0.35
629094	MC	21,050	1	0.41	0.20
629096	MC	21,050	1	0.27	0.28
629111	MC	21,050	1	0.47	0.46
629132	MC	21,050	1	0.38	0.30
124772A	MC	21,050	1	0.42	0.45
124856A	MC	21,050	1	0.40	0.41
124948A	MC	21,050	1	0.36	0.32
124950A	MC	21,050	1	0.45	0.40
126016A	MC	21,050	1	0.42	0.46
126018A	MC	21,050	1	0.63	0.41
126898A	MC	21,050	1	0.30	0.29
127388A	MC	21,050	1	0.28	0.37
127466A	MC	21,050	1	0.24	0.24
127597A	MC	21,050	1	0.26	0.28
462908	MS-1	21,050	1	0.15	0.39
629036	MS-1	21,050	1	0.52	0.58
127470AB	CR-1	21,050	1	0.27	0.59
551336B	CR-1	21,050	1	0.06	0.42
127470AA	CR-2	21,050	2	0.29	0.61
551336A	CR-2	21,050	2	0.14	0.47
630481B	CR-2	21,050	2	0.61	0.67
785071B	CR-2	21,050	2	0.17	0.57
630481A	CR-4	21,050	4	1.05	0.74
785071A	CR-4	21,050	4	0.81	0.72

Calculations based on those students attempting 5 or more items on the English forms of the given NM-MSSA & ASR assessments. For 1-point items, the item-total correlation is the point-biserial. For 2 or more-point items, the item-total correlation is the point-polyserial.

Table I-9. Classical Item Statistics for the Operational Items on NM-MSSA Mathematics Grade 5*

PsyItemNumber	Item Type	Number of Students	Max Points	Item Mean	Item-Total Correlation
400300	MC	21,967	1	0.35	0.06
400488	MC	21,967	1	0.38	0.39
400639	MC	21,967	1	0.38	0.33
400667	MC	21,967	1	0.29	0.27
400711	MC	21,967	1	0.69	0.44
405931	MC	21,967	1	0.53	0.35
411304	MC	21,967	1	0.67	0.53
411847	MC	21,967	1	0.36	0.30
411953	MC	21,967	1	0.27	0.40
414925	MC	21,967	1	0.63	0.50
414988	MC	21,967	1	0.54	0.50
464308	MC	21,967	1	0.47	0.48
465792	MC	21,967	1	0.41	0.29
532486	MC	21,967	1	0.33	0.50
532490	MC	21,967	1	0.42	0.41
539188	MC	21,967	1	0.50	0.11
539225	MC	21,967	1	0.24	0.10
539227	MC	21,967	1	0.33	0.14
540666	MC	21,967	1	0.22	0.23
540704	MC	21,967	1	0.23	0.17
540708	MC	21,967	1	0.70	0.38
558689	MC	21,967	1	0.64	0.24
558705	MC	21,967	1	0.28	0.18
607307	MC	21,967	1	0.48	0.31
607369	MC	21,967	1	0.16	0.43
607394	MC	21,967	1	0.52	0.51
607538	MC	21,967	1	0.47	0.38
124077A	MC	21,967	1	0.59	0.34
124514A	MC	21,967	1	0.41	0.31
124555A	MC	21,967	1	0.32	0.44
125071A	MC	21,967	1	0.43	0.39
125951A	MC	21,967	1	0.54	0.44
466529	MS-1	21,967	1	0.34	0.38
785030B	CR-1	21,967	1	0.10	0.53
785036B	CR-1	21,967	1	0.31	0.43
412281B	CR-2	21,967	2	0.64	0.72
607550B	CR-2	21,967	2	0.33	0.67
785030A	CR-2	21,967	2	0.51	0.63
785036A	CR-2	21,967	2	0.42	0.47
412281A	CR-4	21,967	4	1.62	0.75
607550A	CR-4	21,967	4	0.93	0.77

*Calculations based on those students attempting 5 or more items on the English forms of the given NM-MSSA & ASR assessments. For 1-point items, the item-total correlation is the point-biserial. For 2 or more-point items, the item-total correlation is the point-polyserial.

Table I-10. Classical Item Statistics for the Operational Items on NM-MSSA Mathematics Grade 6*

PsyItemNumber	Item Type	Number of Students	Max Points	Item Mean	Item-Total Correlation
411834	MC	22,106	1	0.59	0.37
412050	MC	22,106	1	0.55	0.46
412393	MC	22,106	1	0.22	0.31
412411	MC	22,106	1	0.57	0.42
412462	MC	22,106	1	0.48	0.40
415140	MC	22,106	1	0.35	0.32
415230	MC	22,106	1	0.24	0.38
419551	MC	22,106	1	0.58	0.44
464569	MC	22,106	1	0.31	0.30
464677	MC	22,106	1	0.27	0.30
539618	MC	22,106	1	0.27	0.37
539622	MC	22,106	1	0.33	0.26
539649	MC	22,106	1	0.55	0.42
540126	MC	22,106	1	0.20	0.19
540725	MC	22,106	1	0.32	0.27
540727	MC	22,106	1	0.35	0.21
607665	MC	22,106	1	0.55	0.34
607669	MC	22,106	1	0.32	0.30
607679	MC	22,106	1	0.35	0.33
607683	MC	22,106	1	0.27	0.31
607721	MC	22,106	1	0.62	0.45
607725	MC	22,106	1	0.60	0.48
607729	MC	22,106	1	0.22	0.37
607745	MC	22,106	1	0.59	0.24
607751	MC	22,106	1	0.45	0.54
607759	MC	22,106	1	0.26	0.36
607769	MC	22,106	1	0.60	0.37
607773	MC	22,106	1	0.23	0.31
607782	MC	22,106	1	0.31	0.11
607813	MC	22,106	1	0.25	0.24
607820	MC	22,106	1	0.55	0.34
814923	MC	22,106	1	0.39	0.32
124799A	MC	22,106	1	0.52	0.57
127738A	MC	22,106	1	0.45	0.40
558385	MS-1	22,106	1	0.22	0.53
607677	MS-1	22,106	1	0.27	0.47
465321B	CR-1	22,106	1	0.02	0.27
540196B	CR-1	22,106	1	0.12	0.49
465321A	CR-2	22,106	2	0.12	0.50
540196A	CR-2	22,106	2	0.63	0.64
785048B	CR-2	22,106	2	0.23	0.58
785074B	CR-2	22,106	2	0.50	0.63
785048A	CR-4	22,106	4	1.27	0.76
785074A	CR-4	22,106	4	0.88	0.73

Calculations based on those students attempting 5 or more items on the English forms of the given NM-MSSA & ASR assessments. For 1-point items, the item-total correlation is the point-biserial. For 2 or more-point items, the item-total correlation is the point-polyserial.

Table I-11. Classical Item Statistics for the Operational Items on NM-MSSA Mathematics Grade 7*

PsyItemNumber	Item Type	Number of Students	Max Points	Item Mean	Item-Total Correlation
410251	MC	23,332	1	0.54	0.29
412048	MC	23,332	1	0.39	0.37
412122	MC	23,332	1	0.40	0.39
412200	MC	23,332	1	0.44	0.38
412224	MC	23,332	1	0.41	0.41
412251	MC	23,332	1	0.61	0.40
412372	MC	23,332	1	0.14	0.38
412545	MC	23,332	1	0.30	0.33
467208	MC	23,332	1	0.43	0.54
467221	MC	23,332	1	0.41	0.31
467828	MC	23,332	1	0.57	0.37
539389	MC	23,332	1	0.36	0.46
539391	MC	23,332	1	0.34	0.27
539407	MC	23,332	1	0.34	0.44
539410	MC	23,332	1	0.21	0.24
539450	MC	23,332	1	0.48	0.43
540128	MC	23,332	1	0.63	0.43
540183	MC	23,332	1	0.32	0.08
557940	MC	23,332	1	0.29	0.48
557952	MC	23,332	1	0.29	0.28
607105	MC	23,332	1	0.35	0.31
607119	MC	23,332	1	0.59	0.48
607161	MC	23,332	1	0.44	0.57
607163	MC	23,332	1	0.51	0.40
607167	MC	23,332	1	0.74	0.26
607179	MC	23,332	1	0.33	0.28
607187	MC	23,332	1	0.39	0.33
607196	MC	23,332	1	0.41	0.29
607205	MC	23,332	1	0.56	0.35
607215	MC	23,332	1	0.35	0.46
628125	MC	23,332	1	0.34	0.45
124359A	MC	23,332	1	0.46	0.37
124504A	MC	23,332	1	0.38	0.32
607127	MS-1	23,332	1	0.66	0.43
607151	MS-1	23,332	1	0.06	0.37
607181	MS-1	23,332	1	0.13	0.48
532215B	CR-1	23,332	1	0.03	0.30
541147B	CR-1	23,332	1	0.19	0.64
532215A	CR-2	23,332	2	0.33	0.53
541147A	CR-2	23,332	2	0.51	0.68
607222B	CR-2	23,332	2	0.20	0.60
784971B	CR-2	23,332	2	0.21	0.61
607222A	CR-4	23,332	4	0.76	0.73
784971A	CR-4	23,332	4	0.82	0.75

*Calculations based on those students attempting 5 or more items on the English forms of the given NM-MSSA & ASR assessments. For 1-point items, the item-total correlation is the point-biserial. For 2 or more-point items, the item-total correlation is the point-polyserial.

Table I-12. Classical Item Statistics for the Operational Items on NM-MSSA Mathematics Grade 8*

PsyItemNumber	Item Type	Number of Students	Max Points	Item Mean	Item-Total Correlation
412703	MC	23,817	1	0.47	0.46
413063	MC	23,817	1	0.79	0.33
413110	MC	23,817	1	0.31	0.14
413137	MC	23,817	1	0.30	0.09
413229	MC	23,817	1	0.69	0.45
465465	MC	23,817	1	0.33	0.29
483010	MC	23,817	1	0.52	0.29
483259	MC	23,817	1	0.45	0.35
483452	MC	23,817	1	0.37	0.21
532395	MC	23,817	1	0.35	0.26
540824	MC	23,817	1	0.34	0.26
540848	MC	23,817	1	0.16	0.11
540850	MC	23,817	1	0.34	0.22
540876	MC	23,817	1	0.32	0.22
540878	MC	23,817	1	0.23	0.26
540892	MC	23,817	1	0.67	0.42
540955	MC	23,817	1	0.55	0.41
541128	MC	23,817	1	0.35	0.43
561218	MC	23,817	1	0.52	0.42
614704	MC	23,817	1	0.42	0.15
614751	MC	23,817	1	0.25	0.16
614780	MC	23,817	1	0.30	0.36
614901	MC	23,817	1	0.34	0.25
614917	MC	23,817	1	0.40	0.18
614939	MC	23,817	1	0.27	0.17
614949	MC	23,817	1	0.57	0.49
614995	MC	23,817	1	0.32	0.31
615024	MC	23,817	1	0.42	0.22
615038	MC	23,817	1	0.34	0.16
615097	MC	23,817	1	0.33	0.29
615298	MC	23,817	1	0.64	0.45
615300	MC	23,817	1	0.44	0.20
615303	MC	23,817	1	0.64	0.34
127852A	MC	23,817	1	0.61	0.46
615053	MS-1	23,817	1	0.52	0.46
615111	MS-1	23,817	1	0.22	0.48
468816B	CR-1	23,817	1	0.15	0.43
468821B	CR-1	23,817	1	0.05	0.45
468816A	CR-2	23,817	2	0.26	0.44
468821A	CR-2	23,817	2	0.30	0.53
615411B	CR-2	23,817	2	0.17	0.65
784969B	CR-2	23,817	2	0.04	0.45
615411A	CR-4	23,817	4	0.39	0.64
784969A	CR-4	23,817	4	0.19	0.60

Calculations based on those students attempting 5 or more items on the English forms of the given NM-MSSA & ASR assessments. For 1-point items, the item-total correlation is the point-biserial. For 2 or more-point items, the item-total correlation is the point-polyserial.

Table I-13. Classical Item Statistics for the Operational Items on NM-ASR Science Grade 5*

PsyItemNumber	Item Type	Number of Students	Max Points	Item Mean	Item-Total Correlation
629699	MC	21,994	1	0.50	0.30
637807	MC	21,994	1	0.72	0.43
637951	MC	21,994	1	0.47	0.42
638656	MC	21,994	1	0.26	0.23
638658	MC	19,265	1	0.40	0.37
642420	MC	21,994	1	0.41	0.34
642500	MC	21,994	1	0.29	0.37
706138	MC	21,994	1	0.42	0.32
706149	MC	19,265	1	0.47	0.37
707771	MC	21,994	1	0.26	0.16
785045	MC	2,729	1	0.34	0.22
785090	MC	2,729	1	0.37	0.32
660537	CR-4	19,265	4	1.08	0.65
697164	CR-4	19,265	4	1.05	0.66
716042	CR-4	19,265	4	0.80	0.64
633906	MSMC-2	14,495	2	0.46	0.43
626442	PMC-2	14,495	2	1.32	0.51
626464	PMC-2	14,495	2	1.29	0.62
629701	PMC-2	19,265	2	0.97	0.48
629711	PMC-2	19,265	2	0.39	0.24
632581	PMC-2	7,499	2	0.93	0.39
633993	PMC-2	7,499	2	1.45	0.53
637712	PMC-2	7,499	2	1.37	0.54
637796	PMC-2	7,499	2	1.51	0.52
638354	PMC-2	19,265	2	0.95	0.62
638558	PMC-2	21,994	2	1.27	0.65
638639	PMC-2	19,265	2	1.00	0.35
641167	PMC-2	11,766	2	0.81	0.42
706119	PMC-2	21,994	2	1.13	0.49
706135	PMC-2	19,265	2	0.88	0.55
784722	PMC-2	2,729	2	0.79	0.49
784830	PMC-2	2,729	2	1.31	0.52
784847	PMC-2	2,729	2	0.88	0.53
785041	PMC-2	2,729	2	0.88	0.46
785050	PMC-2	2,729	2	1.42	0.50
785081	PMC-2	2,729	2	0.89	0.46
785084	PMC-2	2,729	2	0.69	0.30
785087	PMC-2	2,729	2	0.77	0.50
785092	PMC-2	2,729	2	0.91	0.54
629709	TEI-1	19,265	1	0.27	0.41
707925	TEI-1	19,265	1	0.32	0.35
626478	TEI-2	11,766	2	0.78	0.42
632085	TEI-2	7,499	2	1.03	0.43
633477	TEI-2	7,499	2	0.57	0.52
637201	TEI-2	11,766	2	1.53	0.46
638526	TEI-2	19,265	2	1.09	0.54
639510	TEI-2	11,766	2	0.73	0.56
642464	TEI-2	19,265	2	0.85	0.47
642482	TEI-2	19,265	2	0.74	0.37
697027	TEI-2	11,766	2	1.11	0.48
697042	TEI-2	7,499	2	0.72	0.33
697128	TEI-2	7,499	2	1.11	0.46
707640	TEI-2	19,265	2	0.58	0.47
707941	TEI-2	19,265	2	0.85	0.63

*Calculations based on those students attempting 5 or more items on the English forms of the given NM-MSSA & ASR assessments. For 1-point items, the item-total correlation is the point-biserial. For 2 or more-point items, the item-total correlation is the point-polyserial.

Table I-14. Classical Item Statistics for the Operational Items on NM-ASR Science Grade 8*

PsyItemNumber	Item Type	Number of Students	Max Points	Item Mean	Item-Total Correlation
628197	MC	23,901	1	0.30	0.39
636837	MC	23,901	1	0.41	0.45
636843	MC	23,901	1	0.40	0.34
640186	MC	23,901	1	0.60	0.51
640261	MC	23,901	1	0.38	0.46
641873	MC	23,901	1	0.37	0.34
641894	MC	23,901	1	0.27	0.26
642424	MC	23,901	1	0.42	0.36
709292	MC	23,901	1	0.32	0.28
785176	MC	3,087	1	0.45	0.40
786039	MC	3,087	1	0.30	0.33
663632	CR-4	23,901	4	0.93	0.61
697424	CR-4	23,901	4	0.56	0.60
717529	CR-4	23,715	4	0.99	0.63
709306	MS-1	23,901	1	0.15	0.25
696485	MSMC-2	8,665	2	0.37	0.45
628173	PMC-2	23,901	2	0.93	0.53
628181	PMC-2	23,901	2	1.09	0.56
631387	PMC-2	8,665	2	0.73	0.32
636830	PMC-2	23,901	2	1.09	0.47
636852	PMC-2	23,901	2	0.78	0.44
637562	PMC-2	15,236	2	1.00	0.55
637622	PMC-2	15,236	2	1.06	0.55
640163	PMC-2	15,236	2	0.79	0.34
640733	PMC-2	15,236	2	0.81	0.32
640740	PMC-2	15,236	2	1.00	0.49
641845	PMC-2	23,901	2	0.51	0.37
642091	PMC-2	23,901	2	0.58	0.31
642209	PMC-2	8,665	2	0.98	0.53
642321	PMC-2	8,665	2	1.12	0.48
642383	PMC-2	23,901	2	1.10	0.58
642466	PMC-2	23,901	2	0.54	0.26
696483	PMC-2	15,236	2	0.76	0.37
709309	PMC-2	23,901	2	0.84	0.52
784967	PMC-2	3,087	2	0.89	0.49
786027	PMC-2	3,087	2	0.69	0.40
786042	PMC-2	3,087	2	0.60	0.33
786045	PMC-2	3,087	2	1.00	0.49
786048	PMC-2	3,087	2	0.46	0.16
628178	TEI-1	20,814	1	0.41	0.33
642432	TEI-1	20,814	1	0.56	0.38
626136	TEI-2	12,149	2	1.07	0.53
640295	TEI-2	20,814	2	0.63	0.41
640421	TEI-2	20,814	2	0.73	0.58
641230	TEI-2	8,665	2	1.10	0.45
642853	TEI-2	8,665	2	1.14	0.60
697241	TEI-2	8,665	2	0.87	0.54
697363	TEI-2	8,665	2	0.85	0.51
697420	TEI-2	12,149	2	0.60	0.35
709294	TEI-2	20,814	2	0.38	0.30

Calculations based on those students attempting 5 or more items on the English forms of the given NM-MSSA & ASR assessments. For 1-point items, the item-total correlation is the point-biserial. For 2 or more-point items, the item-total correlation is the point-polyserial.

Table I-15. Classical Item Statistics for the Operational Items on NM-ASR Science Grade 11*

PsyItemNumber	Item Type	Number of Students	Max Points	Item Mean	Item-Total Correlation
631408	MC	19,734	1	0.41	0.34
631412	MC	19,734	1	0.45	0.34
633246	MC	19,734	1	0.63	0.45
633315	MC	19,734	1	0.47	0.42
636948	MC	19,734	1	0.42	0.14
636950	MC	19,734	1	0.38	0.38
642301	MC	19,734	1	0.18	0.14
642312	MC	19,734	1	0.17	0.15
705787	MC	19,734	1	0.24	0.22
705815	MC	19,734	1	0.43	0.25
782469	MC	2,675	1	0.36	0.30
782471	MC	2,675	1	0.40	0.48
637725	CR-4	19,734	4	0.73	0.56
665801	CR-4	19,734	4	1.18	0.65
710876	CR-4	19,734	4	0.90	0.49
696546	MSMC-2	11,963	2	0.40	0.29
624696	PMC-2	11,963	2	0.49	0.40
626027	PMC-2	11,963	2	0.96	0.51
627075	PMC-2	11,963	2	0.65	0.39
628033	PMC-2	11,963	2	1.11	0.60
632405	PMC-2	19,734	2	1.09	0.57
632730	PMC-2	19,734	2	0.72	0.48
633266	PMC-2	19,734	2	0.74	0.41
635586	PMC-2	11,963	2	0.72	0.36
636968	PMC-2	19,734	2	1.08	0.61
637606	PMC-2	7,771	2	0.58	0.27
637610	PMC-2	11,963	2	0.55	0.39
637789	PMC-2	7,771	2	0.58	0.40
638894	PMC-2	11,963	2	0.83	0.53
641177	PMC-2	7,771	2	0.68	0.42
642289	PMC-2	19,734	2	0.51	0.39
642303	PMC-2	19,734	2	0.91	0.36
705738	PMC-2	19,734	2	0.44	0.22
705807	PMC-2	19,734	2	0.69	0.37
706583	PMC-2	19,734	2	0.64	0.39
782456	PMC-2	2,675	2	1.20	0.55
782458	PMC-2	2,675	2	0.90	0.49
782467	PMC-2	2,675	2	1.01	0.55
782473	PMC-2	2,675	2	0.90	0.52
782475	PMC-2	2,675	2	0.72	0.50
706534	TEI-1	17,059	1	0.21	0.30
706670	TEI-1	17,059	1	0.42	0.47
627081	TEI-2	9,288	2	0.65	0.47
628015	TEI-2	7,771	2	0.84	0.39
631399	TEI-2	17,059	2	1.21	0.55
633128	TEI-2	7,771	2	0.78	0.56
636974	TEI-2	17,059	2	0.83	0.50
637527	TEI-2	7,771	2	0.50	0.59
637729	TEI-2	7,771	2	1.13	0.60
641466	TEI-2	7,771	2	1.06	0.49
642193	TEI-2	7,771	2	0.97	0.45
642533	TEI-2	9,288	2	0.96	0.52
670753	TEI-2	7,771	2	0.39	0.37
706468	TEI-2	17,059	2	0.99	0.54

*Calculations based on those students attempting 5 or more items on the English forms of the given NM-MSSA & ASR assessments. For 1-point items, the item-total correlation is the point-biserial. For 2 or more-point items, the item-total correlation is the point-polyserial.

APPENDIX J
ITEM RESPONSE THEORY PARAMETERS

Table J-1. IRT Parameters for Operational Items on the NM-MSSA Grade 3 ELA Assessment

Item ID	a	b	c	d0	d1	d2
129626A	0.72793	0.47719	0.21430			
129772A	1.18077	-0.79319	0.15938			
410756	0.73447	0.97579	0.21437			
471158	1.02011	-0.58000	0.18194			
472136	0.71363	-0.70680	0.25817			
531273	0.74826	0.70881	0.20314			
535773	1.41886	0.72505	0.29601			
535779	0.71815	0.19134	0.21394			
535783	0.82051	-0.44170	0.19459			
535785	1.43373	-0.18431	0.36269			
535787	1.23853	0.36233	0.24507			
543201	1.09328	0.34857	0.22343			
543207	1.54643	0.47944	0.24069			
543217	1.13472	0.26304	0.29976			
543219	1.25211	0.45283	0.18028			
543221	1.05540	0.26910	0.20425			
543341	1.17603	0.55036	0.19999			
543347	1.16575	0.58612	0.16656			
543353	1.18943	-0.82961	0.06295			
543359	0.97623	0.89372	0.22508			
552233	1.41813	-0.32446	0.22621			
552235	0.84310	-0.71083	0.08758			
552251	0.88685	-0.80997	0.07513			
552255	1.63805	-0.19938	0.18059			
568986	0.98347	-0.44496	0.09311			
634993	0.99176	1.26522	0.24289			
635014	0.74856	0.35851	0.18617			
635016	1.59340	0.53921	0.22470			
635018	1.01632	-0.34131	0.28985			
635021	1.26553	0.84321	0.23947			
635023	1.37901	0.28234	0.25060			
543355	0.88011	0.44027	0.00000			
472140	0.30647	3.24852	--	0.76354	-0.76354	0.00000
535797	0.88420	-0.05546	--	0.52528	-0.52528	0.00000
543199	0.63267	0.07065	--	0.28252	-0.28252	0.00000
543339	1.09006	-0.14293	--	0.25320	-0.25320	0.00000
552223	0.99411	-0.10920	--	0.21364	-0.21364	0.00000
634989	0.68273	1.05887	--	0.37372	-0.37372	0.00000

Table J-2. IRT Parameters for Operational Items on the NM-MSSA Grade 4 ELA Assessment

Item ID	a	b	c	d0	d1	d2
507388	1.08614	-1.30780	0.18142			
507392	0.92802	0.63835	0.16349			
507400	0.72228	1.08665	0.16074			
507402	0.92288	0.35909	0.34396			
507408	1.05723	0.29178	0.25478			
543905	1.18483	0.13849	0.16182			
543909	0.47018	0.33815	0.21662			
543913	0.84959	0.57456	0.23694			
543915	0.57838	0.14166	0.17779			
543919	1.40433	-0.57500	0.20840			
544455	0.73658	-0.14271	0.09195			
544457	0.50547	-0.58942	0.00000			
544460	0.38886	-0.84036	0.00000			
544476	1.62772	-1.21899	0.05935			
544483	0.88523	0.91094	0.13129			
552931	1.23378	0.09629	0.18836			
552933	0.58004	-0.88966	0.00000			
552940	1.47121	-0.52494	0.15187			
552946	1.32044	-0.04411	0.20669			
552948	0.95154	-0.14121	0.07554			
559872	1.25429	-0.53657	0.24676			
559874	1.19554	-0.54597	0.07554			
559888	1.08151	0.33160	0.20661			
559890	0.75278	0.04060	0.18323			
559892	0.71397	0.15106	0.24230			
635061	0.74772	-0.45992	0.19608			
635063	0.92295	0.12884	0.26132			
635081	0.97661	0.84908	0.20693			
643502	1.08403	-0.30553	0.20756			
787293	0.53474	0.57995	0.16318			
635065	0.60323	1.55117	0.00000			
635079	0.82797	-0.04534	0.00000			
507406	0.76244	0.55479	--	0.25275	-0.25275	0.00000
543911	0.45302	-0.42587	--	0.43861	-0.43861	0.00000
544453	0.56490	-0.34227	--	0.29228	-0.29228	0.00000
552927	1.02753	0.02368	--	0.20947	-0.20947	0.00000
559880	0.68161	0.17204	--	1.00692	-1.00692	0.00000
635057	0.52012	0.39812	--	0.63661	-0.63661	0.00000

Table J-3. IRT Parameters for Operational Items on the NM-MSSA Grade 5 ELA Assessment

Item ID	a	b	c	d0	d1	d2
129312A	1.24231	0.72457	0.18178			
129313A	1.00463	0.44936	0.24626			
130722A	1.46640	1.40785	0.20983			
416355	1.80395	0.58067	0.12197			
416377	1.49653	-0.20293	0.21009			
536199	0.75950	0.69486	0.26308			
536203	0.53307	0.10254	0.19123			
536205	1.17637	0.26348	0.26653			
536209	0.89831	-0.27119	0.18661			
536213	0.64550	-0.42709	0.17021			
536393	0.88678	-1.03216	0.23012			
536395	0.76348	0.63977	0.24257			
536397	0.60988	1.66400	0.10245			
536405	0.88372	0.19567	0.22762			
536411	1.06741	-0.75188	0.24245			
545263	0.53732	-0.82096	0.07503			
545265	1.40358	0.74459	0.08862			
545279	1.00320	-0.64873	0.18338			
545281	0.79262	0.70467	0.26017			
545283	0.66115	0.86306	0.17596			
552559	0.68894	0.54738	0.22366			
633769	0.44227	-0.13209	0.16843			
633778	1.02914	0.18566	0.20086			
633783	0.98319	-0.82140	0.14677			
633789	0.42072	0.20308	0.00000			
633791	0.45290	1.60281	0.12640			
633795	0.87255	-0.27687	0.15873			
780665	1.54044	-0.94901	0.21887			
780667	0.85510	-0.93894	0.14097			
780669	0.61399	1.26726	0.10345			
780671	0.65619	0.78190	0.26079			
780673	1.43383	-0.18982	0.30868			
129305A	0.27877	2.42468	--	1.57689	-1.57689	0.00000
536207	0.89392	-0.48548	--	0.24710	-0.24710	0.00000
536391	0.50983	-0.38859	--	0.12324	-0.12324	0.00000
545273	0.40459	0.96963	--	0.55452	-0.55452	0.00000
552537	0.50864	0.38961	--	0.43584	-0.43584	0.00000
633799	0.70292	0.24328	--	0.31771	-0.31771	0.00000

Table J-4. IRT Parameters for Operational Items on the NM-MSSA Grade 6 ELA Assessment

Item ID	a	b	c	d0	d1	d2
409362	0.98943	0.24435	0.35588			
409385	1.07882	0.95741	0.16793			
409396	0.88351	0.27450	0.18263			
409447	0.98272	1.35879	0.16122			
409472	0.86851	0.30402	0.23457			
505553	0.80069	-0.57118	0.29343			
505555	1.21410	-1.25717	0.14752			
505557	0.64474	-0.92450	0.09776			
505561	0.85377	-1.31549	0.04844			
505563	0.90232	0.95626	0.23038			
537061	0.53046	-0.92456	0.00000			
537065	0.70530	-0.11391	0.23868			
537069	0.71496	0.51116	0.30004			
537071	0.84569	-0.38198	0.10354			
537073	1.54623	-1.28726	0.23788			
542604	0.48266	0.02920	0.13898			
542606	0.65016	0.69435	0.26639			
552197	0.52604	0.14668	0.03433			
552201	0.72382	-0.61805	0.22208			
552205	1.06562	-0.17587	0.18283			
552211	0.93299	1.36056	0.28957			
553112	0.45827	1.39147	0.21136			
553116	1.22937	-0.45519	0.16151			
553120	0.33573	-0.07131	0.00000			
553126	1.16113	1.68768	0.28426			
553128	0.45520	0.67331	0.12076			
553130	0.52134	0.38755	0.08609			
635413	0.56548	0.08154	0.12524			
635415	0.49244	1.68991	0.25434			
635423	1.27690	1.14791	0.17409			
635425	1.19571	0.41446	0.13059			
635427	1.59200	1.37721	0.30535			
409458	0.56759	0.36210	--	0.46931	-0.46931	0.00000
505559	0.76162	0.09858	--	0.57699	-0.57699	0.00000
537067	0.76855	0.01628	--	0.23370	-0.23370	0.00000
552195	0.67925	-0.59384	--	0.24021	-0.24021	0.00000
553108	0.58795	0.11939	--	0.09877	-0.09877	0.00000
635396	0.23736	3.08164	--	1.81315	-1.81315	0.00000

Table J-5. IRT Parameters for Operational Items on the NM-MSSA Grade 7 ELA Assessment

Item ID	a	b	c	d0	d1	d2
478253	0.77378	-0.41962	0.06916			
478263	1.08870	-1.78083	0.12721			
478265	0.74998	0.47283	0.13868			
478269	0.57482	0.76111	0.18679			
478271	0.62469	-0.11800	0.09283			
478277	0.77427	-0.41892	0.03334			
506279	1.29897	0.51877	0.19382			
506282	0.93887	-0.87456	0.20531			
506285	1.33434	-1.41766	0.19775			
506287	0.72342	0.79350	0.18455			
506302	0.70224	1.67742	0.26593			
546546	0.38369	0.18972	0.16238			
546548	0.47188	0.79313	0.15806			
546554	0.48128	0.12097	0.18763			
546559	0.82936	-0.37629	0.17419			
546561	0.79673	0.46869	0.22703			
546940	0.94961	0.92199	0.11402			
546948	0.48017	-0.80122	0.00000			
546952	1.48772	0.57297	0.16559			
546957	0.98319	-0.74041	0.09919			
546959	0.51585	-1.30545	0.06008			
635295	0.70035	1.39277	0.19029			
635299	0.63033	0.42786	0.13619			
635303	0.59690	0.22129	0.28428			
635307	0.52642	-0.40116	0.14943			
635313	0.87372	1.60193	0.26356			
780583	0.57704	0.04589	0.12912			
780596	0.78277	1.08910	0.20150			
780599	0.81135	0.80624	0.33911			
780602	1.01896	0.63187	0.10434			
780604	0.62614	0.59400	0.28375			
635309	0.73054	1.48901	0.00000			
478255	0.68411	-0.87846	--	0.55344	-0.55344	0.00000
506297	0.39712	1.56584	--	1.47581	-1.47581	0.00000
546544	0.88328	0.30392	--	0.25017	-0.25017	0.00000
546945	0.57479	-0.34718	--	0.77598	-0.77598	0.00000
635291	0.56153	1.08608	--	0.57852	-0.57852	0.00000
780585	0.43322	1.23626	--	0.34668	-0.34668	0.00000

Table J-6. IRT Parameters for Operational Items on the NM-MSSA Grade 8 ELA Assessment

Item ID	a	b	c	d0	d1	d2
402075	0.33370	-0.23090	0.10559			
402077	0.92175	1.34470	0.17955			
402111	0.55580	-1.72053	0.00000			
402116	0.81859	-0.97802	0.05162			
402118	0.79469	-0.37100	0.07989			
420872	0.56249	-0.62416	0.00000			
420913	0.82111	0.94972	0.14089			
420925	0.69060	0.44161	0.14754			
420929	0.44256	0.96904	0.20293			
420946	0.80453	-0.07464	0.16181			
420952	0.54675	-0.95883	0.00000			
538732	0.31992	-1.60331	0.00000			
538734	1.39223	1.07760	0.20713			
538745	0.86173	-0.51218	0.20287			
538751	0.71503	0.17990	0.19815			
538753	1.06211	0.02407	0.22753			
546795	1.21282	-0.36551	0.30127			
546797	0.74425	1.03009	0.24134			
546807	1.78065	-0.22554	0.33547			
546809	0.59233	-0.76754	0.17820			
546811	0.51833	1.28053	0.17072			
560476	0.99204	0.13925	0.33532			
560483	1.15689	1.02221	0.23430			
560487	0.58714	-0.59605	0.06858			
560494	0.46402	0.92282	0.15158			
560500	0.99173	-0.38336	0.14019			
560504	0.52992	1.82412	0.21432			
641557	0.62043	-0.73981	0.24383			
641559	1.25164	0.26083	0.29332			
641563	1.10268	-0.46287	0.24669			
641565	0.77761	-0.46151	0.13879			
641579	0.49110	2.14605	0.20164			
402079	0.67022	0.06441	--	0.45776	-0.45776	0.00000
420980	0.37412	-0.33185	--	1.33565	-1.33565	0.00000
538743	0.74585	-0.12229	--	0.70872	-0.70872	0.00000
546803	0.84120	-0.48272	--	0.15274	-0.15274	0.00000
560466	0.40449	-0.19014	--	0.25896	-0.25896	0.00000
641567	0.62076	0.11442	--	0.18266	-0.18266	0.00000

Table J-7. IRT Parameters for Operational Items on the NM-MSSA Grade 3 Mathematics Assessment

Item ID	*a*	*b*	*c*	*d0*	*d1*	*d2*	*d3*	*d4*
124462A	0.74413	0.27366	0.26004					
125118A	0.69579	0.02548	0.15309					
125246A	1.22290	0.58405	0.22940					
400432	0.72289	1.61173	0.12350					
400434	0.65058	-0.19381	0.21939					
408129	1.21198	0.83531	0.16994					
408165	1.41468	0.83346	0.23907					
409840	1.29476	1.13655	0.35953					
410981	0.87407	0.17608	0.14899					
411119	0.80831	-0.46046	0.08694					
411154	0.82828	-0.12573	0.30978					
411280	0.95764	1.01037	0.30323					
411642	1.15454	0.56364	0.18203					
462345	1.08516	-0.64901	0.09931					
462672	1.03955	-0.47844	0.10207					
464204	1.15216	-0.15448	0.16485					
464322	0.85284	1.20359	0.09590					
532135	1.15279	0.58382	0.25204					
539890	1.24785	1.14369	0.26562					
539940	1.01875	-1.38545	0.20424					
541272	1.24064	0.24104	0.31809					
557246	0.91650	0.76682	0.16902					
619098	0.32644	-1.33036	0.00000					
619106	1.23039	1.84550	0.24583					
619113	1.21834	1.94433	0.12394					
619117	1.15807	0.87321	0.14157					
619121	0.77159	0.23205	0.27896					
619137	1.38028	0.39715	0.49680					
619213	0.83274	1.19485	0.36609					
619229	1.01714	-0.90752	0.20876					
619239	1.05101	0.27042	0.13137					
462552	0.78789	-0.51942	0.00000					
619149	0.68167	0.97626	0.00000					
785028B	0.80110	1.72053	0.00000					
785057B	0.85378	1.55899	0.00000					
785028A	0.94607	0.78234	--	0.24283	-0.24283	0.00000		
785032A	0.94395	0.81004	--	1.04052	0.29028	-0.31012	-1.02069	0.00000
785032B	0.97658	0.80465	--	0.65622	-0.65622	0.00000		
785057A	0.64487	0.30967	--	1.12299	-1.12299	0.00000		
785068A	1.15516	0.66554	--	1.09662	0.54845	-0.30956	-1.33551	0.00000
785068B	0.99159	1.70403	--	0.78479	-0.78479	0.00000		

Table J-8. IRT Parameters for Operational Items on the NM-MSSA Grade 4 Mathematics Assessment

Item ID	a	b	c	d0	d1	d2	d3	d4
124772A	1.00984	0.76245	0.21171					
124856A	0.89753	0.78451	0.16573					
124948A	1.11127	1.08517	0.22943					
124950A	0.76152	0.70148	0.34218					
126016A	1.13705	0.15195	0.20709					
126018A	1.37821	0.15543	0.37099					
126898A	1.26672	1.29638	0.16284					
127388A	0.85444	1.34870	0.14000					
127466A	1.38525	1.62226	0.14704					
127597A	0.62319	1.60449	0.13921					
405640	0.79641	-0.86002	0.00000					
411201	0.95735	-0.50529	0.19955					
411727	0.43725	0.08911	0.00000					
411832	0.58296	-0.39769	0.00000					
469075	0.84843	1.71842	0.10515					
540258	0.70472	-1.56948	0.00000					
540273	0.70094	0.32936	0.23907					
540283	0.96554	1.58183	0.12785					
540312	0.84926	1.38737	0.15211					
540589	1.21716	1.05363	0.21918					
540601	1.03589	0.26828	0.23790					
540609	0.97548	-0.85016	0.20774					
541522	1.49681	2.08508	0.23539					
560922	0.77249	0.32481	0.20648					
560934	0.54126	1.00329	0.14349					
560945	0.64262	0.88310	0.23248					
629029	0.70001	-0.00773	0.24316					
629094	1.44477	1.58738	0.27326					
629096	1.37764	1.31188	0.22545					
629111	0.90093	-0.01836	0.19078					
629132	1.10524	1.08266	0.31976					
127470AB	0.89354	1.29256	0.00000					
462908	0.69101	1.73149	0.00000					
551336B	1.10004	1.98386	0.00000					
629036	1.10810	-0.46271	0.00000					
127470AA	1.01518	1.47627	--	0.83247	-0.83247	0.00000		
551336A	0.79072	2.45400	--	0.83776	-0.83776	0.00000		
630481A	1.18092	0.85932	--	1.53665	0.55614	-0.46754	-1.62524	0.00000
630481B	1.05789	0.49360	--	1.12425	-1.12425	0.00000		
785071A	1.14814	0.98013	--	0.94080	0.29182	-0.33263	-0.89998	0.00000
785071B	0.99083	1.73972	--	0.44719	-0.44719	0.00000		

Table J-9. IRT Parameters for Operational Items on the NM-MSSA Grade 5 Mathematics Assessment

Item ID	a	b	c	d0	d1	d2	d3	d4
124077A	0.59313	0.16795	0.22115					
124514A	1.01414	1.14333	0.23235					
124555A	1.01407	1.43870	0.13217					
125071A	1.05438	0.64965	0.24228					
125951A	0.68602	-0.35208	0.09986					
400300	0.28337	4.66411	0.20000					
400488	1.37744	0.80542	0.17295					
400639	1.42054	1.51242	0.34199					
400667	0.74041	1.61051	0.17959					
400711	0.95677	-1.03244	0.10624					
405931	1.27274	0.27526	0.35205					
411304	1.33004	-0.69030	0.14475					
411847	2.16096	1.28587	0.36361					
411953	1.20324	1.36178	0.16724					
414925	1.16408	0.03224	0.21232					
414988	1.00687	0.31921	0.15769					
464308	0.93466	0.43724	0.23018					
465792	0.99272	1.17370	0.23560					
532486	1.29394	0.85720	0.17538					
532490	1.16540	0.35123	0.21691					
539188	1.30813	1.66606	0.43712					
539225	1.63991	1.52875	0.19441					
539227	0.92791	2.27298	0.29352					
540666	1.05220	1.86127	0.16503					
540704	1.25550	2.01513	0.18683					
540708	0.99653	0.46241	0.52242					
558689	0.50023	-0.39787	0.27512					
558705	1.25967	1.38703	0.23419					
607307	1.20886	0.83052	0.34464					
607369	0.93386	1.31077	0.05417					
607394	1.03575	-0.27889	0.20112					
607538	0.84185	0.59737	0.25981					
466529	0.45782	0.38641	0.00000					
785030B	1.26717	1.12758	0.00000					
785036B	0.43577	0.71971	0.00000					
412281A	1.42376	0.26765	--	0.64372	0.24327	-0.10096	-0.78602	0.00000
412281B	1.40278	0.44428	--	0.47448	-0.47448	0.00000		
607550A	1.57779	0.55613	--	0.94384	0.32894	-0.25782	-1.01495	0.00000
607550B	1.46696	0.85160	--	0.44568	-0.44568	0.00000		
785030A	1.00960	0.46678	--	0.84922	-0.84922	0.00000		
785036A	0.49079	1.91540	--	1.69341	-1.69341	0.00000		

Table J-10. IRT Parameters for Operational Items on the NM-MSSA Grade 6 Mathematics Assessment

Item ID	a	b	c	d0	d1	d2	d3	d4
124799A	1.14516	-0.68946	0.04400					
127738A	1.19485	0.31310	0.28178					
411834	0.77947	0.04636	0.24506					
412050	0.93610	-0.52303	0.19638					
412393	1.24813	1.31766	0.14814					
412411	0.95103	-0.38714	0.26090					
412462	0.65202	0.01646	0.18622					
415140	0.39317	0.41040	0.05185					
415230	1.02214	1.34367	0.11890					
419551	0.94199	-0.30804	0.24089					
464569	1.38795	1.53528	0.27299					
464677	1.10273	0.86691	0.13668					
539618	1.23135	1.01758	0.20155					
539622	1.01929	0.89872	0.22317					
539649	1.00178	-0.02580	0.32345					
540126	1.17997	1.66726	0.15450					
540725	1.63269	1.19692	0.26648					
540727	1.26673	1.35622	0.26300					
607665	0.59237	-0.08441	0.27064					
607669	0.79592	1.00685	0.18652					
607679	1.37817	1.13149	0.24360					
607683	0.89486	1.36507	0.15127					
607721	1.02259	-0.79680	0.22891					
607725	1.07710	-0.56256	0.25166					
607729	1.32999	0.96566	0.09762					
607745	0.24443	-1.59283	0.00000					
607751	0.92025	-0.15864	0.09901					
607759	1.51621	1.00166	0.17060					
607769	0.86911	-0.23605	0.28306					
607773	1.65294	1.15107	0.16715					
607782	0.54619	2.74407	0.30060					
607813	1.00642	1.57165	0.14143					
607820	0.38033	-1.01764	0.00000					
814923	0.91155	0.89447	0.26708					
465321B	1.37589	2.57864	0.00000					
540196B	0.94027	1.15074	0.00000					
558385	0.91130	0.70371	0.00000					
607677	0.61177	0.45170	0.00000					
465321A	0.89368	2.14410	--	0.70347	-0.70347	0.00000		
540196A	0.88624	-0.03070	--	0.29134	-0.29134	0.00000		
785048A	1.08853	0.16052	--	1.21593	0.32562	-0.28350	-1.25805	0.00000
785048B	0.99322	1.42080	--	0.76117	-0.76117	0.00000		
785074A	1.16235	0.65110	--	1.44101	0.53879	-0.73568	-1.24413	0.00000
785074B	0.97344	0.42306	--	0.45449	-0.45449	0.00000		

Table J-11. IRT Parameters for Operational Items on the NM-MSSA Grade 7 Mathematics Assessment

Item ID	a	b	c	d0	d1	d2	d3	d4
124359A	1.13289	0.38021	0.33276					
124504A	0.80109	0.92488	0.25529					
410251	0.73294	0.34419	0.28674					
412048	0.97952	0.56355	0.23278					
412122	0.65956	0.53590	0.21223					
412200	0.69414	0.12882	0.24187					
412224	1.05991	0.53346	0.28665					
412251	1.24080	-0.32214	0.29490					
412372	1.82673	1.15123	0.08139					
412545	1.40536	0.90083	0.20392					
467208	1.55212	0.15405	0.21132					
467221	0.89681	0.53488	0.24641					
467828	0.78035	-0.04744	0.25978					
539389	1.03395	0.30759	0.17865					
539391	1.47608	1.13816	0.27945					
539407	1.03167	0.63599	0.21435					
539410	1.20551	1.68614	0.15959					
539450	1.05989	0.07403	0.17885					
540128	1.35964	-0.37361	0.27729					
540183	1.01114	1.84480	0.27587					
557940	1.68065	0.52858	0.14856					
557952	1.27408	1.17950	0.22787					
607105	1.15474	0.83277	0.24010					
607119	1.16481	-0.65674	0.20009					
607161	1.81844	-0.15942	0.17320					
607163	0.78018	-0.24218	0.18012					
607167	0.39551	-1.16412	0.25257					
607179	0.55537	1.07094	0.16167					
607187	0.71544	0.65046	0.19414					
607196	1.07365	0.89924	0.21824					
607205	0.74931	-0.38622	0.22352					
607215	1.30308	0.41722	0.17607					
628125	1.70958	0.45896	0.16809					
532215B	1.09251	2.21269	0.00000					
541147B	1.29941	0.55824	0.00000					
607127	0.85620	-1.24643	0.00000					
607151	1.15176	1.63132	0.00000					
607181	0.90410	1.30790	0.00000					
532215A	0.78857	0.80091	--	0.46611	-0.46611	0.00000		
541147A	1.04023	0.29816	--	0.60848	-0.60848	0.00000		
607222A	1.31059	0.47099	--	0.54172	0.34284	-0.34748	-0.53708	0.00000
607222B	1.19621	1.30752	--	0.65330	-0.65330	0.00000		
784971A	1.26425	0.82631	--	1.36596	0.59578	-0.23112	-1.73061	0.00000
784971B	1.04220	1.33312	--	0.62210	-0.62210	0.00000		

Table J-12. IRT Parameters for Operational Items on the NM-MSSA Grade 8 Mathematics Assessment

Item ID	a	b	c	d0	d1	d2	d3	d4
127852A	1.08292	-0.53163	0.09266					
412703	0.62968	0.00172	0.05785					
413063	0.82701	-1.12984	0.33945					
413110	0.88554	2.27642	0.24957					
413137	1.47901	2.00441	0.22304					
413229	0.74671	-1.07382	0.00000					
465465	0.98915	0.91087	0.21744					
483010	0.50784	0.31069	0.28332					
483259	0.91548	0.63530	0.30066					
483452	0.63025	0.95902	0.21998					
532395	1.13576	1.33518	0.25177					
540824	0.71490	1.73107	0.26643					
540848	1.52511	1.98265	0.12737					
540850	1.36979	1.26286	0.26150					
540876	1.09210	1.49247	0.26085					
540878	0.64494	2.77290	0.20581					
540892	1.60826	-0.31803	0.37446					
540955	0.76456	-0.37982	0.14052					
541128	1.43605	0.56351	0.18252					
561218	1.10216	0.22765	0.30022					
614704	0.52375	2.39446	0.37395					
614751	1.04688	2.05790	0.24446					
614780	0.53858	0.82498	0.11990					
614901	1.84032	1.14273	0.30964					
614917	2.06077	1.34124	0.29517					
614939	0.89244	1.79959	0.15328					
614949	1.81080	-0.18039	0.28709					
614995	0.91581	1.11007	0.20600					
615024	0.73132	1.19501	0.33878					
615038	1.04699	2.24150	0.30775					
615097	0.94712	1.47257	0.18109					
615298	1.00988	-0.54724	0.16628					
615300	1.49443	1.29621	0.41767					
615303	0.42017	-0.71215	0.24609					
468816B	0.85130	1.14562	0.00000					
468821B	1.49008	1.62097	0.00000					
615053	0.87948	-0.32252	0.00000					
615111	0.81070	0.63950	0.00000					
468816A	0.74492	1.27295	--	0.20966	-0.20966	0.00000		
468821A	1.11654	1.17437	--	0.63224	-0.63224	0.00000		
615411A	1.02978	1.48921	--	1.02099	0.19414	-0.21723	-0.9979	0.00000
615411B	1.36956	1.20927	--	0.47595	-0.47595	0.00000		
784969A	1.65229	1.62613	--	0.79234	0.16401	-0.23819	-0.71816	0.00000
784969B	2.25232	1.82846	--	0.25658	-0.25658	0.00000		

Appendix K
Test Characteristic Curves
and
Conditional Standard Errors of Measurement

Figure K-1. Test Characteristic Curve for ELA—Grade 3
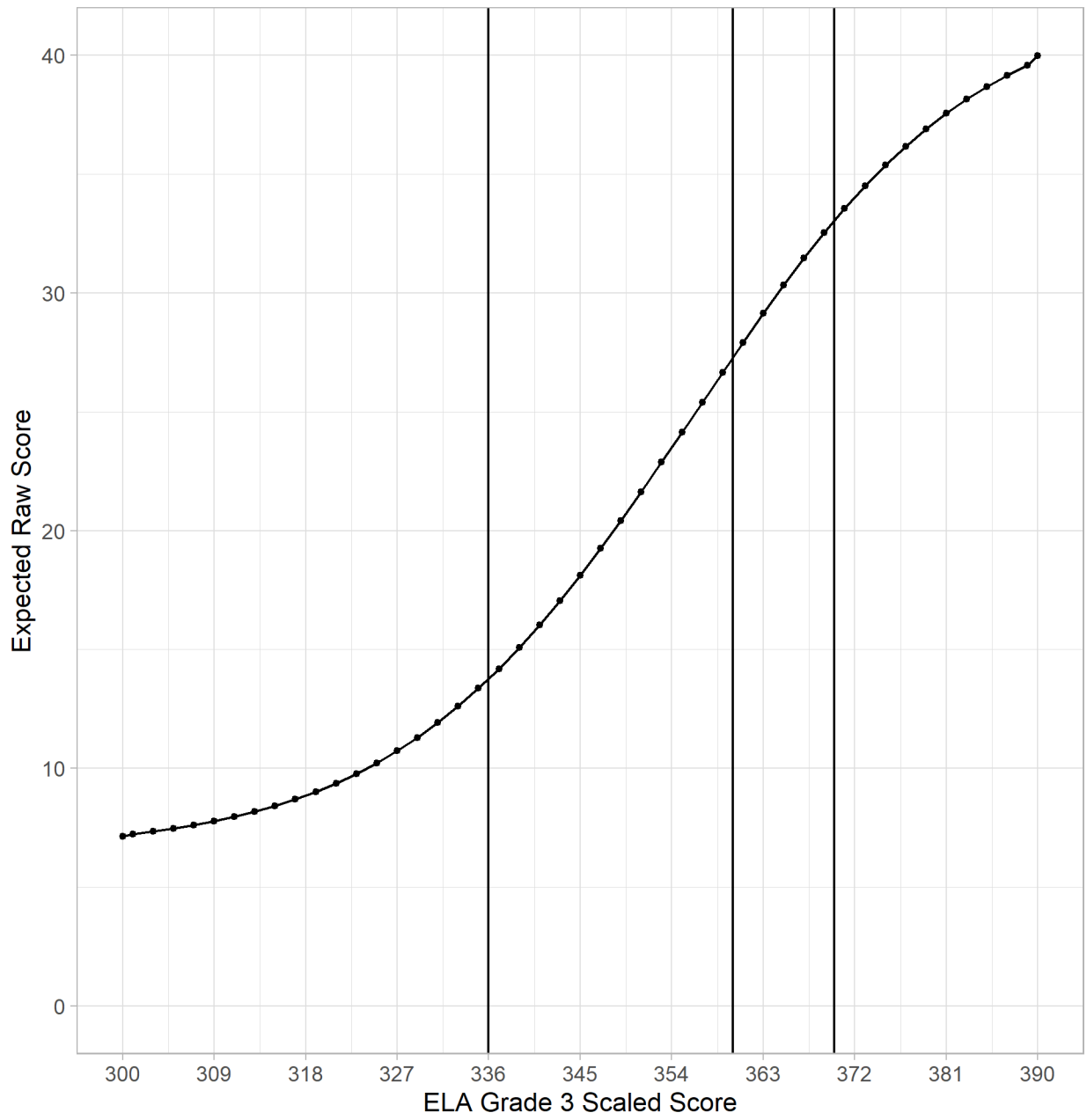
Figure K-2. Test Characteristic Curve for ELA—Grade 4
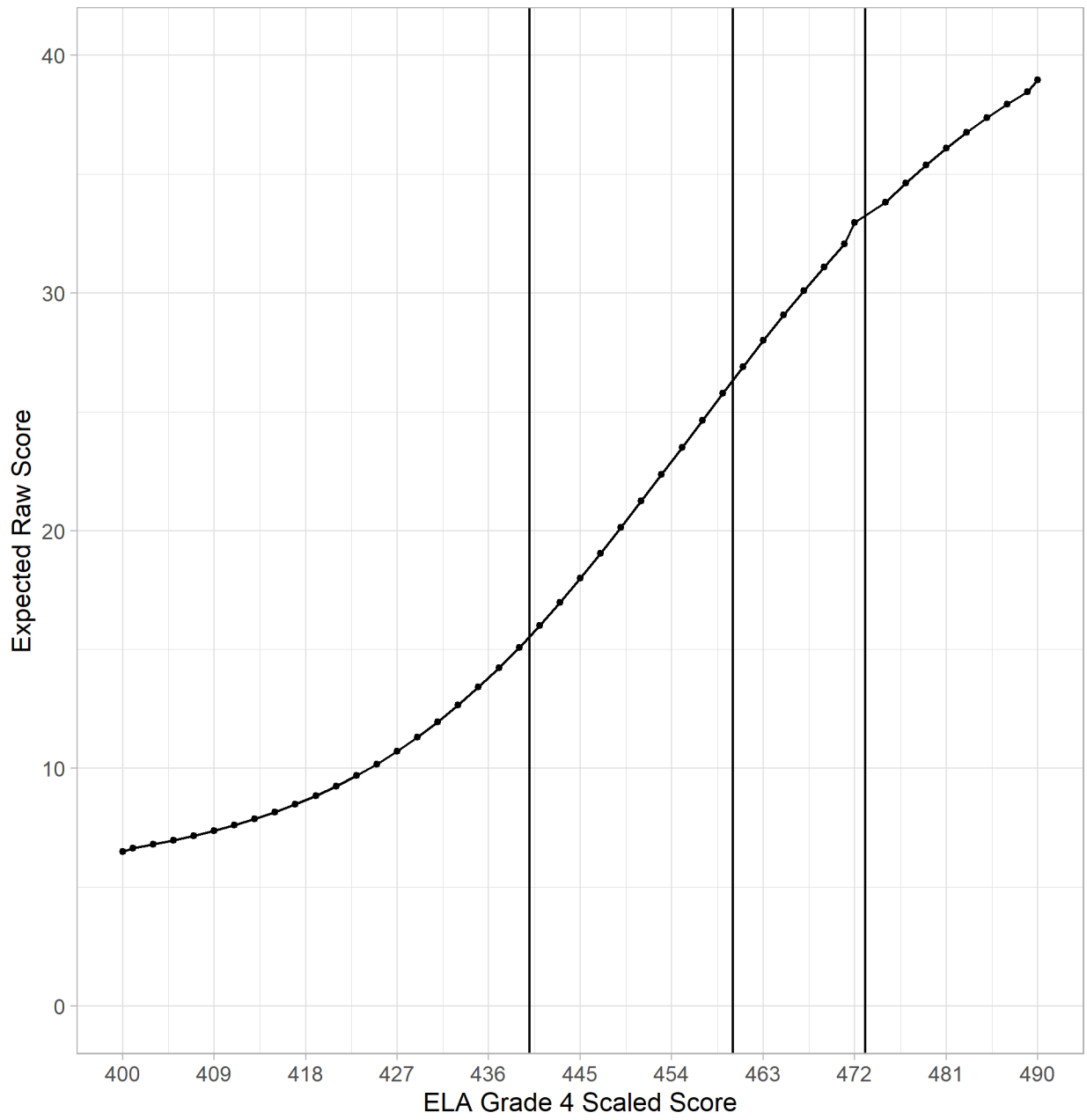
Figure K-3. Test Characteristic Curve for ELA—Grade 5
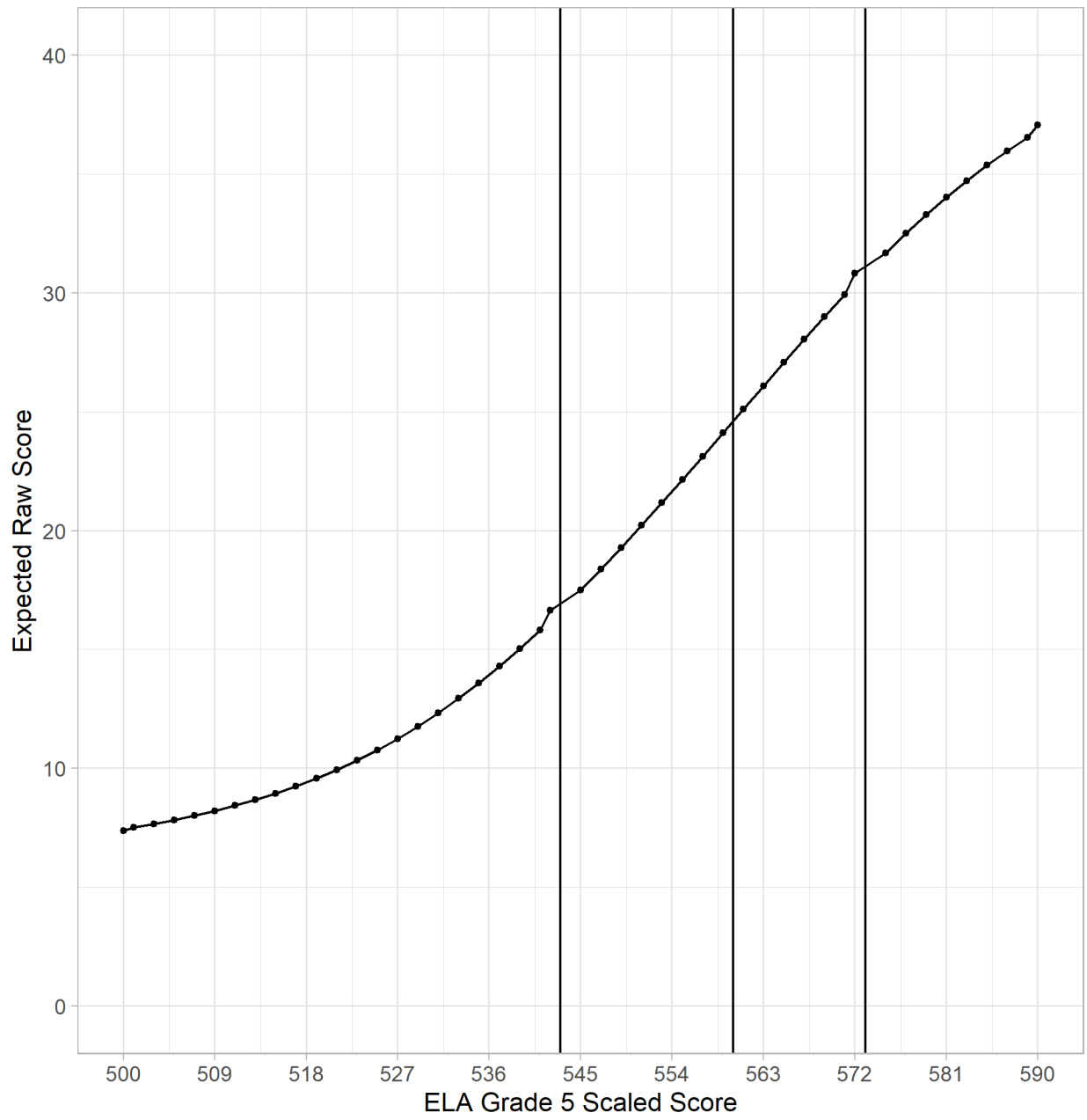
Figure K-4. Test Characteristic Curve for ELA—Grade 6
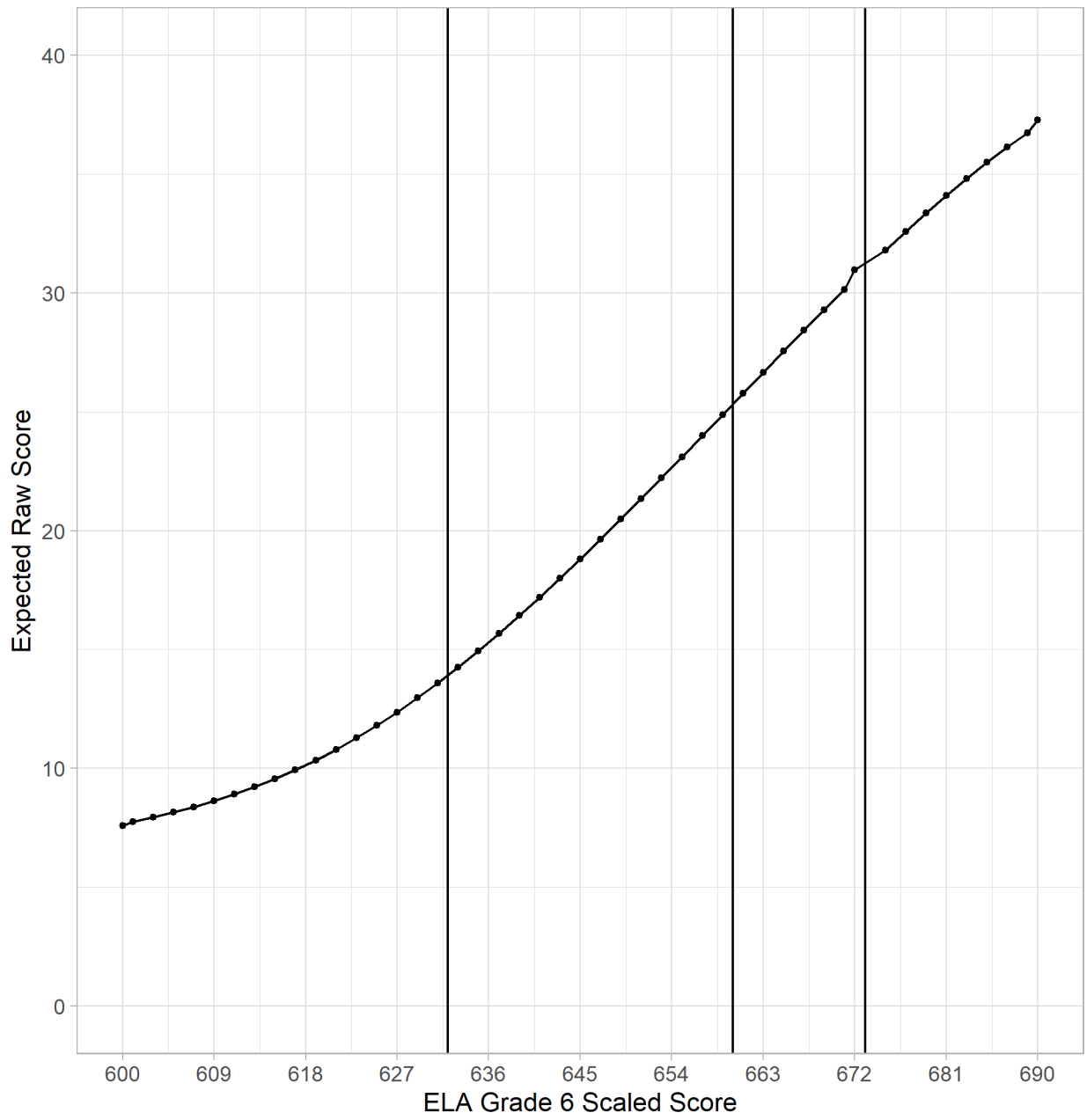
Figure K-5. Test Characteristic Curve for ELA—Grade 7
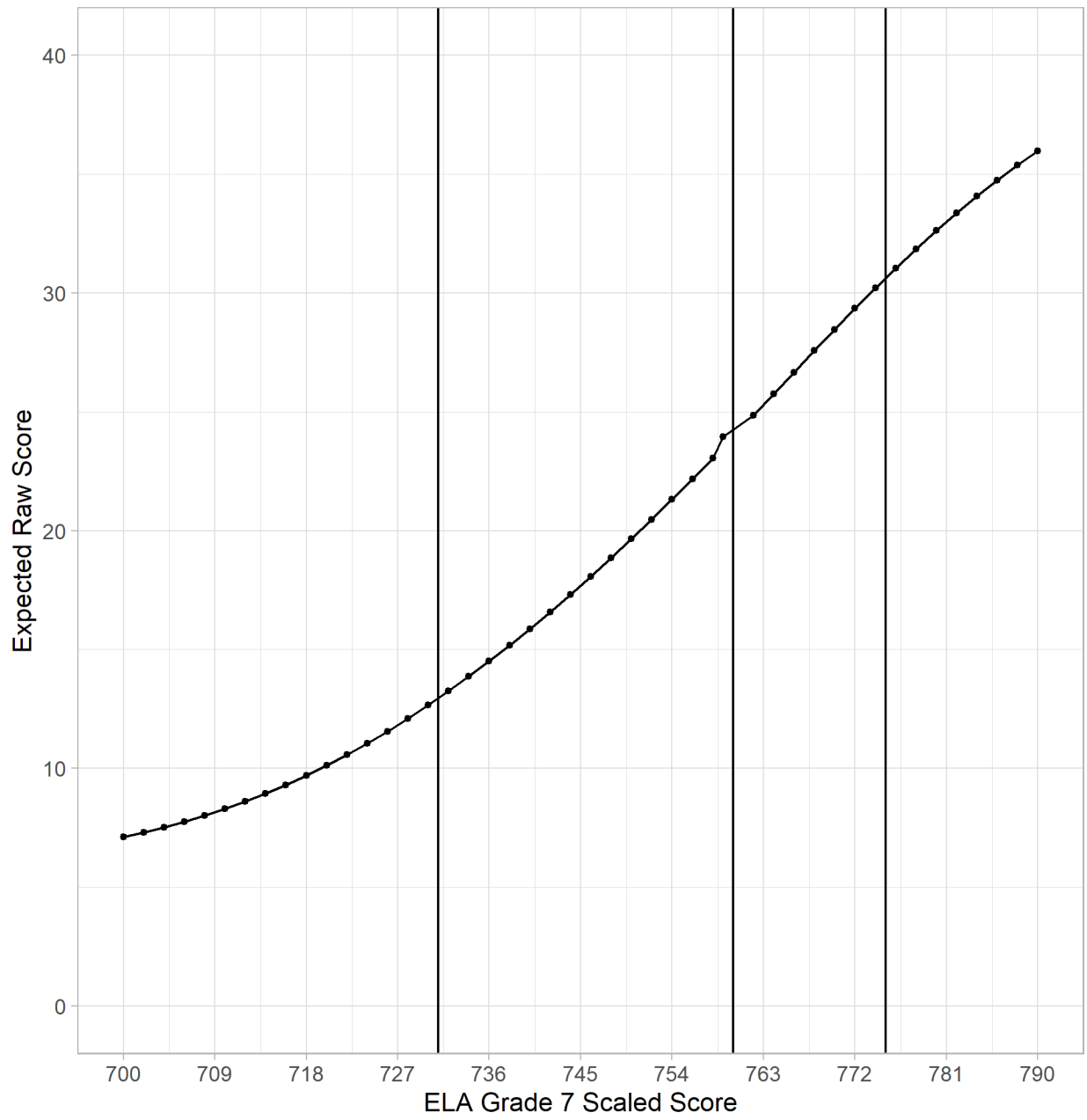
Figure K-6. Test Characteristic Curve for ELA—Grade 8
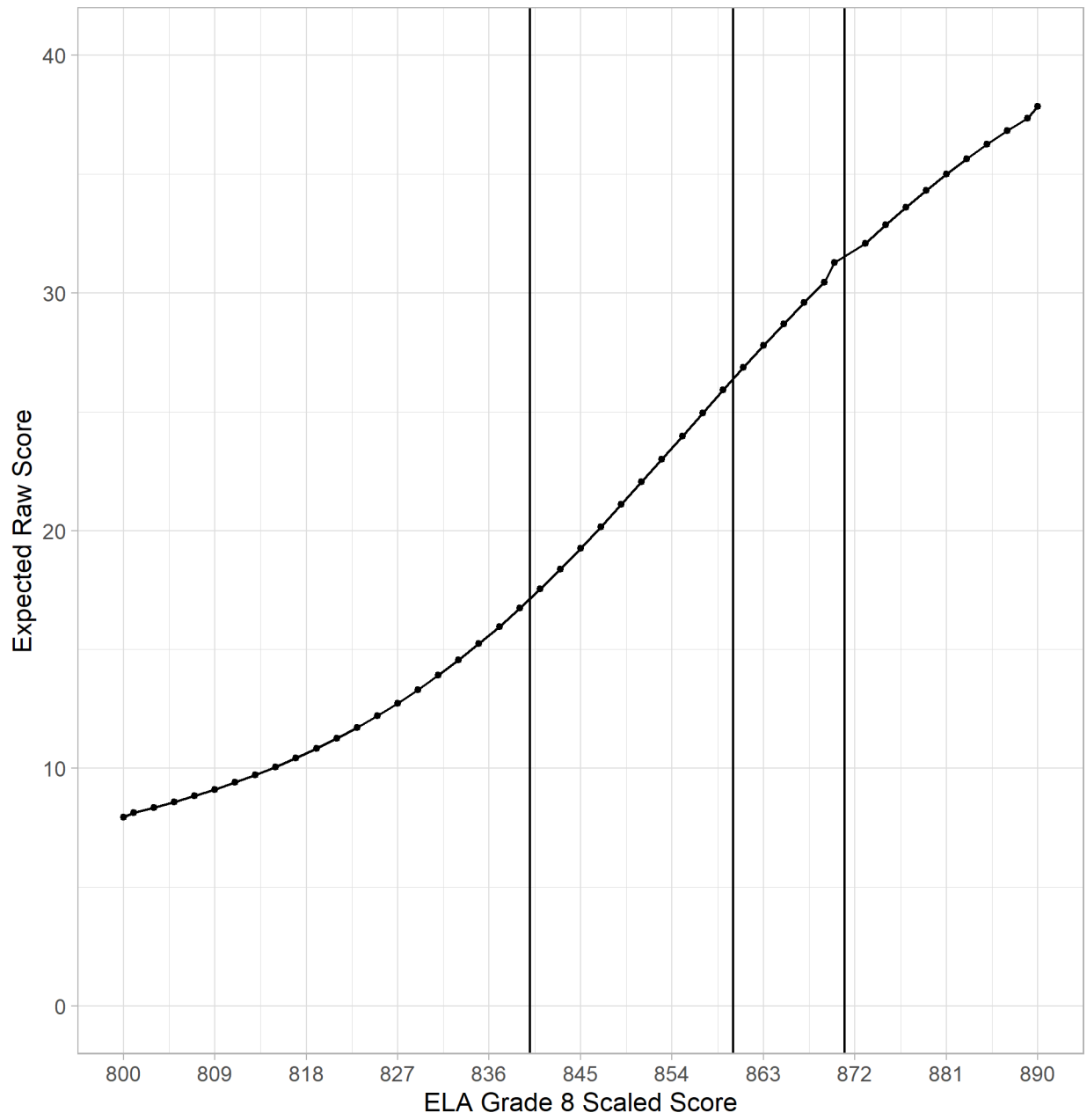
Figure K-7. Test Characteristic Curve for Mathematics—Grade 3
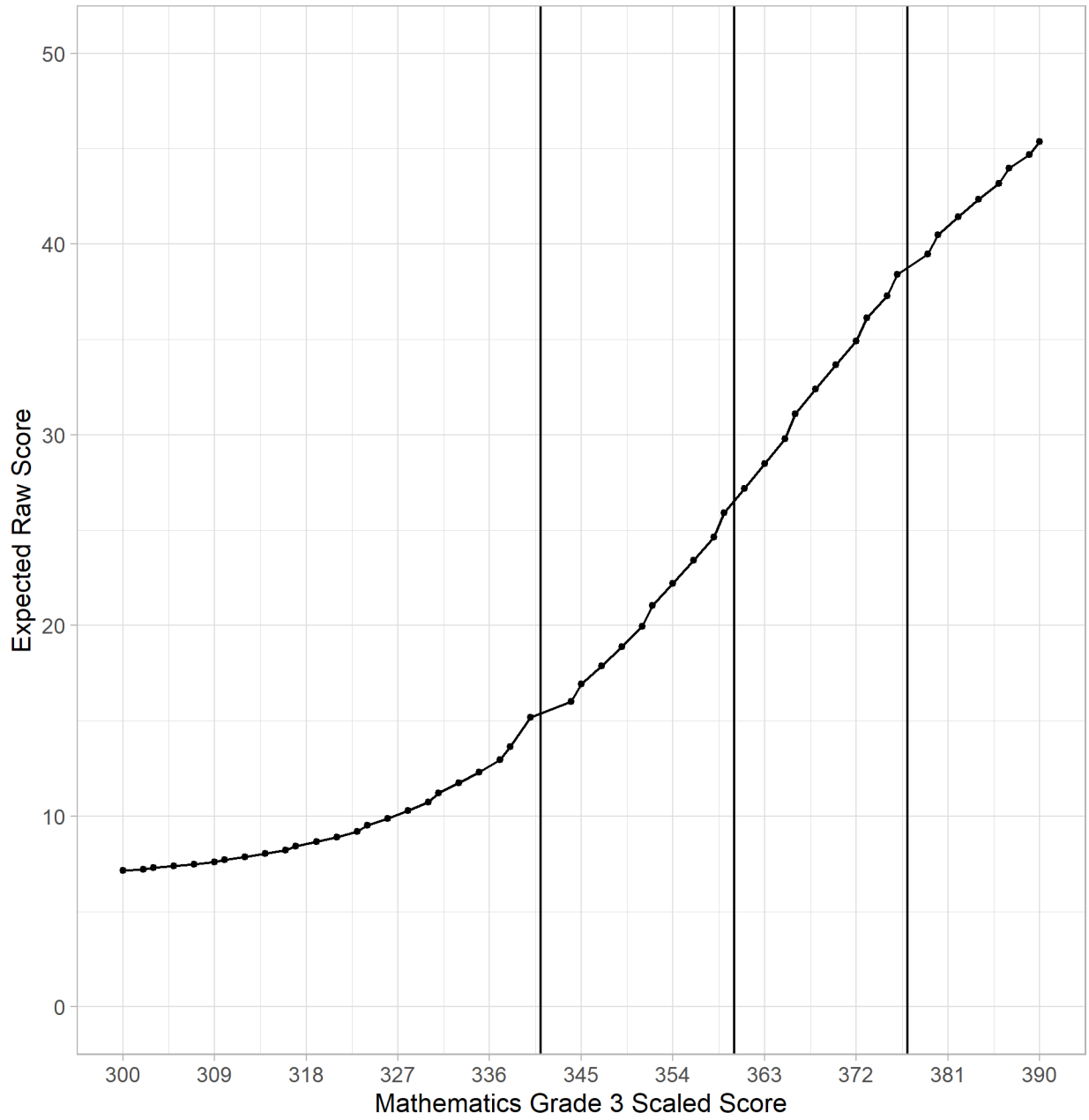
Figure K-8. Test Characteristic Curve for Mathematics—Grade 4
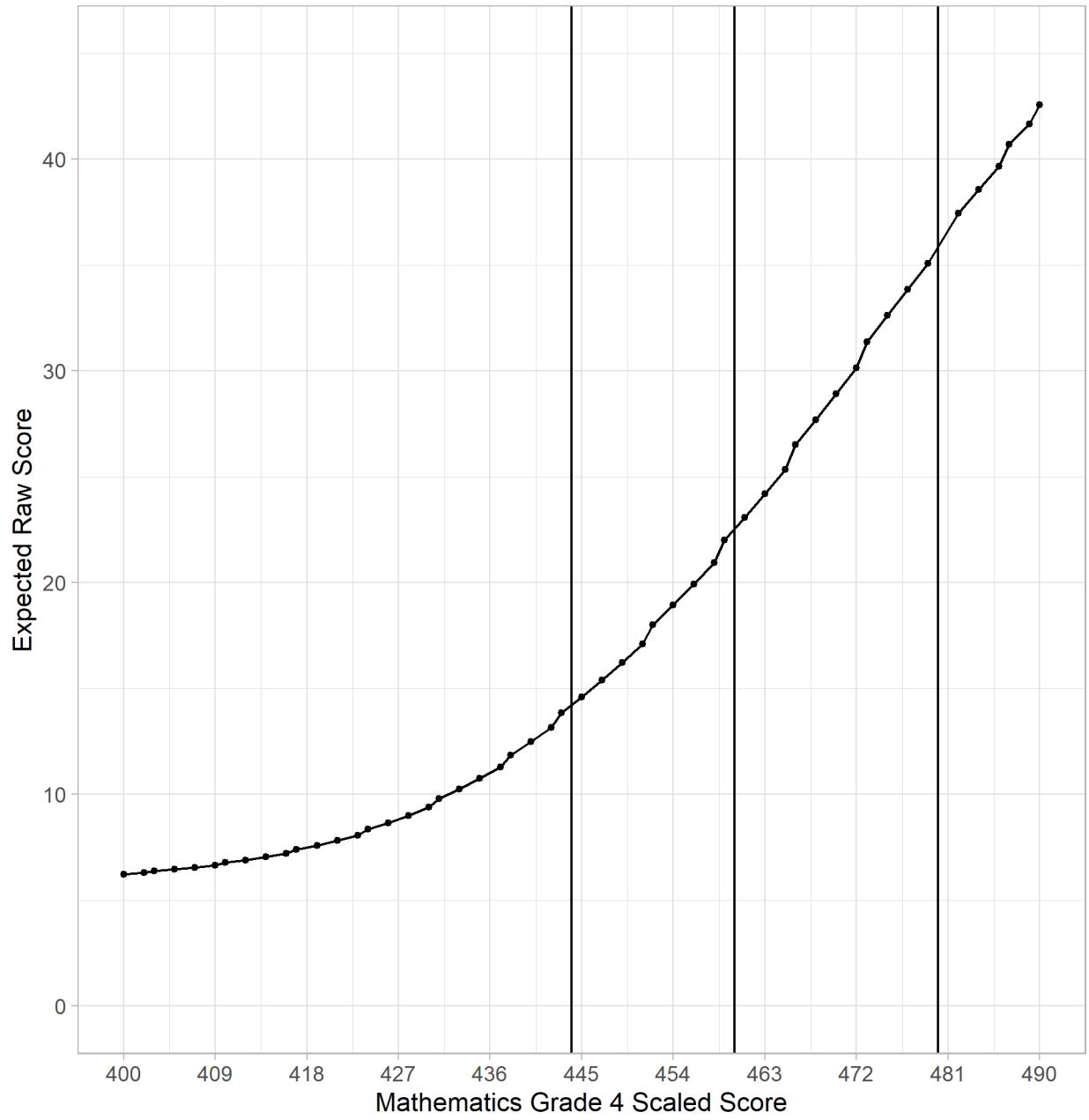
Figure K-9. Test Characteristic Curve for Mathematics—Grade 5
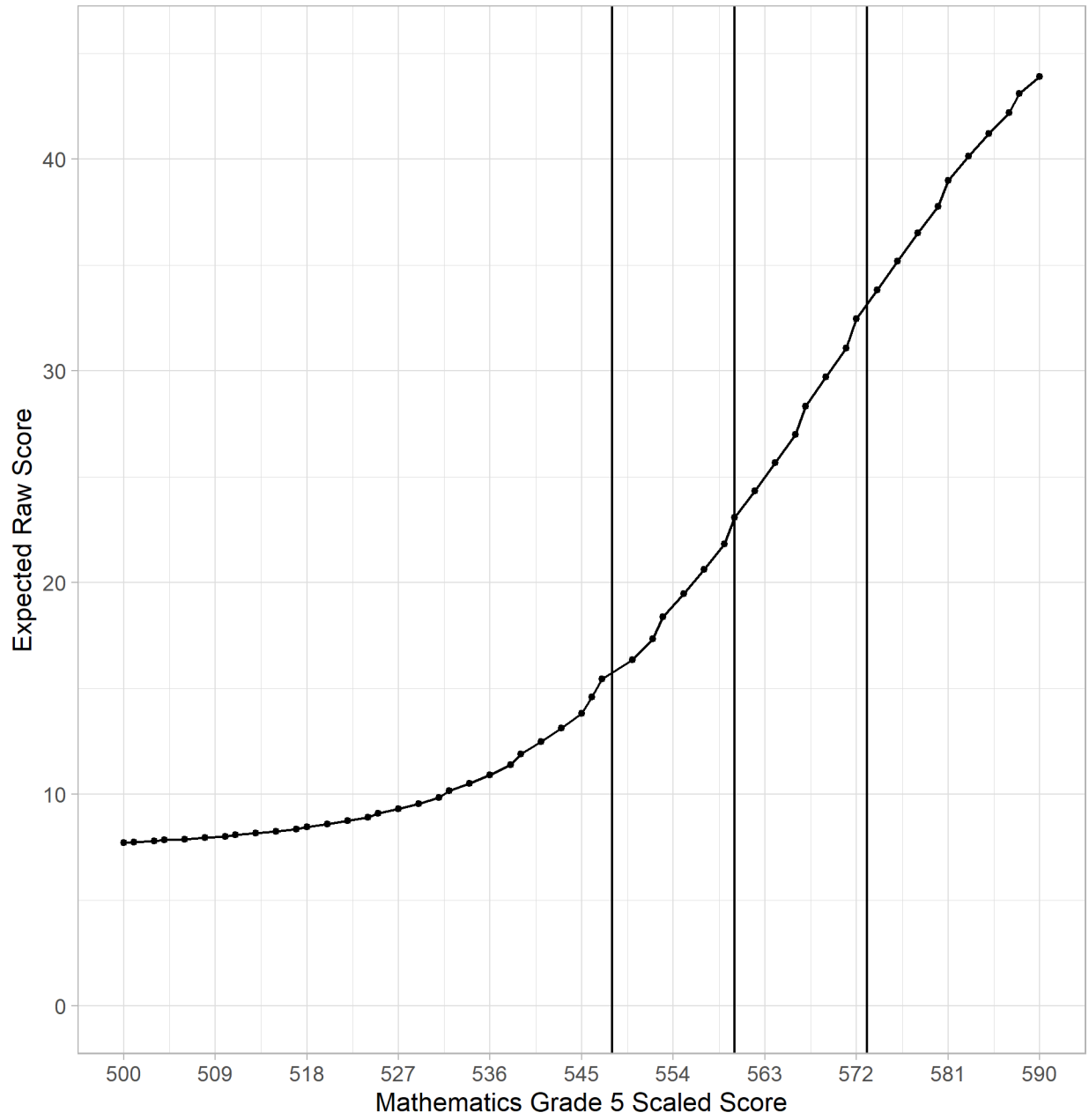
Figure K-10. Test Characteristic Curve for Mathematics—Grade 6
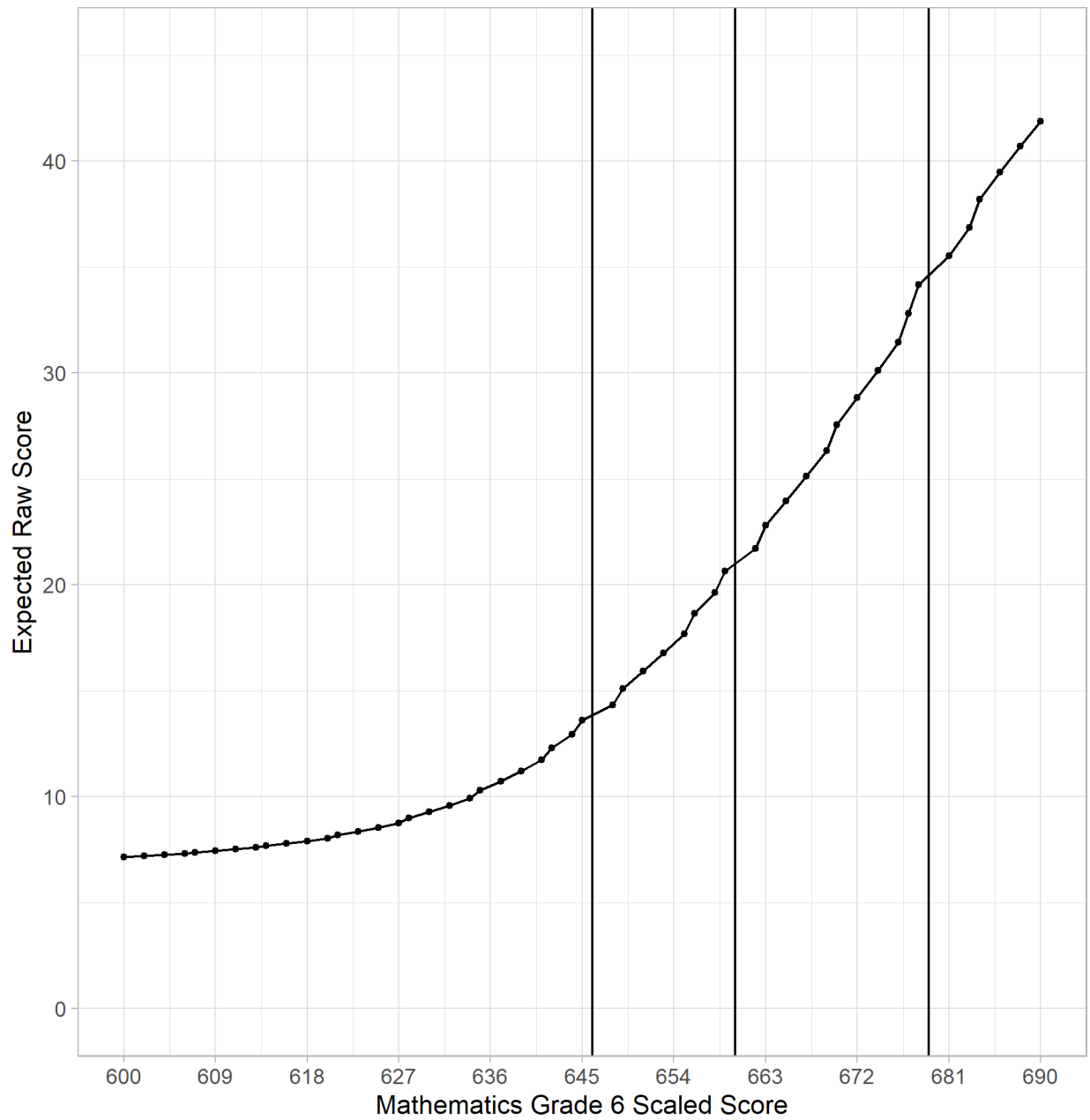
Figure K-11. Test Characteristic Curve for Mathematics—Grade 7
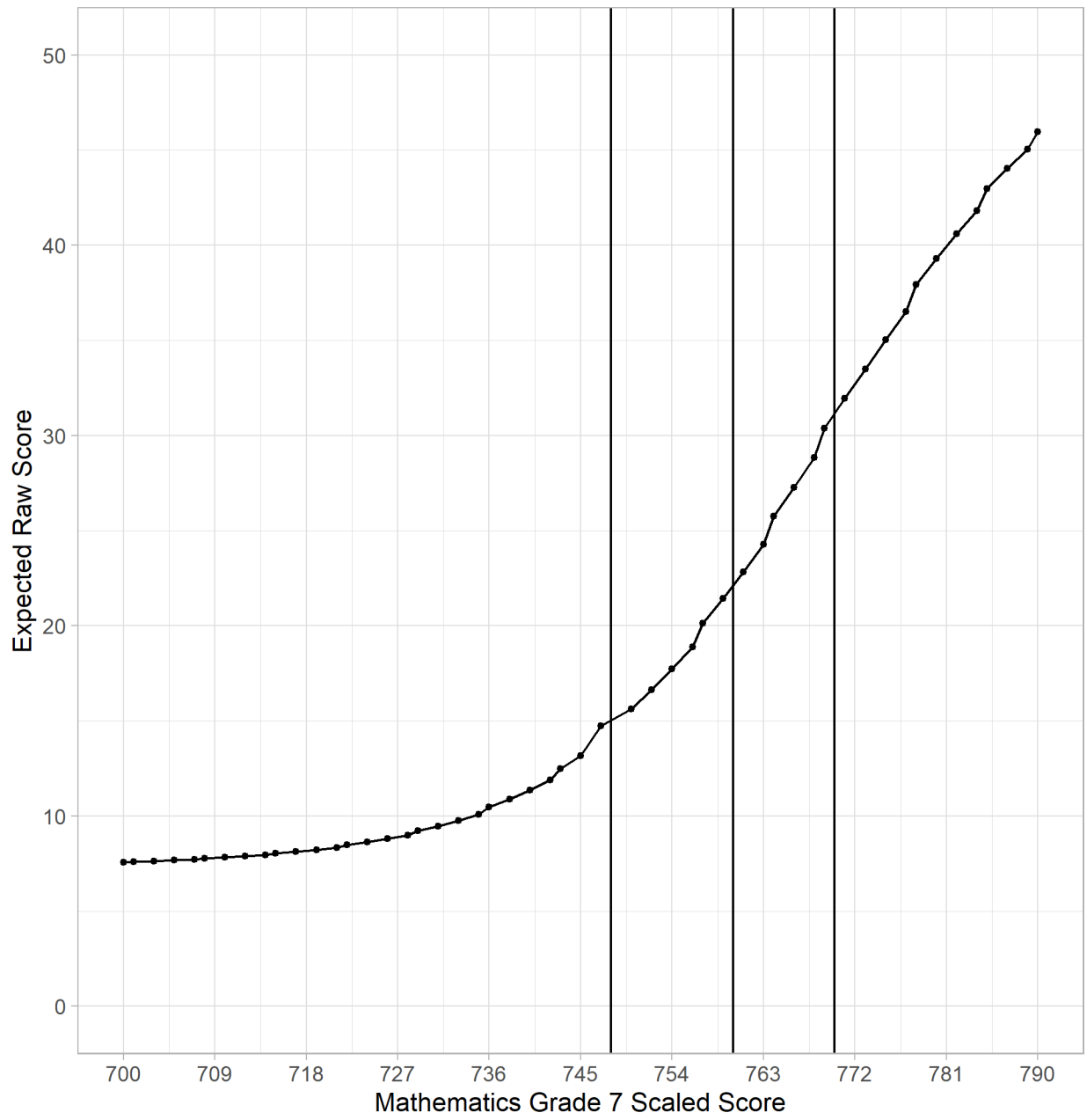
Figure K-12. Test Characteristic Curve for Mathematics—Grade 8
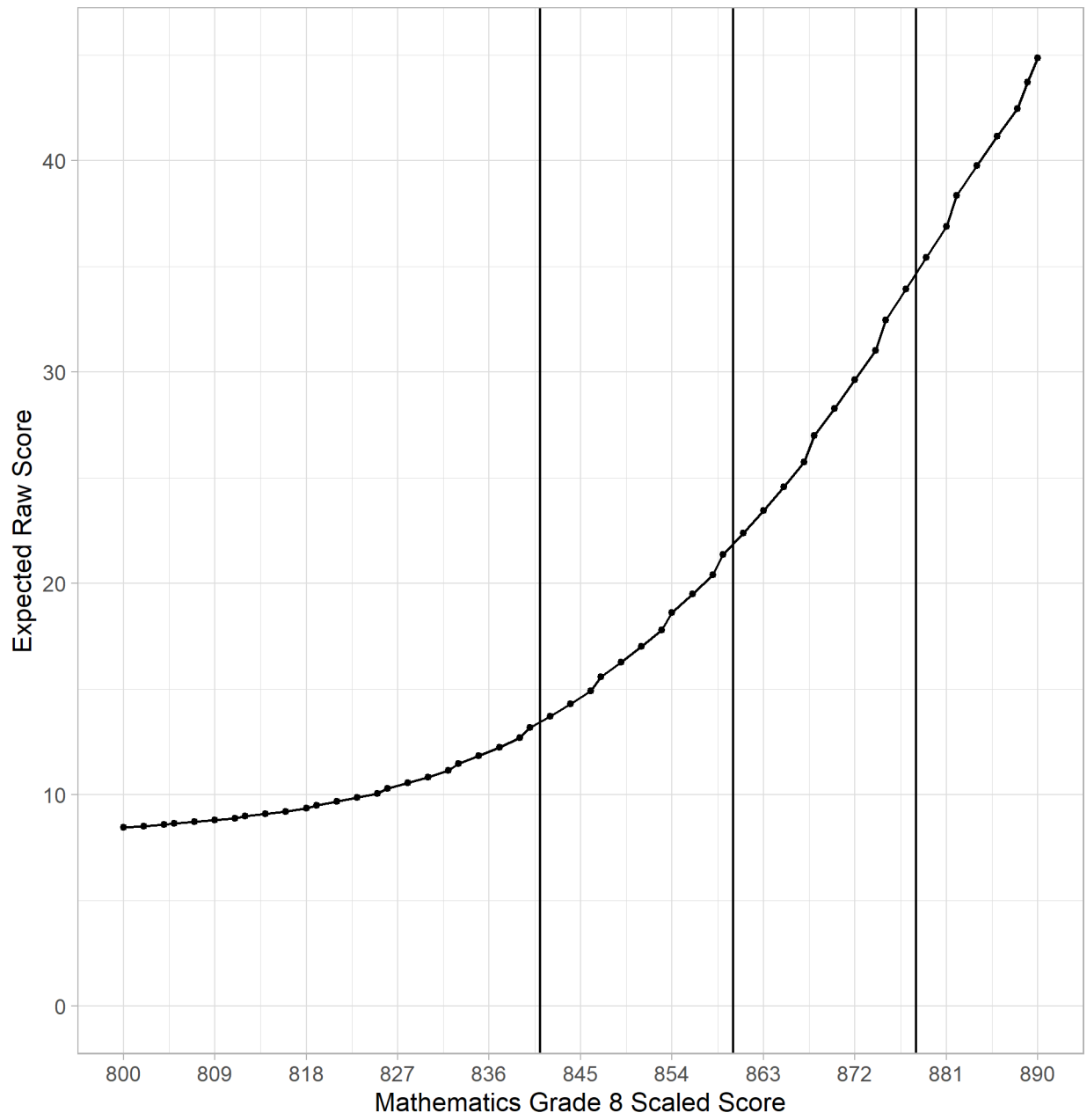
Figure K-13. Test Characteristic Curve for Science—Grade 5
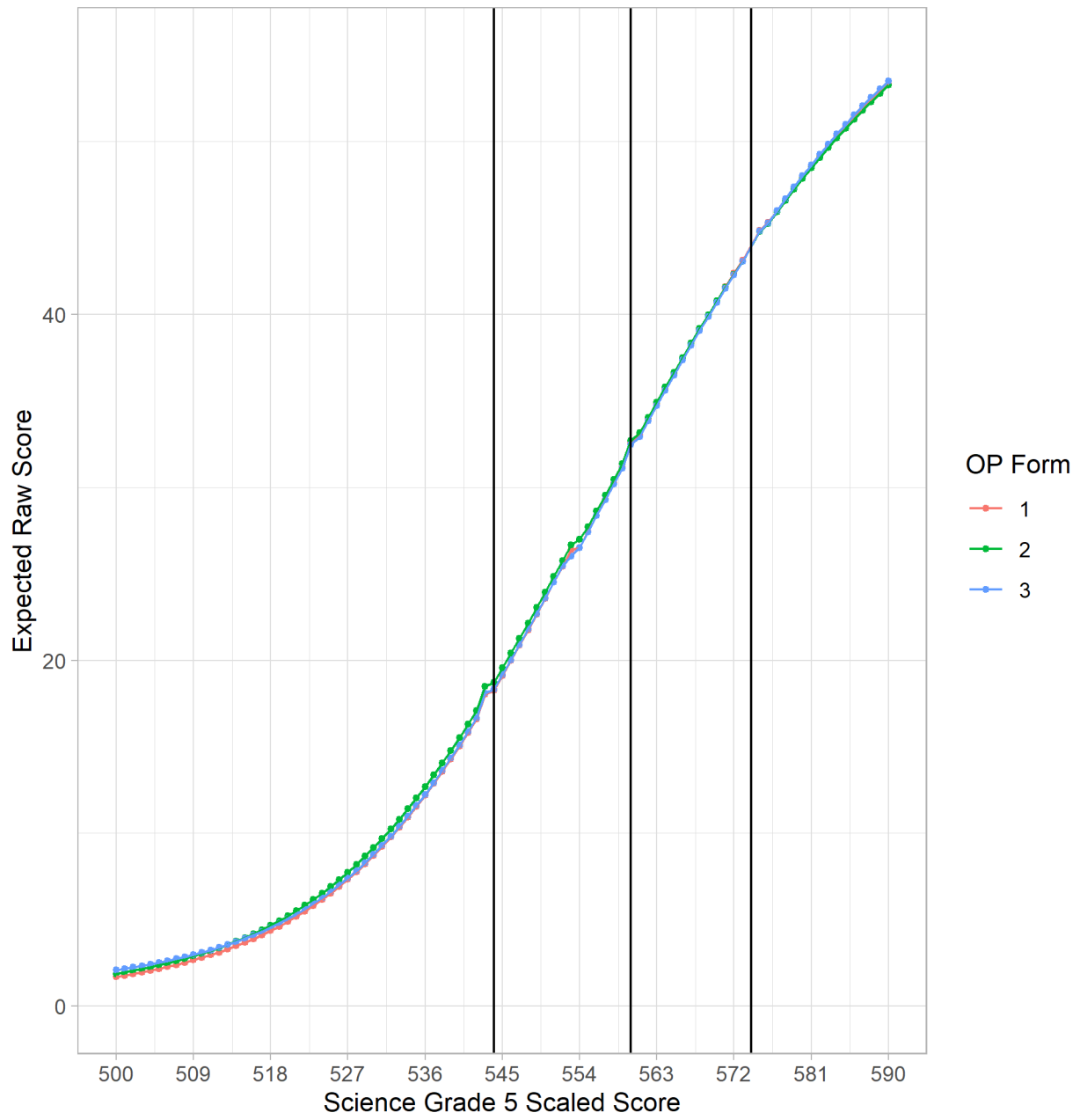
Figure K-14. Test Characteristic Curve for Science—Grade 8
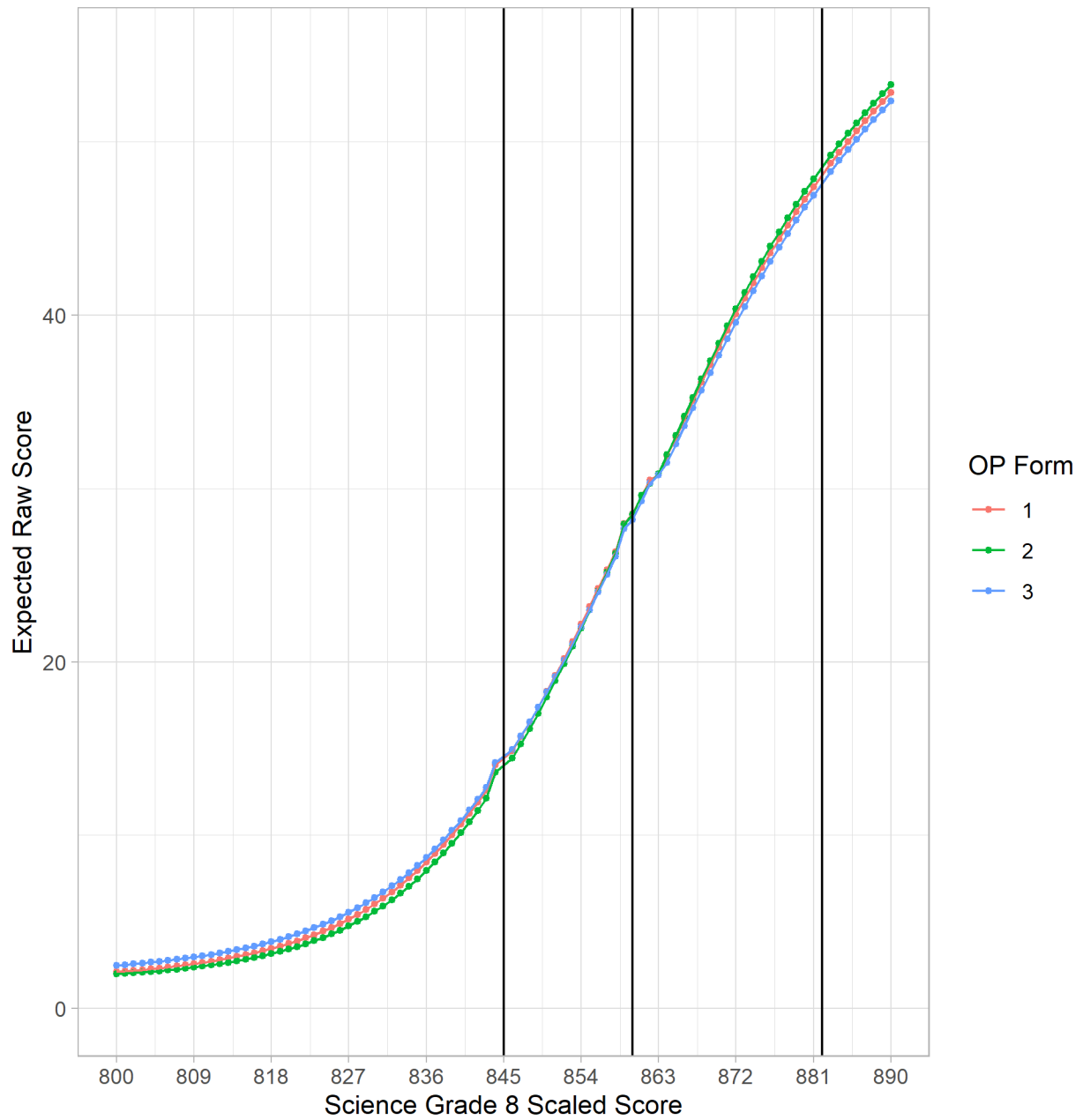
Figure K-15. Test Characteristic Curve for Science—Grade 11
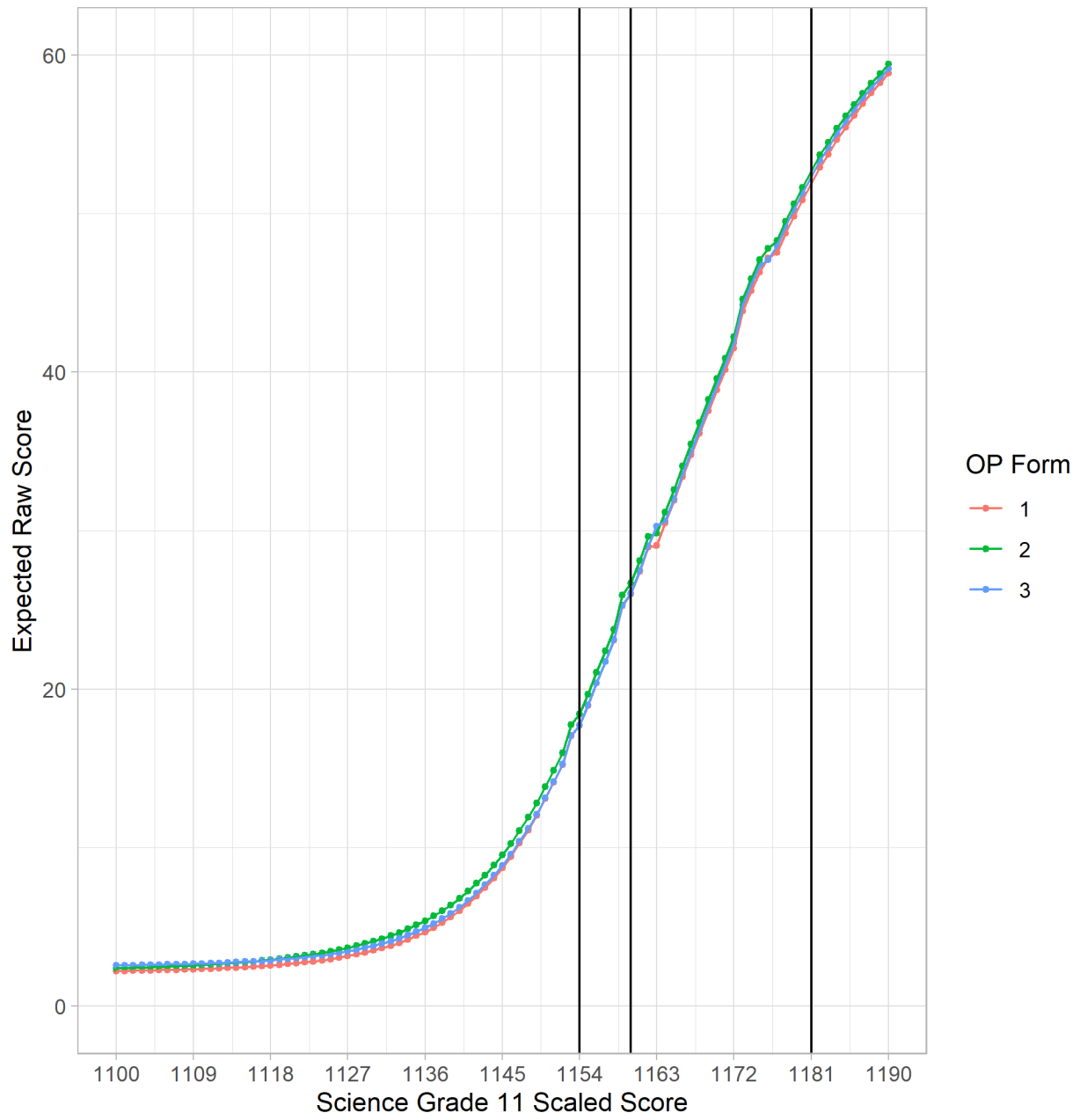
Figure K-16. Test Characteristic Curve for SLA—Grade 3
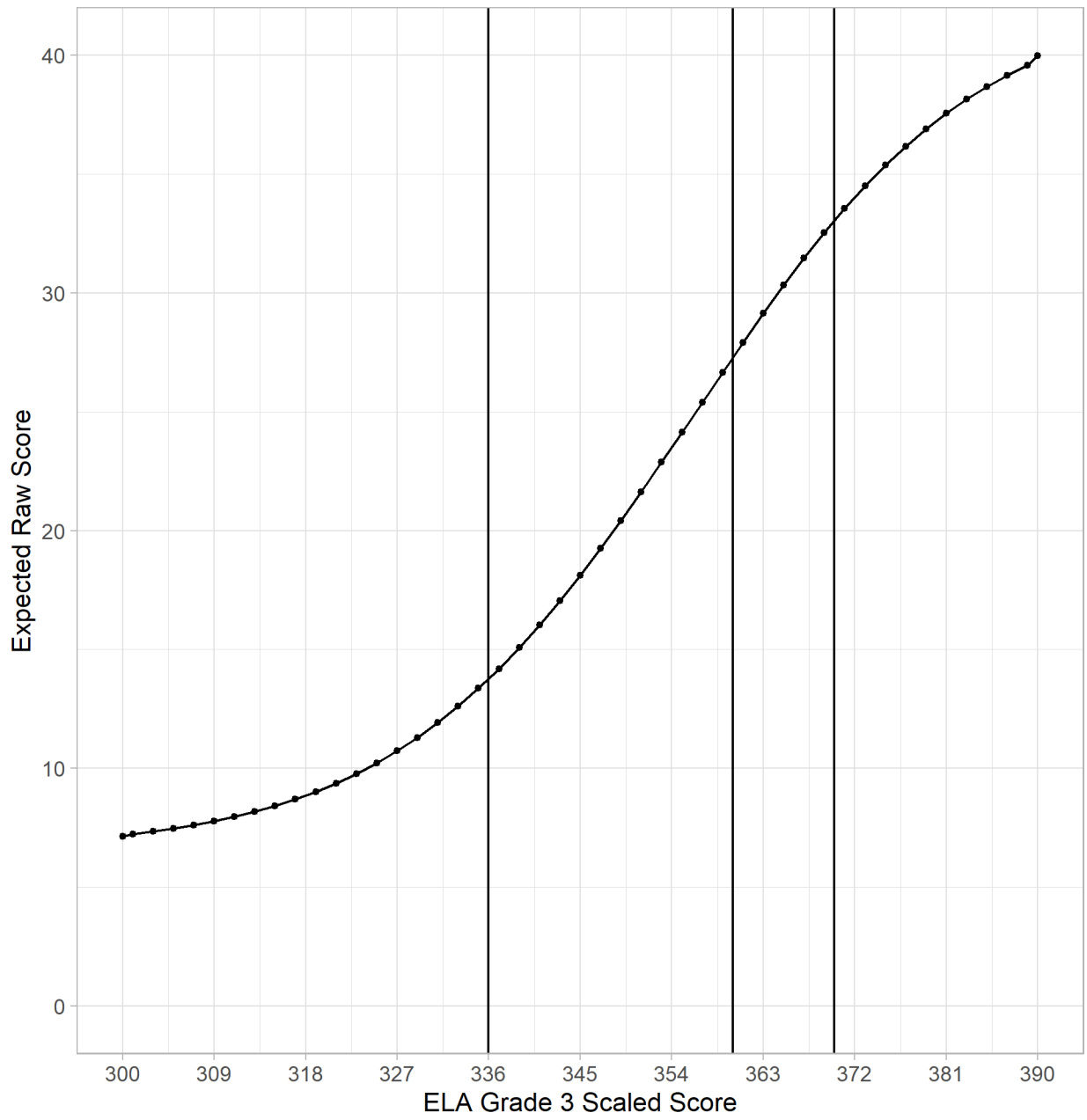
Figure K-17. Test Characteristic Curve for SLA—Grade 4
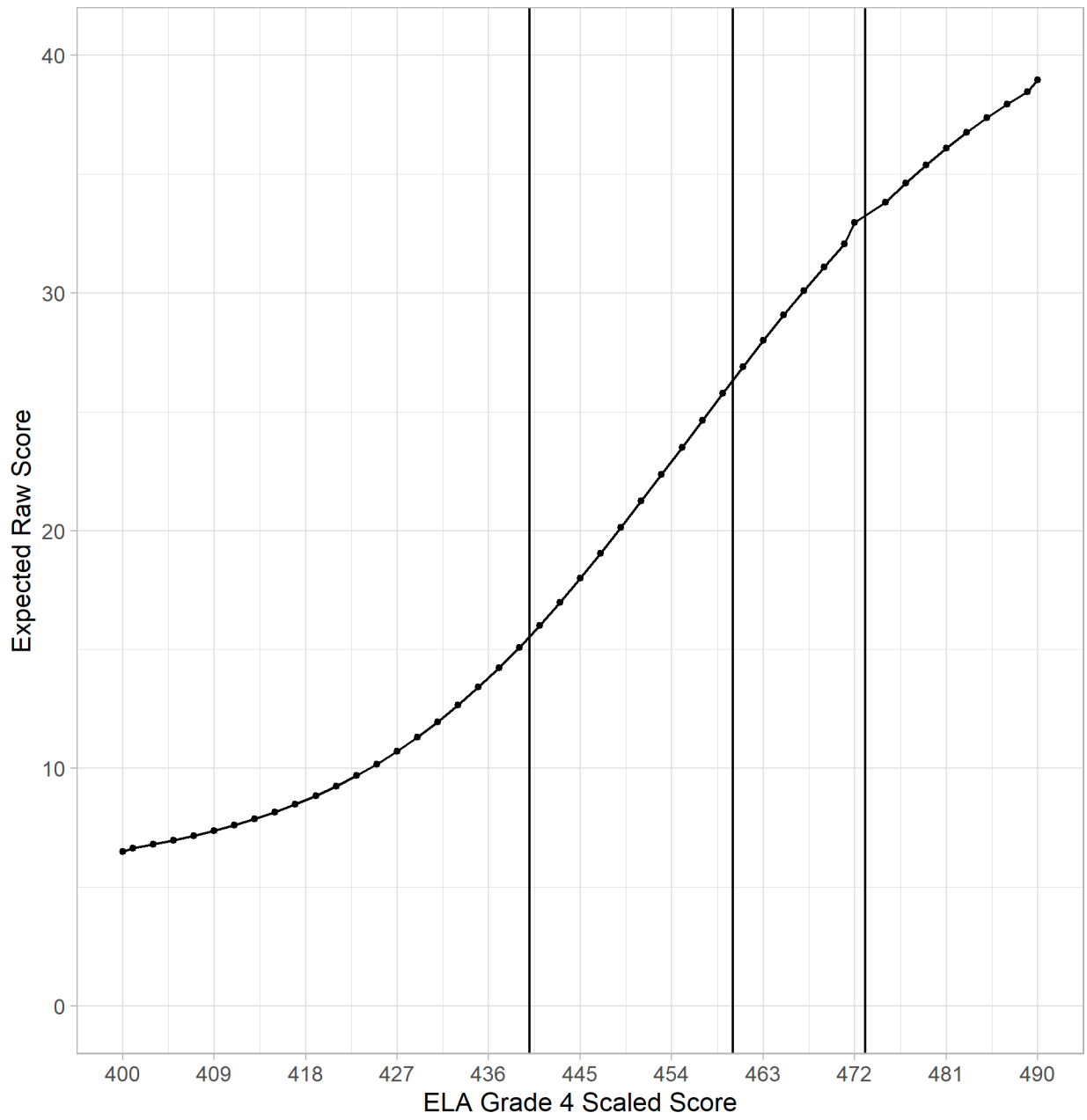
Figure K-18. Test Characteristic Curve for SLA—Grade 5
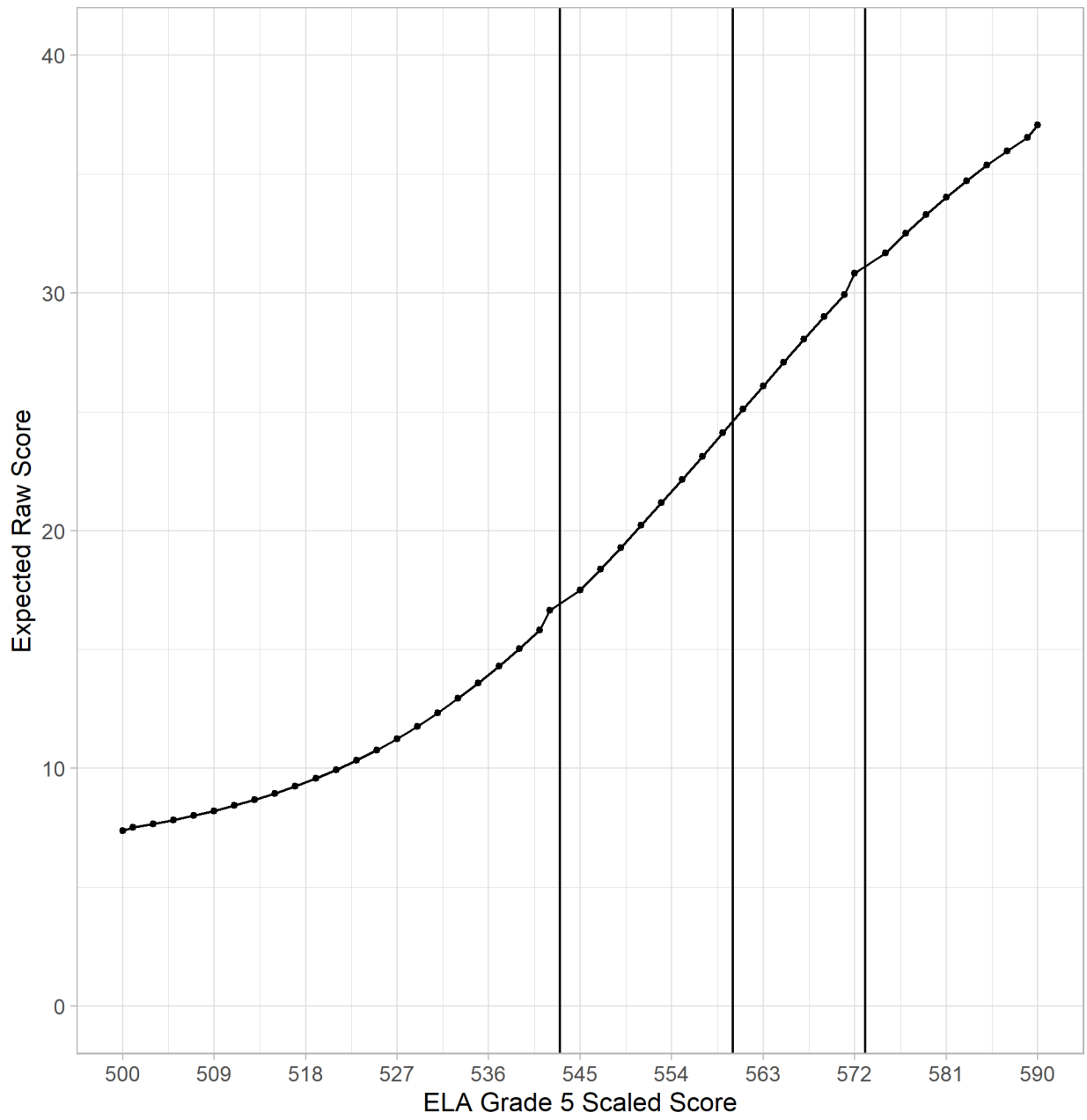
Figure K-19. Test Characteristic Curve for SLA—Grade 6
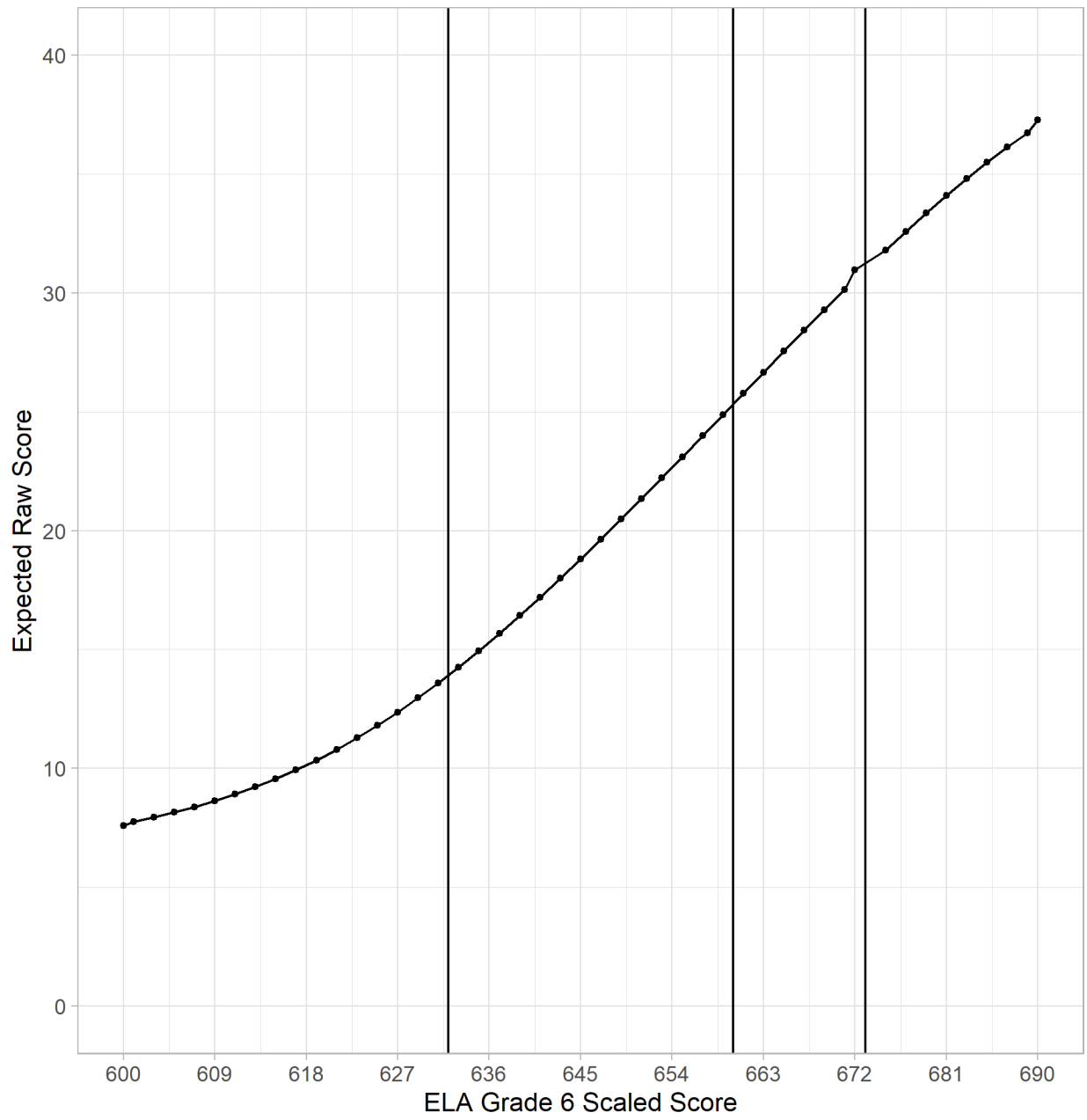
Figure K-20. Test Characteristic Curve for SLA—Grade 7
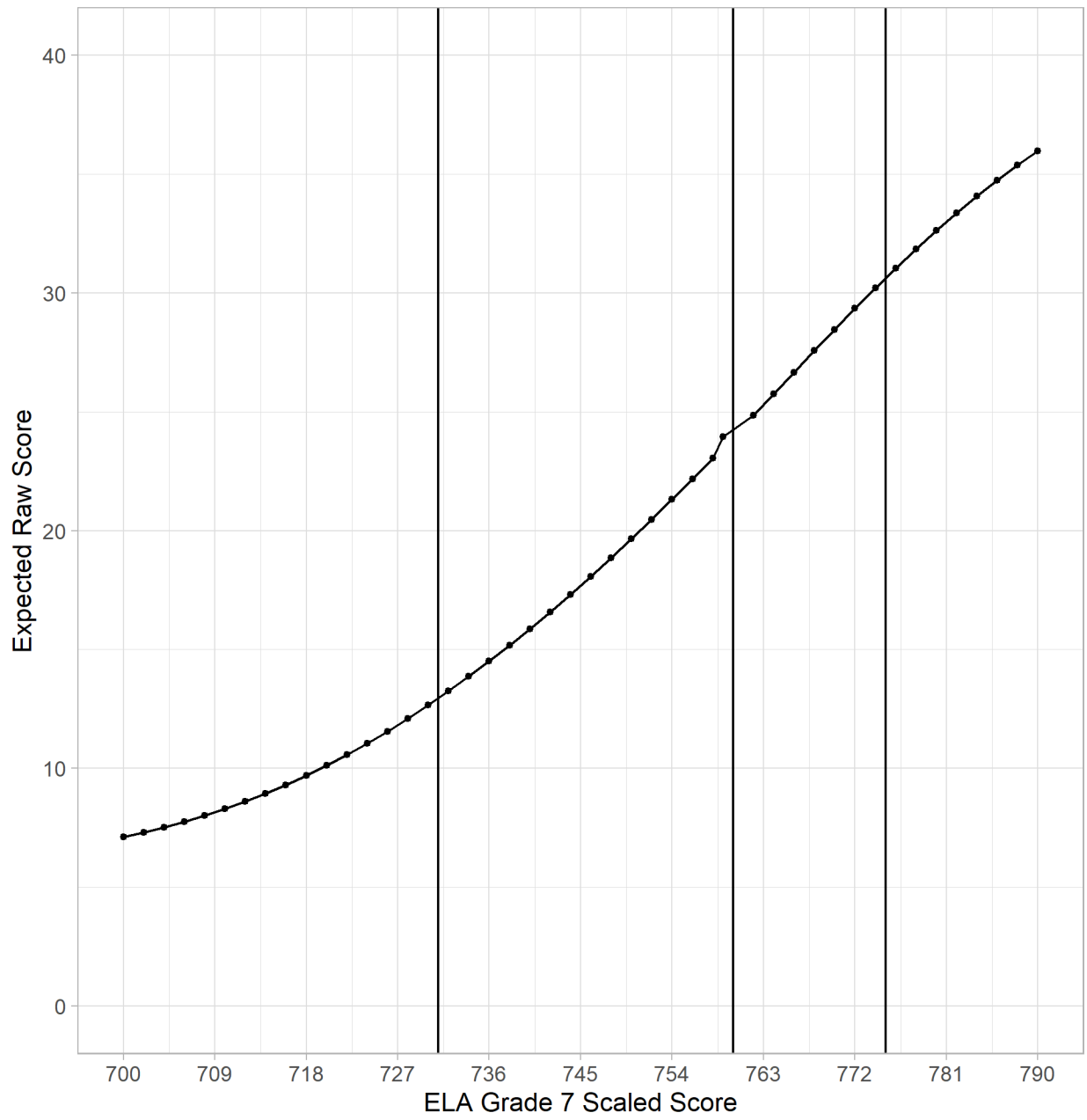
Figure K-21. Test Characteristic Curve for SLA—Grade 8
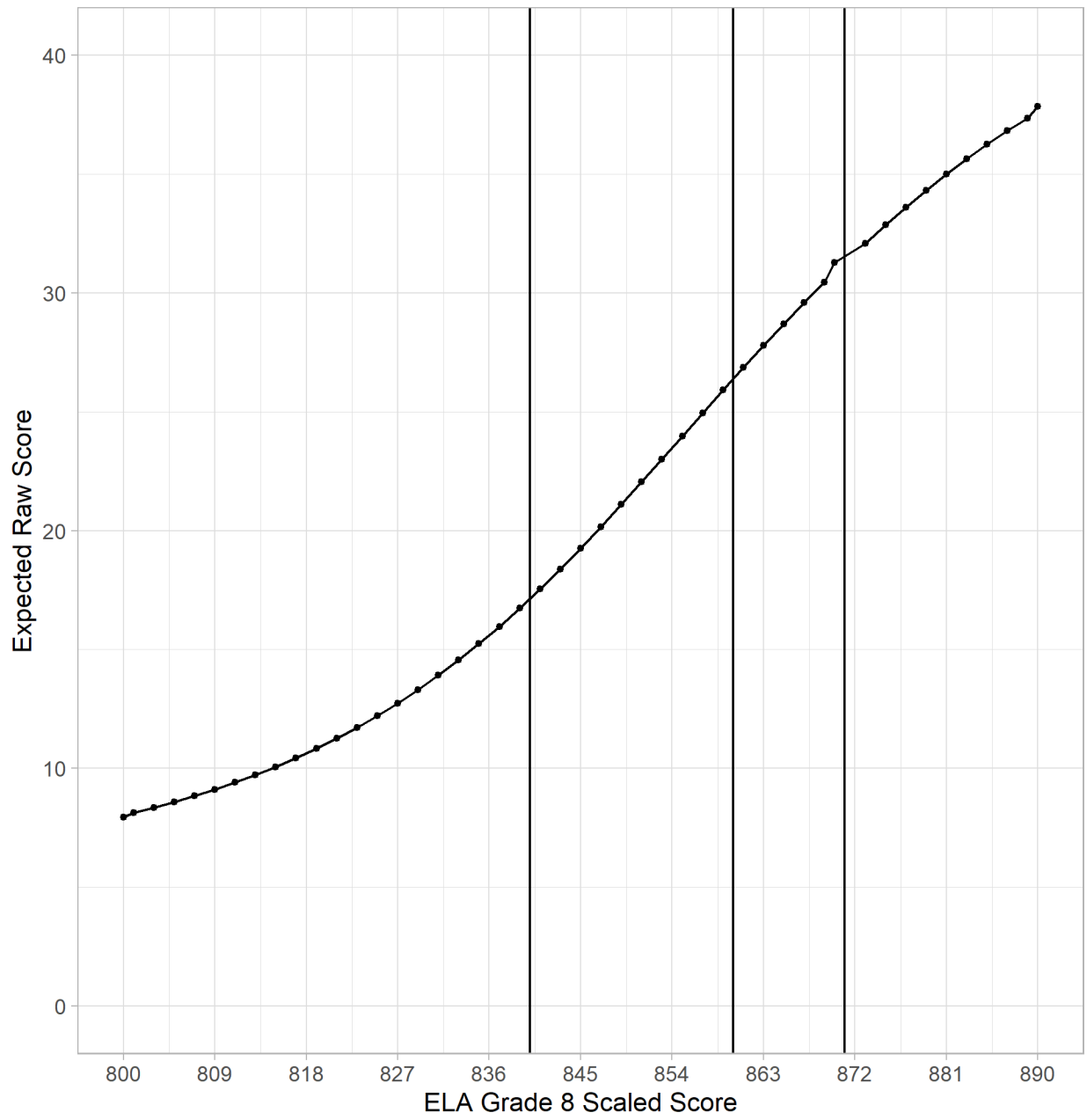
Figure K-22. Test Characteristic Curve for Mathematics (Spanish Transadapted)—Grade 3
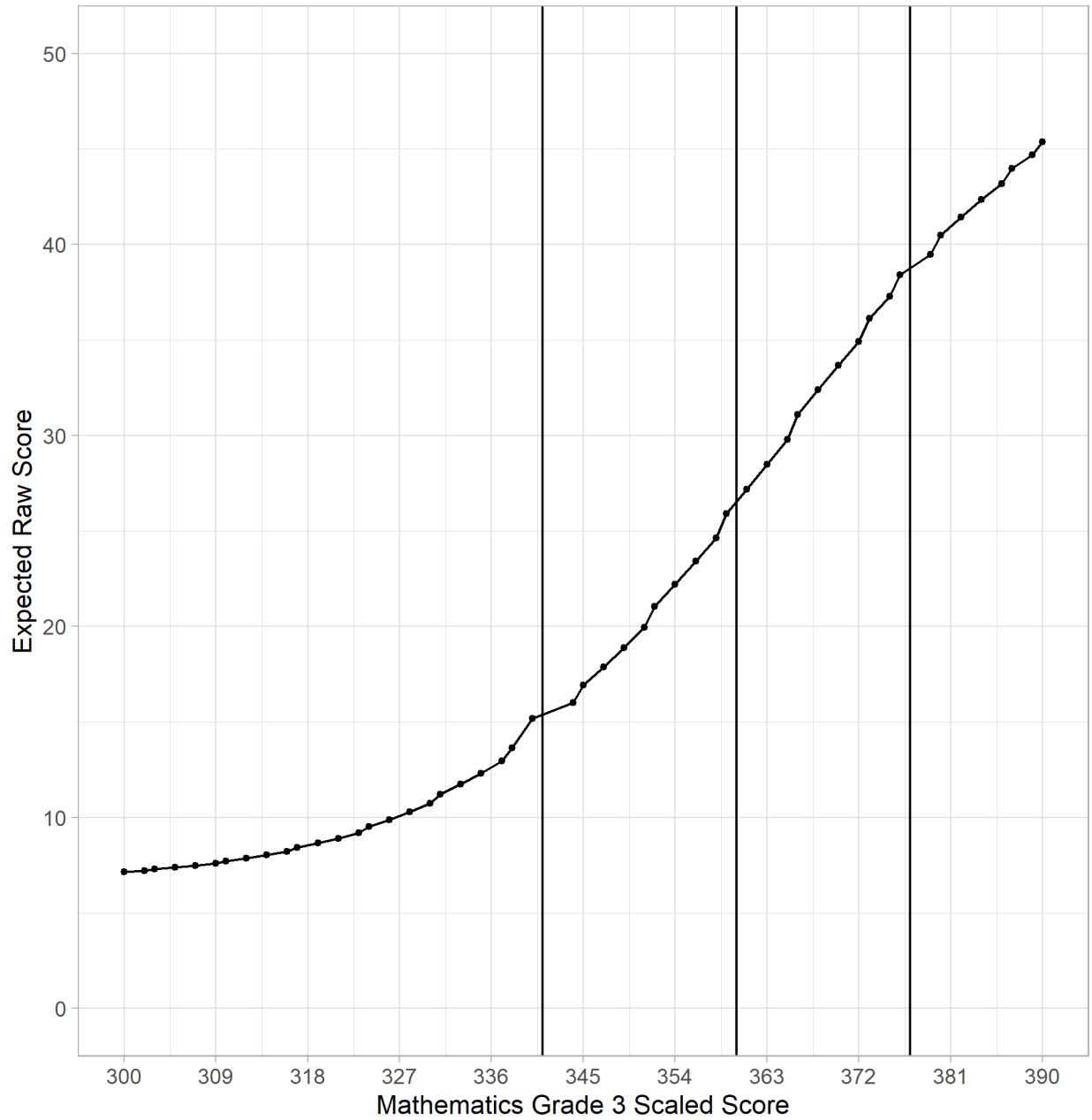
Figure K-23. Test Characteristic Curve for Mathematics (Spanish Transadapted)—Grade 4
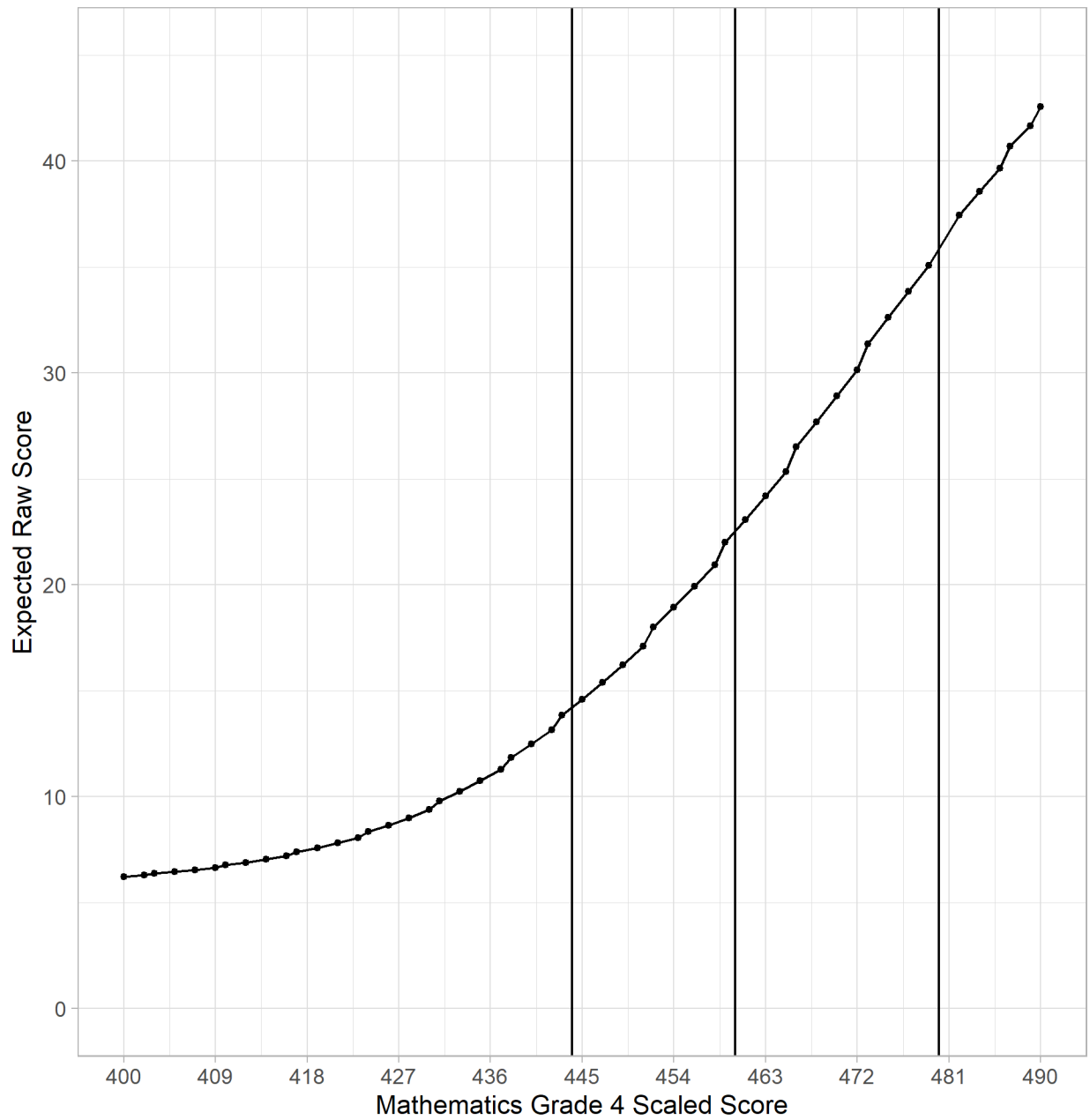
Figure K-24. Test Characteristic Curve for Mathematics (Spanish Transadapted)—Grade 5
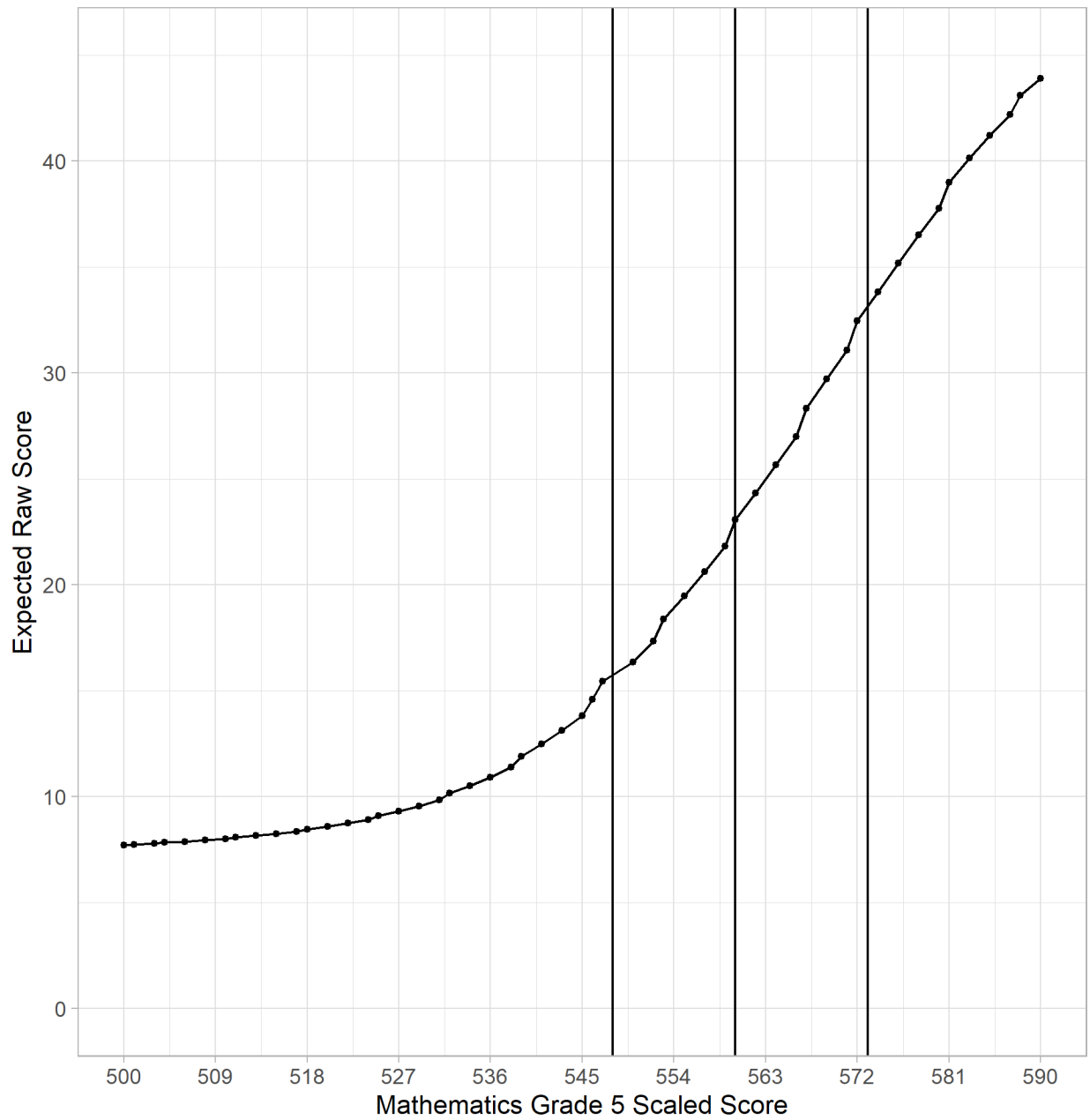
Figure K-25. Test Characteristic Curve for Mathematics (Spanish Transadapted)—Grade 6
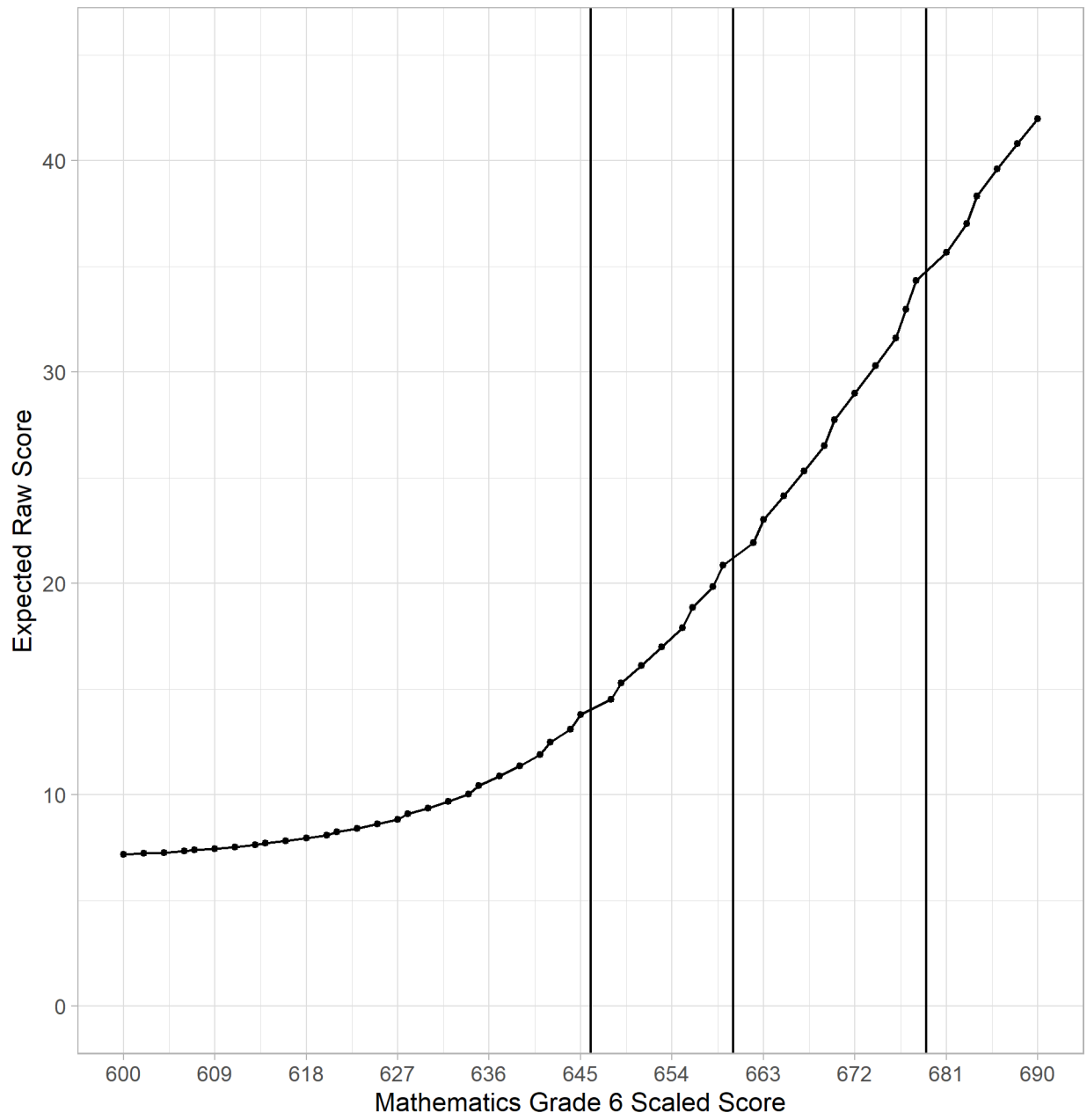
Figure K-26. Test Characteristic Curve for Mathematics (Spanish Transadapted)—Grade 7
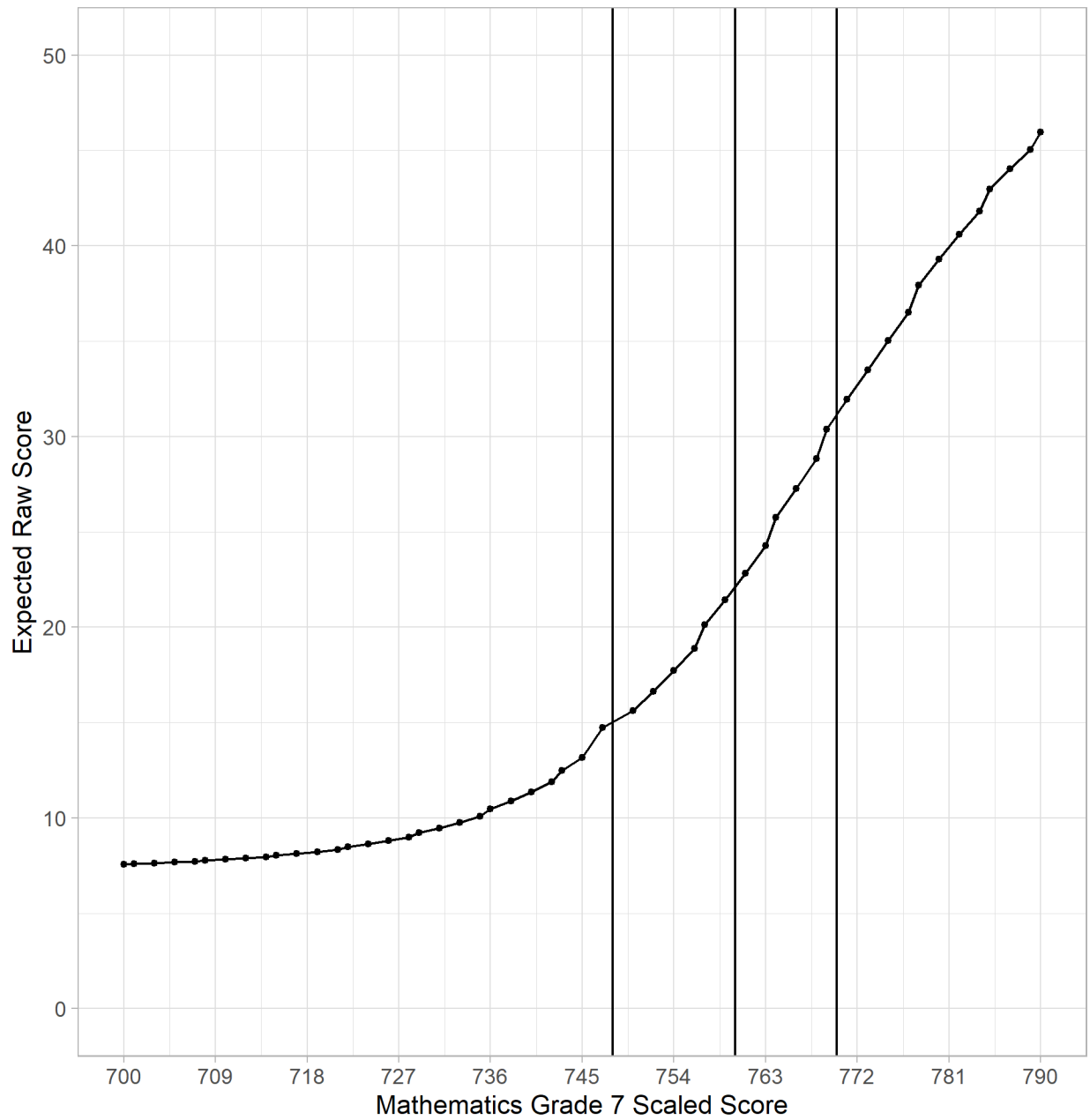
Figure K-27. Test Characteristic Curve for Mathematics (Spanish Transadapted)—Grade 8
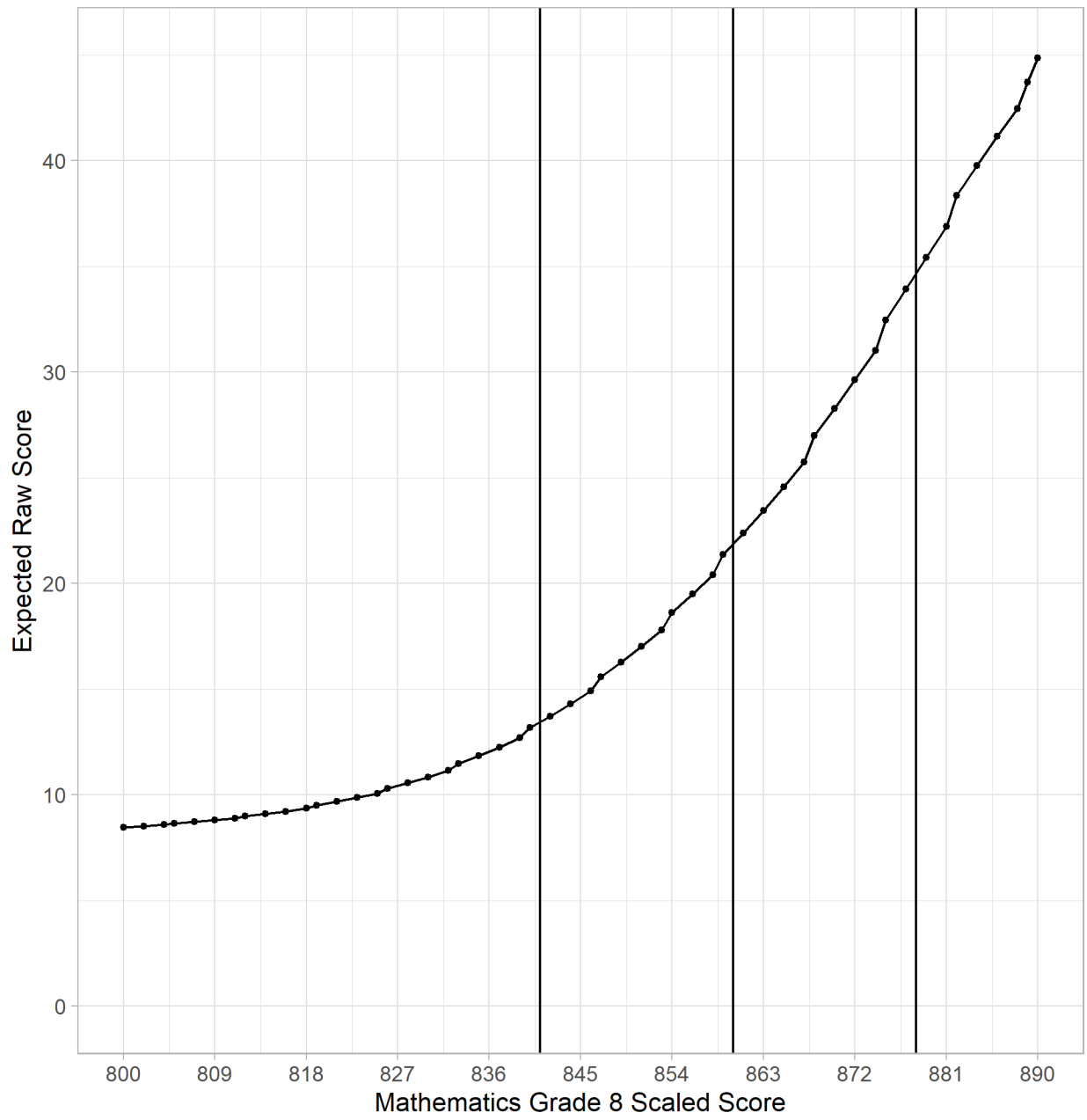
Figure K-28. Test Characteristic Curve for Science (Spanish Transadapted)—Grade 5
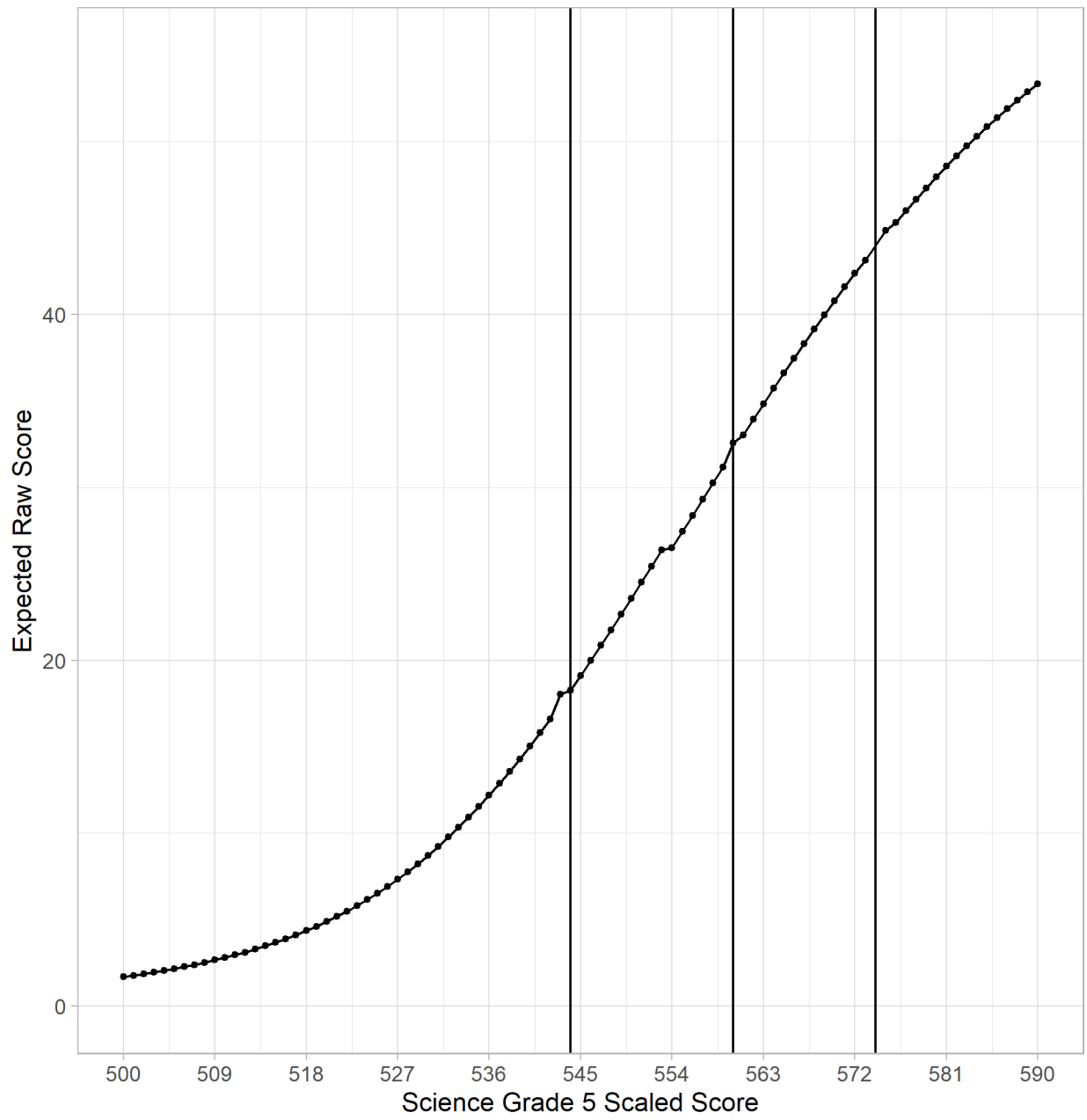
Figure K-29. Test Characteristic Curve for Science (Spanish Transadapted)—Grade 8
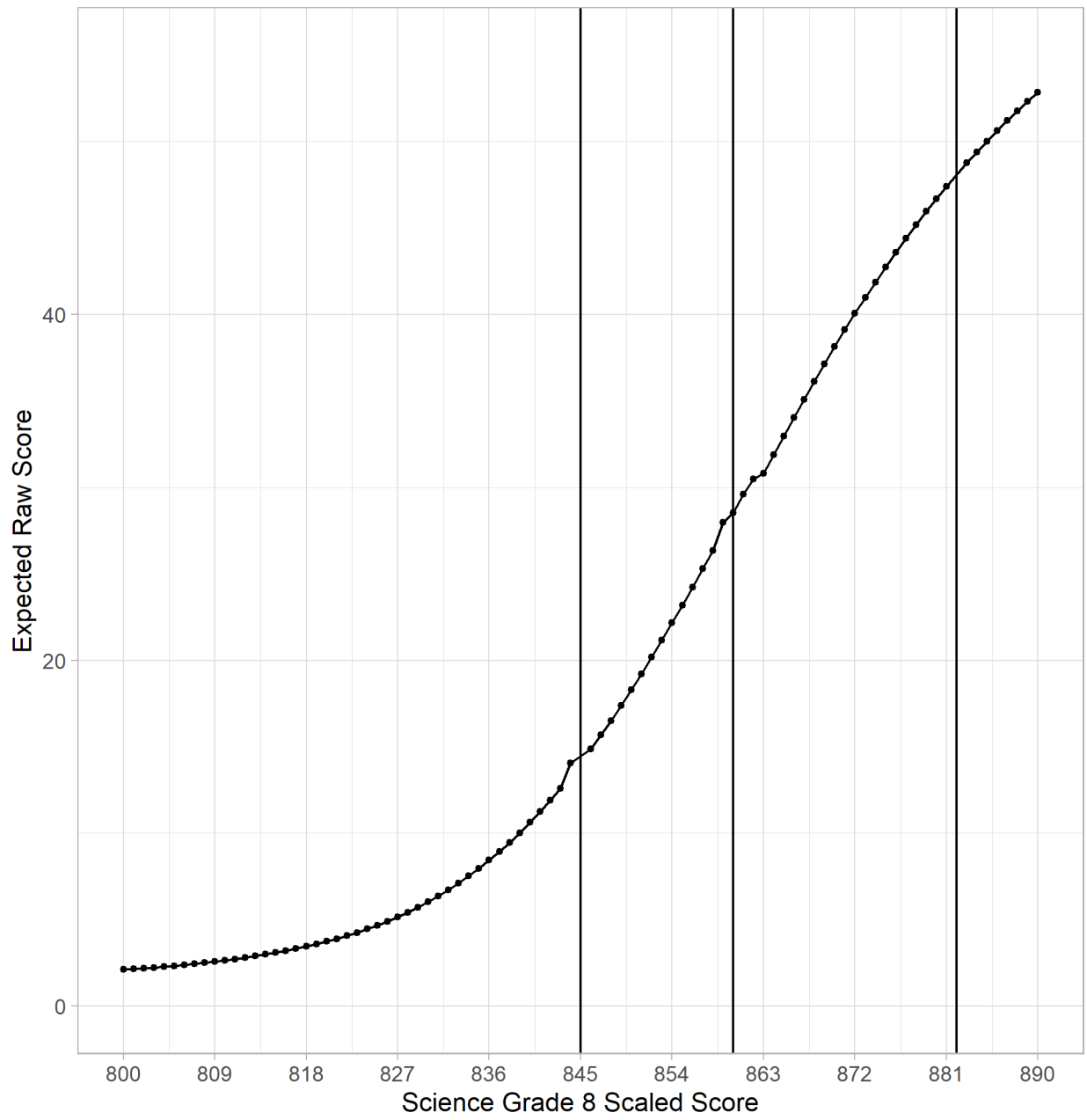
Figure K-30. Test Characteristic Curve for Science (Spanish Transadapted)—Grade 11
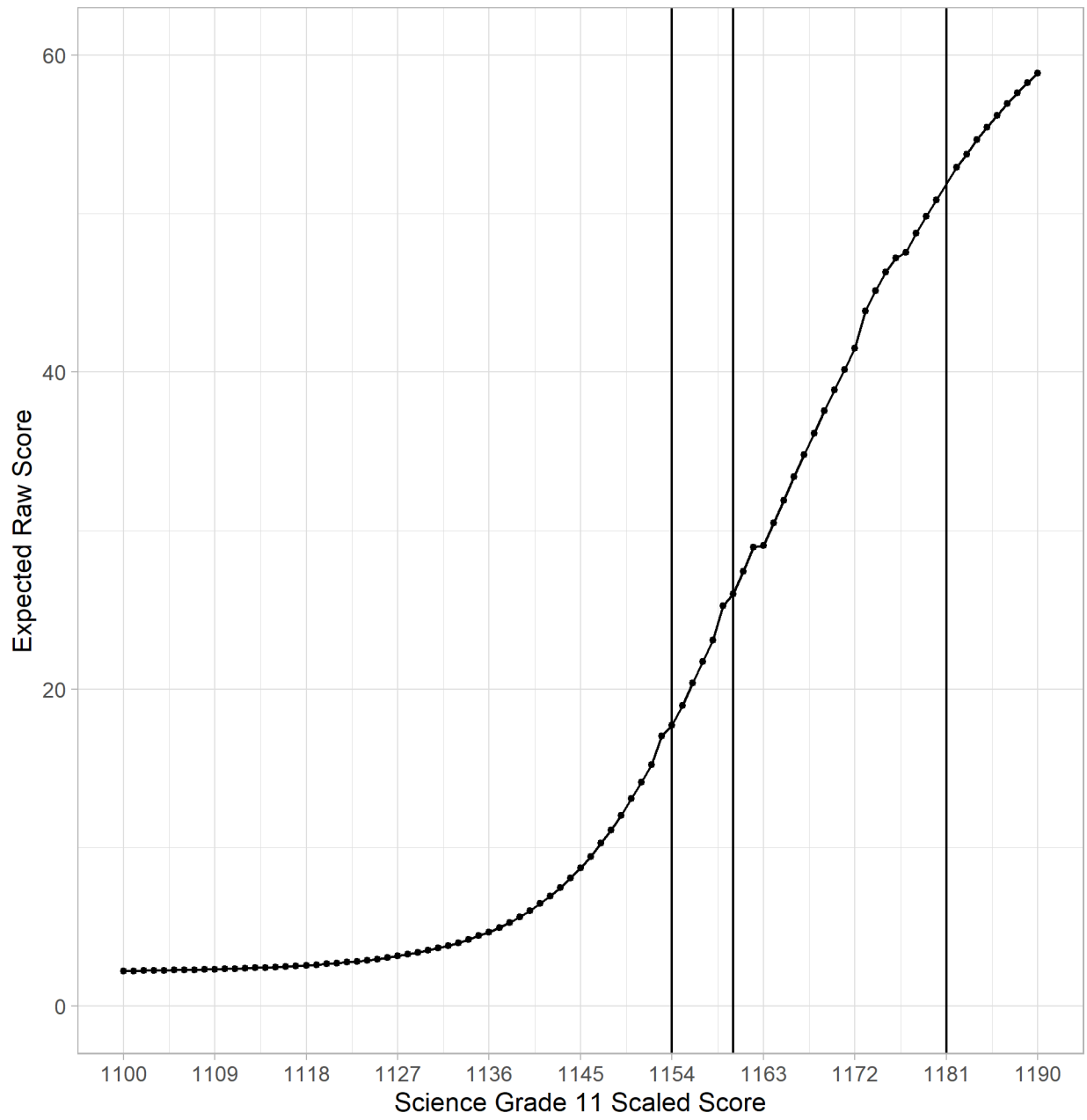
Figure K-31. Conditional Standard Errors of Measurement for ELA—Grade 3
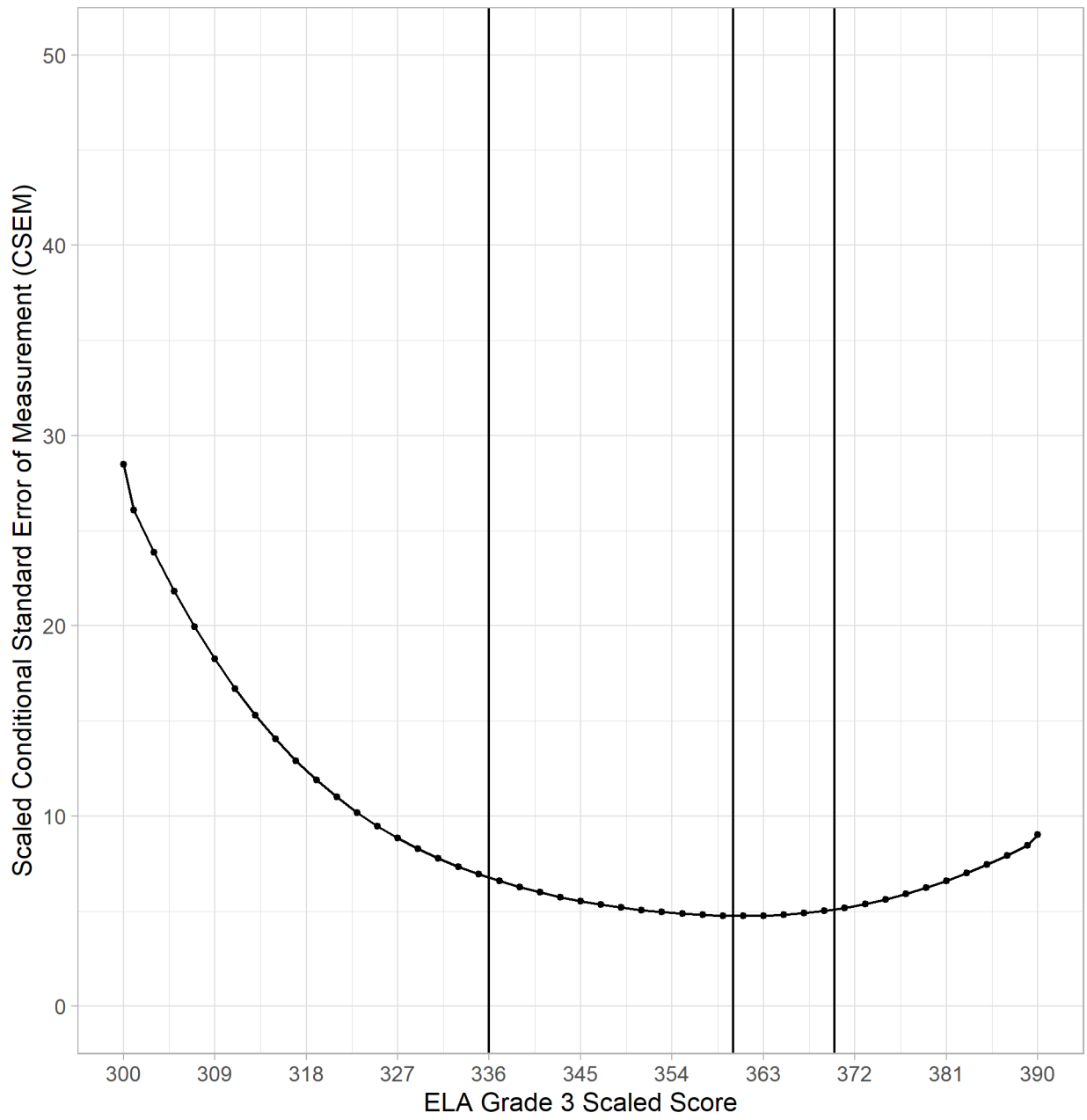
Figure K-32. Conditional Standard Errors of Measurement for ELA—Grade 4
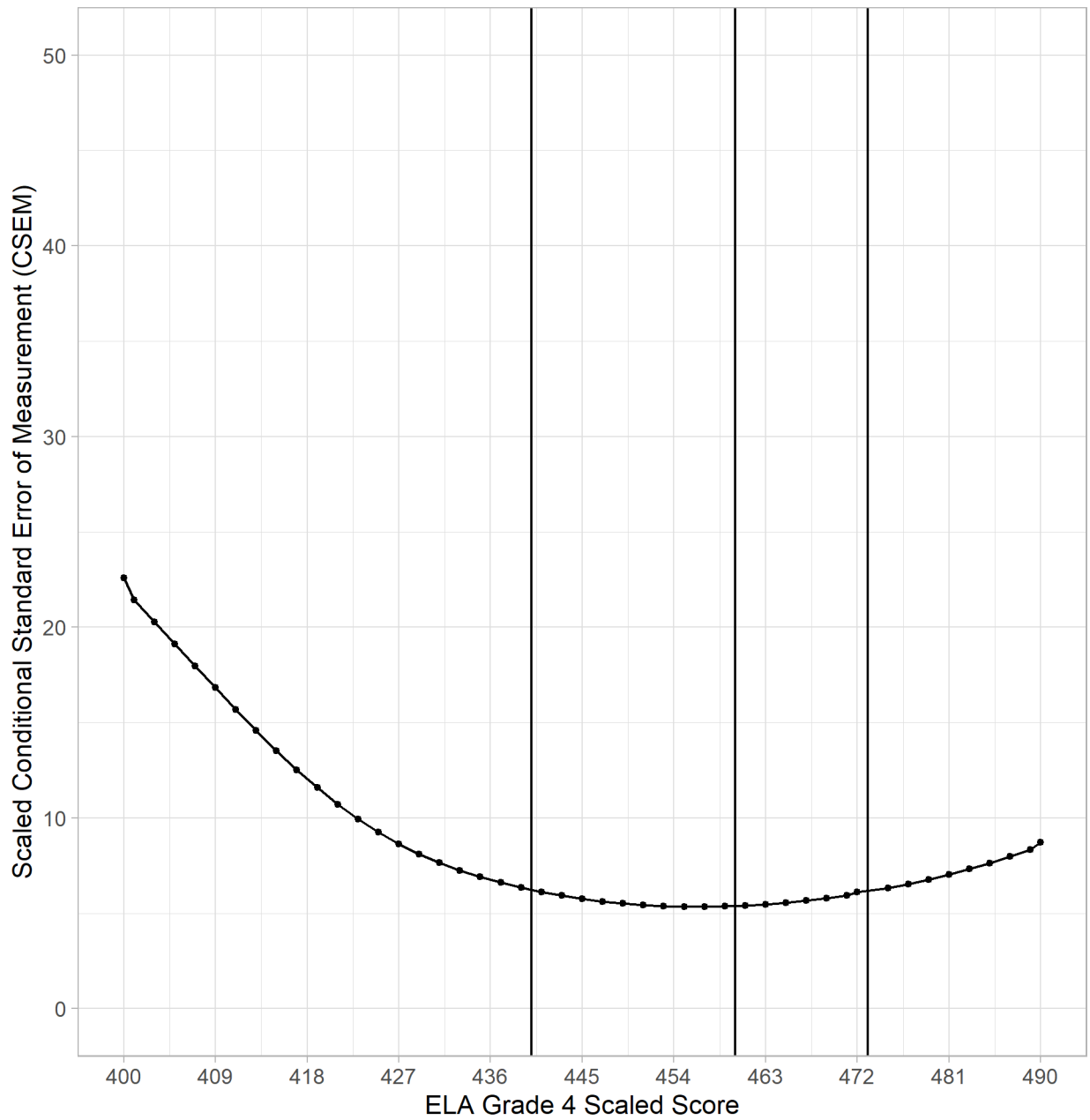
Figure K-33. Conditional Standard Errors of Measurement for ELA—Grade 5
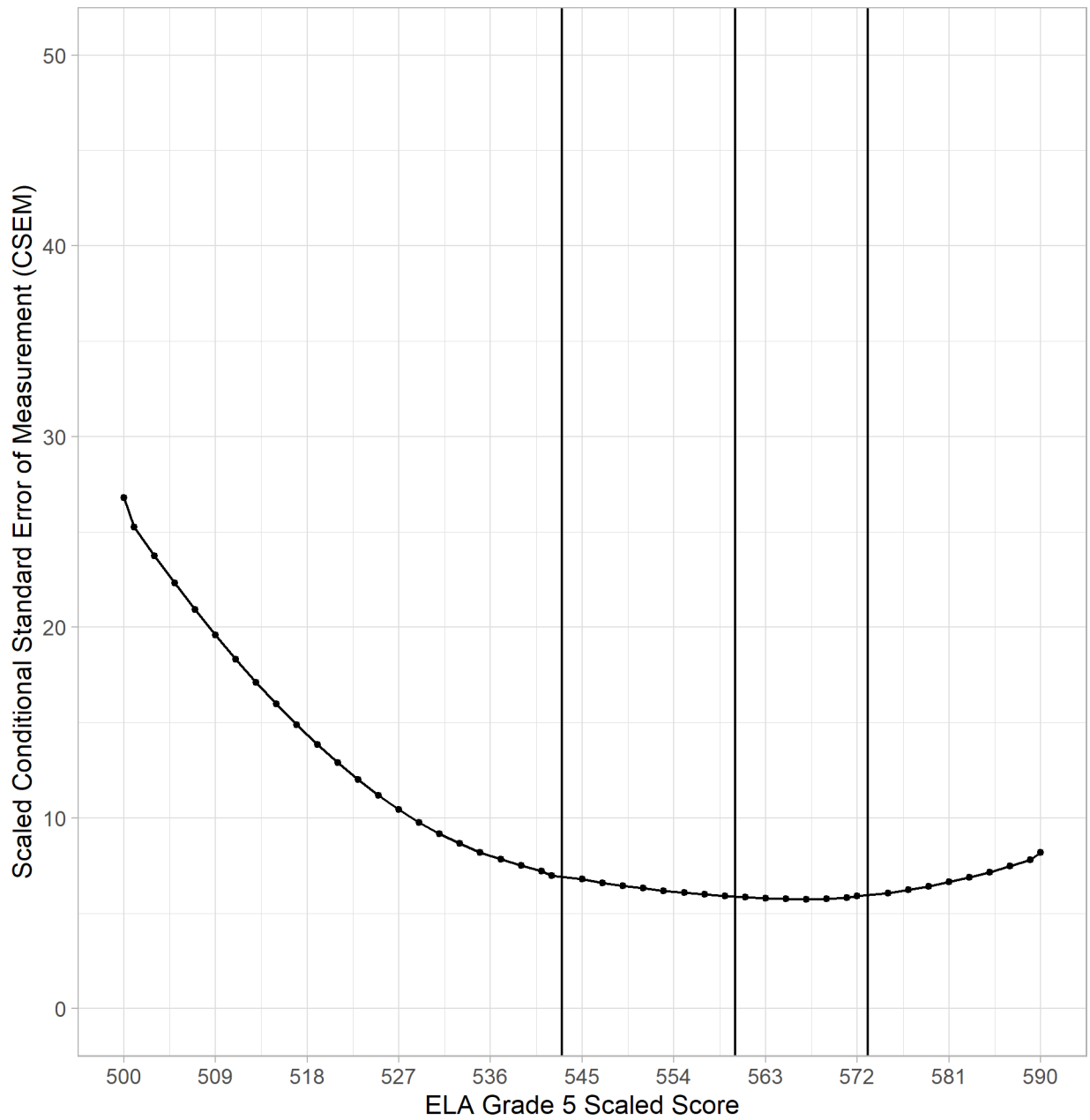
Figure K-34. Conditional Standard Errors of Measurement for ELA—Grade 6
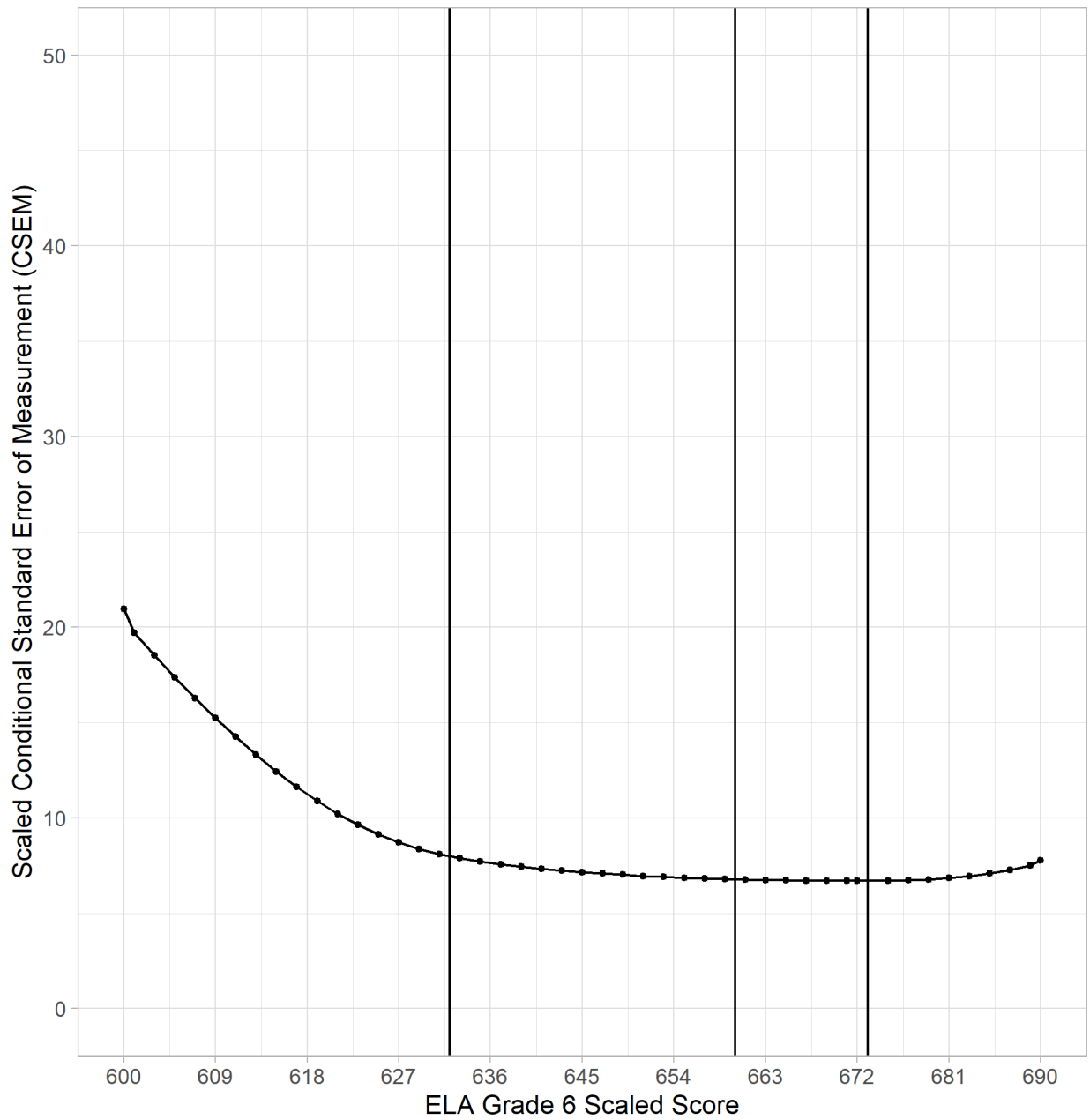
Figure K-35. Conditional Standard Errors of Measurement for ELA—Grade 7
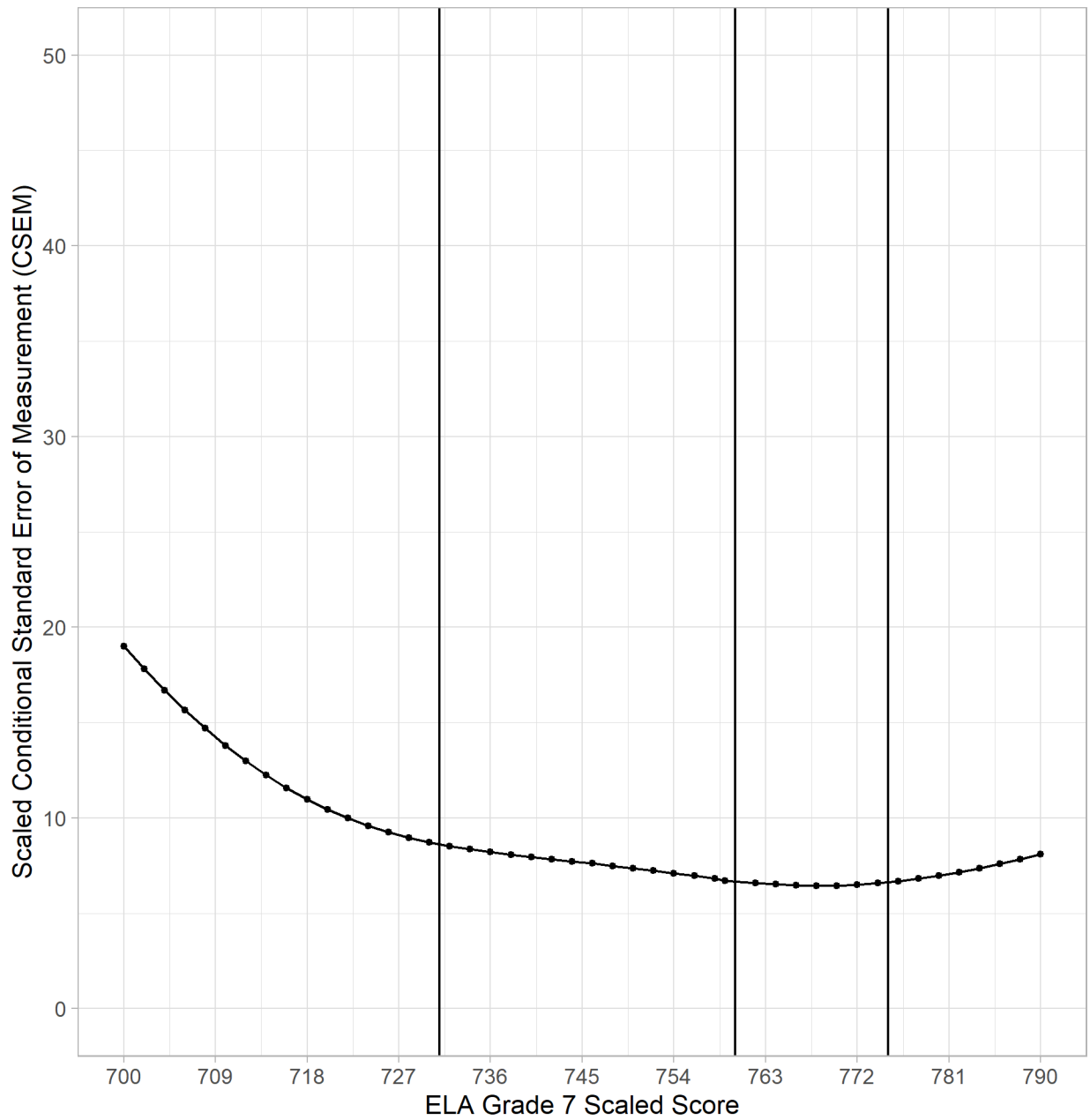
Figure K-36. Conditional Standard Errors of Measurement for ELA—Grade 8
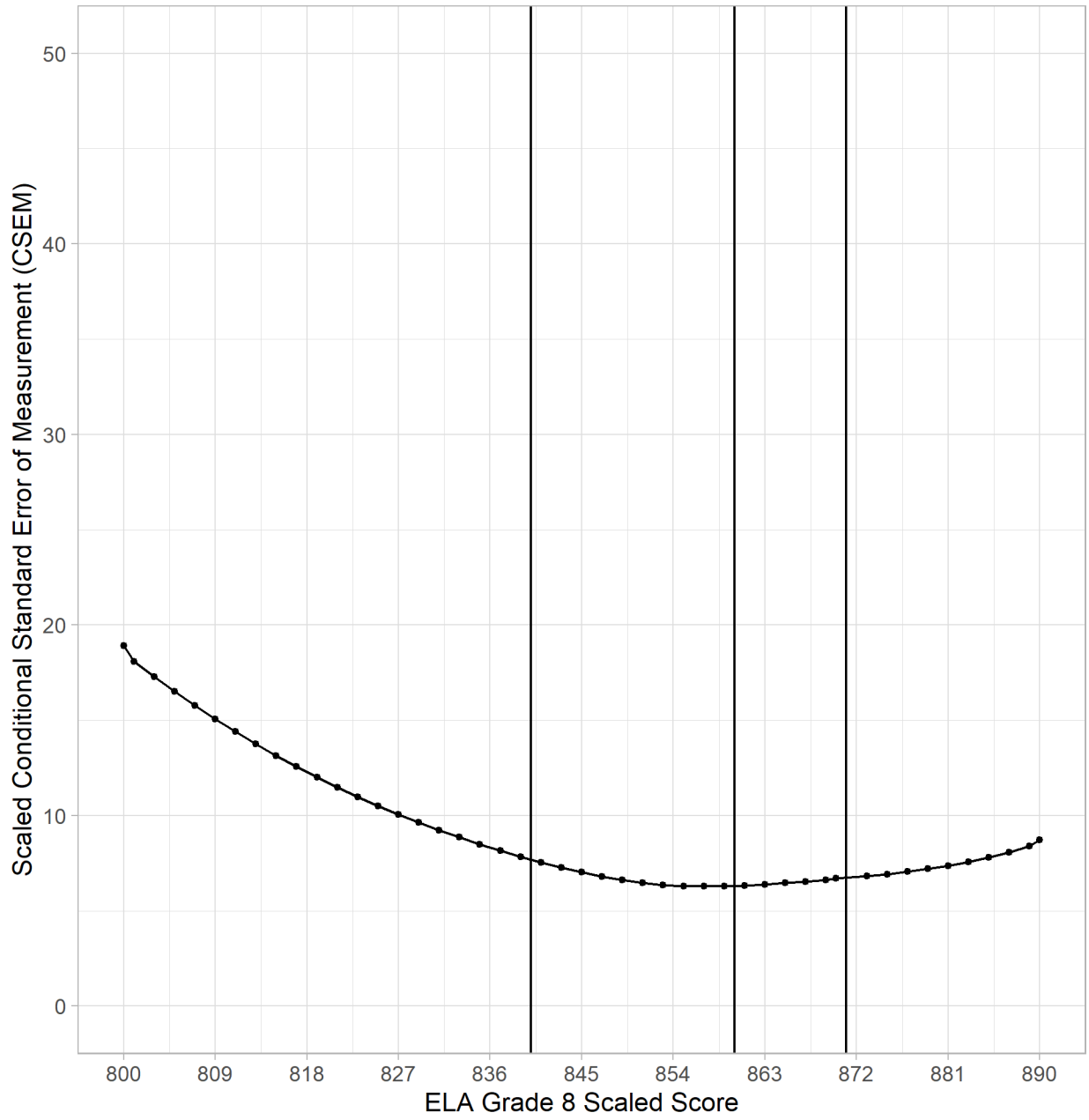
Figure K-37. Conditional Standard Errors of Measurement for Mathematics—Grade 3
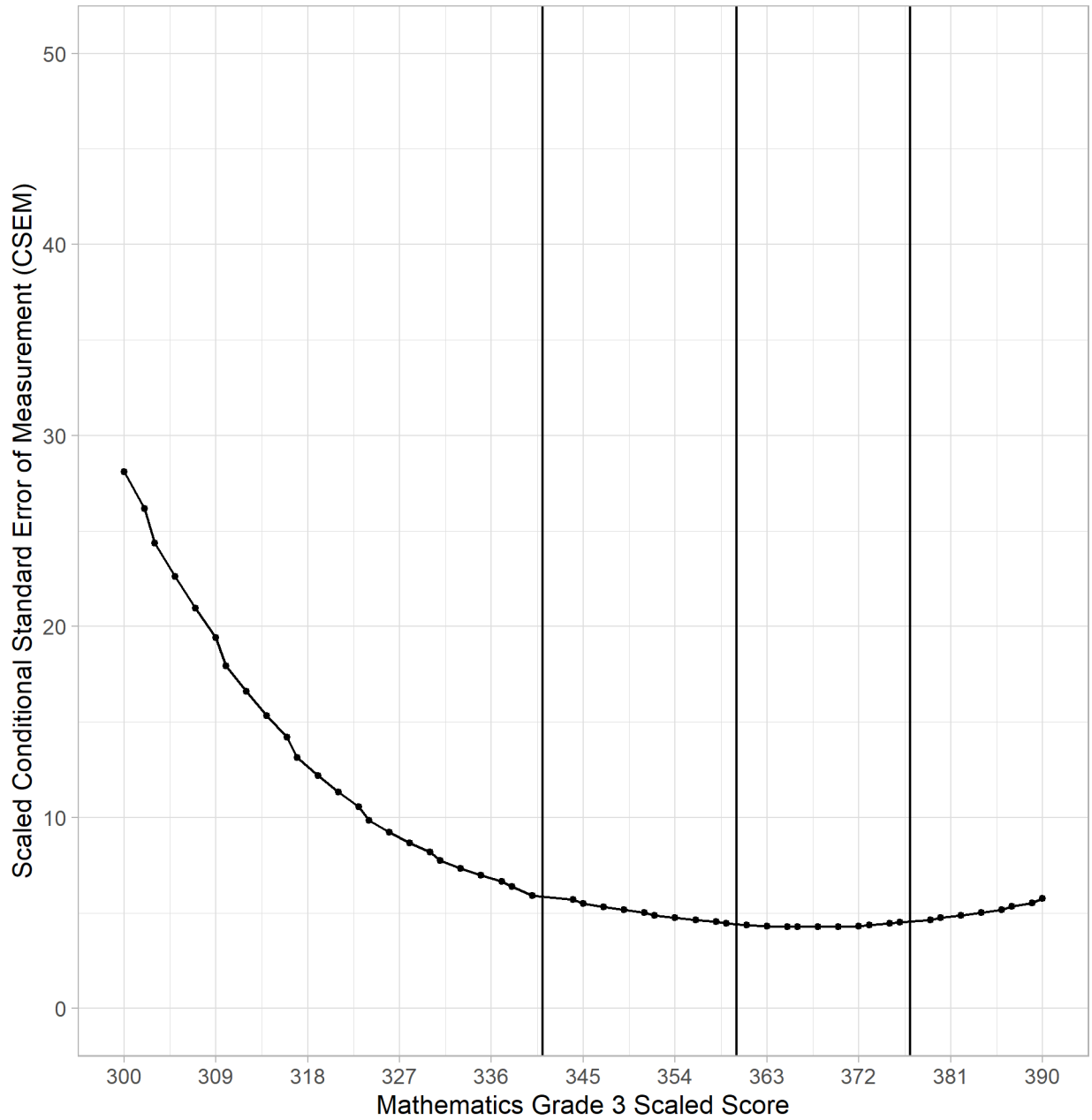
Figure K-38. Conditional Standard Errors of Measurement for Mathematics—Grade 4
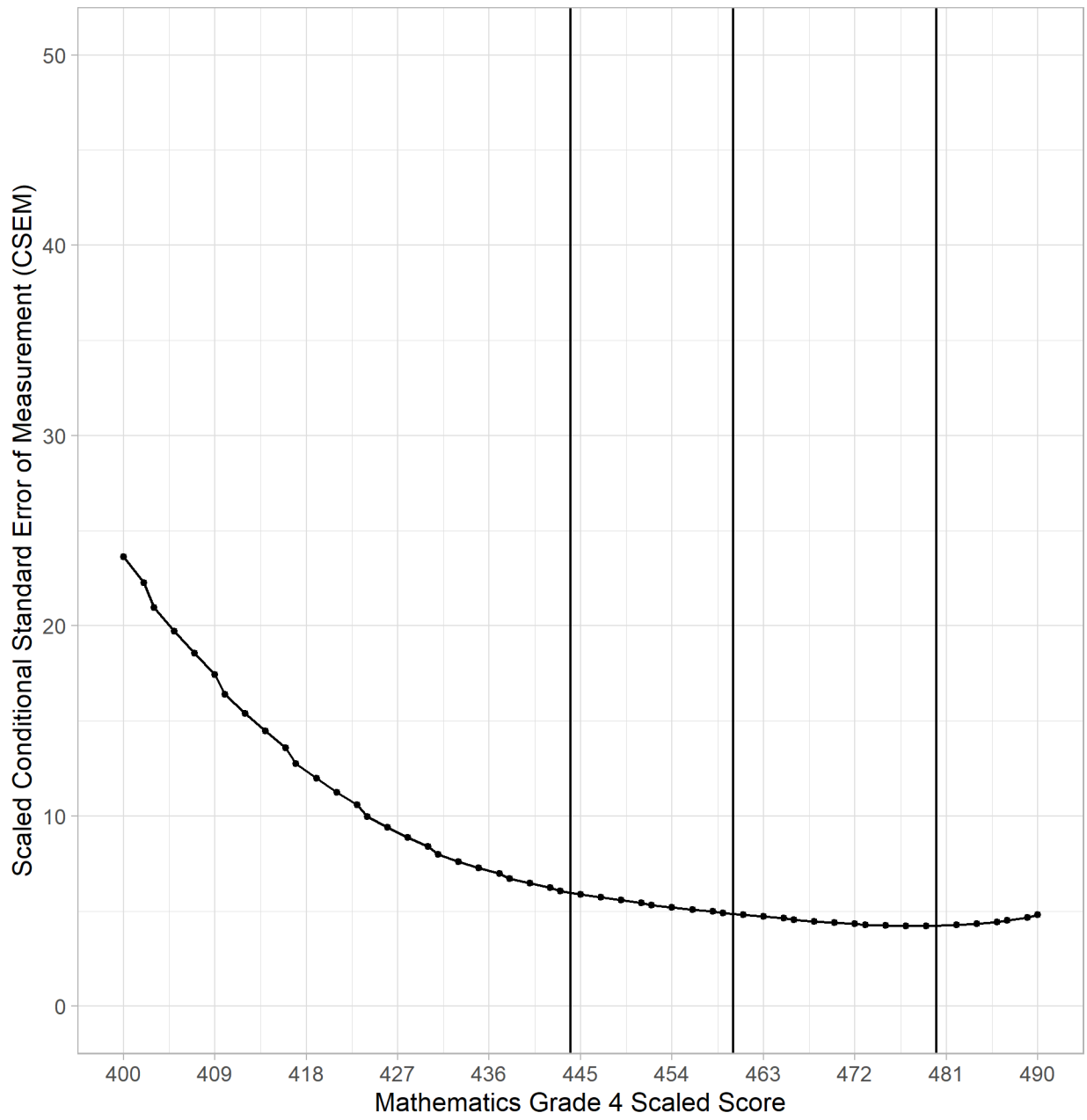
Figure K-39. Conditional Standard Errors of Measurement for Mathematics—Grade 5
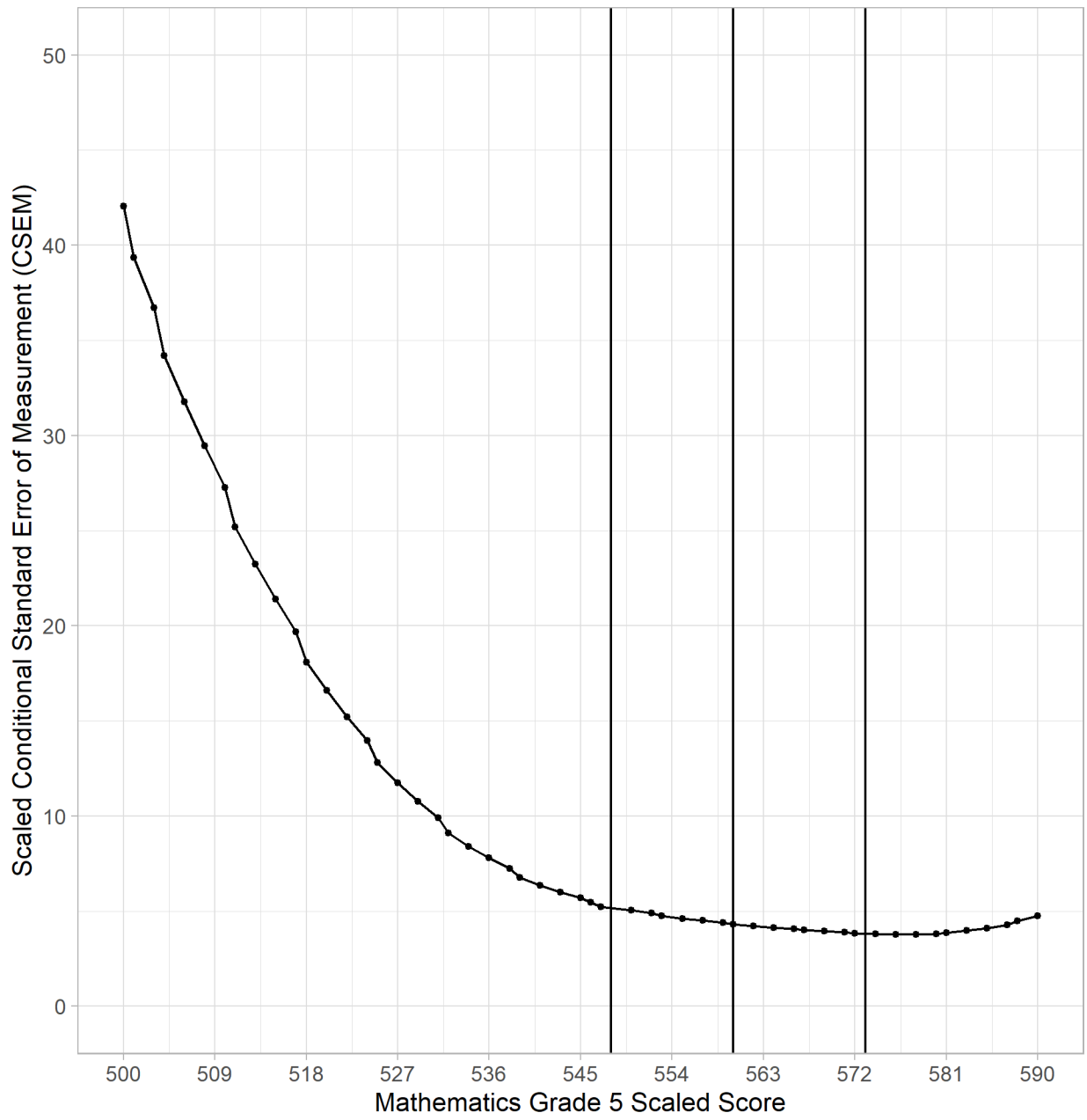
Figure K-40. Conditional Standard Errors of Measurement for Mathematics—Grade 6
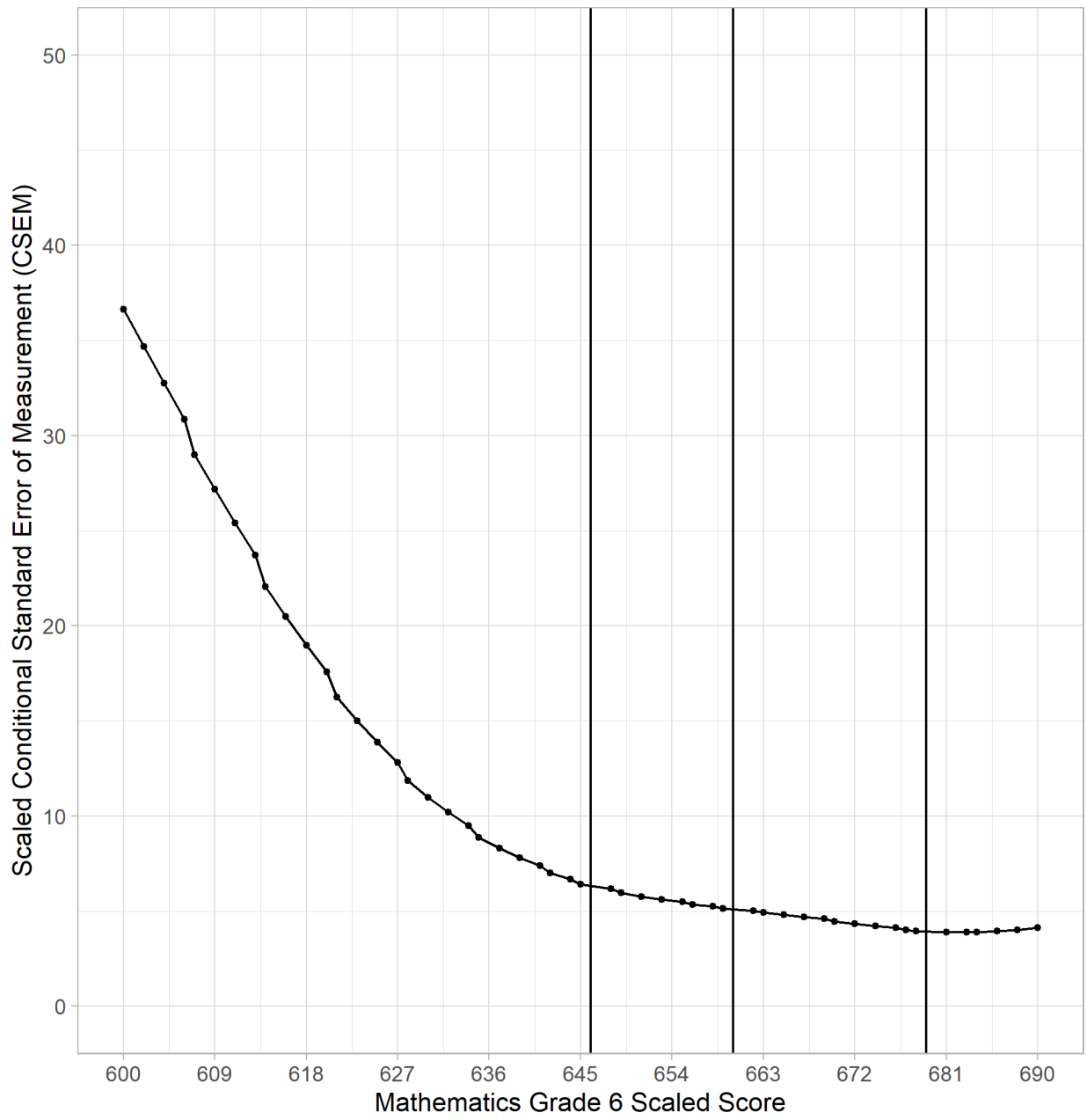
Figure K-41. Conditional Standard Errors of Measurement for Mathematics—Grade 7
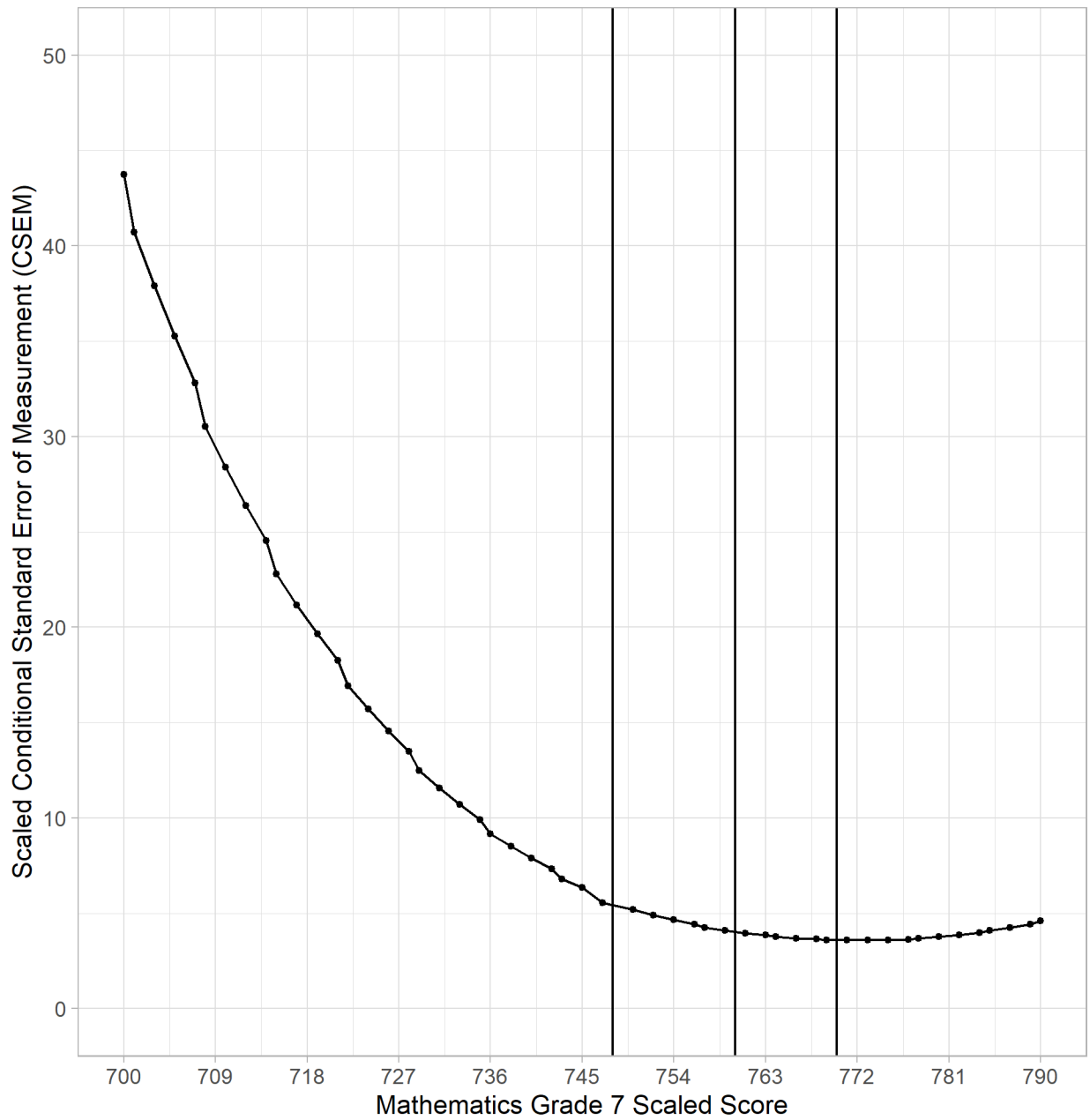
Figure K-42. Conditional Standard Errors of Measurement for Mathematics—Grade 8
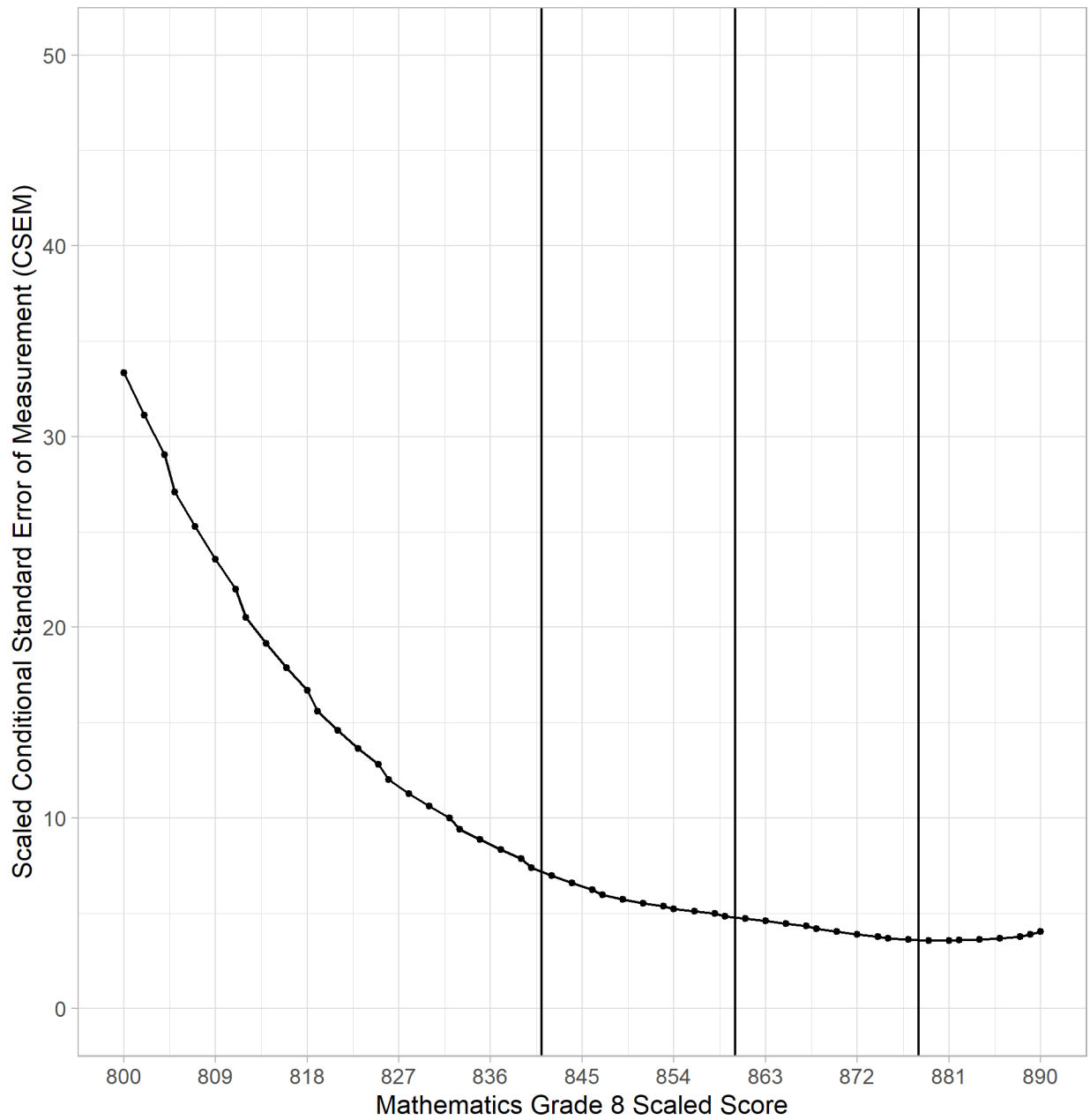
Figure K-43. Conditional Standard Errors of Measurement for Science—Grade 5
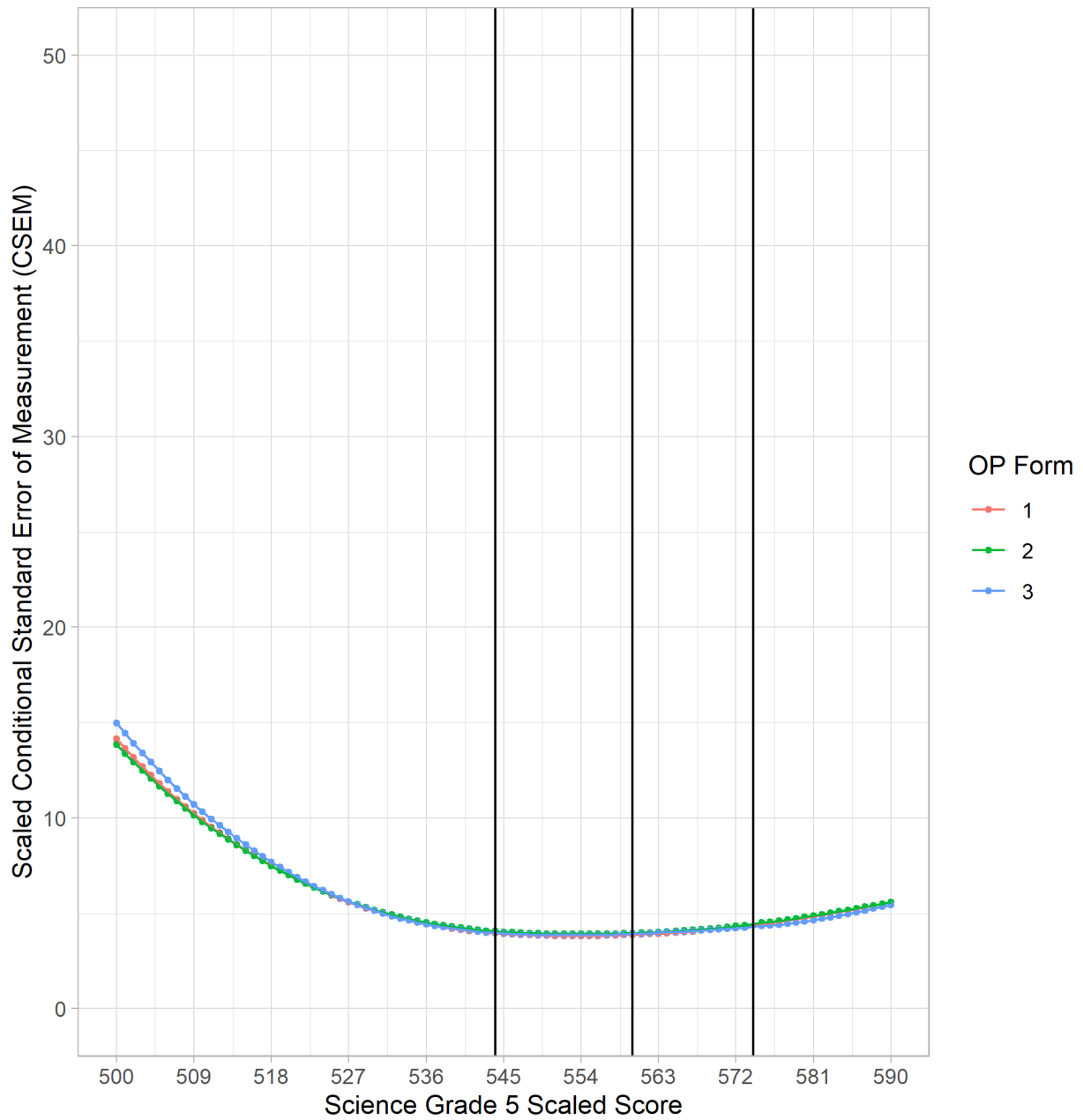
Figure K-44. Conditional Standard Errors of Measurement for Science—Grade 8
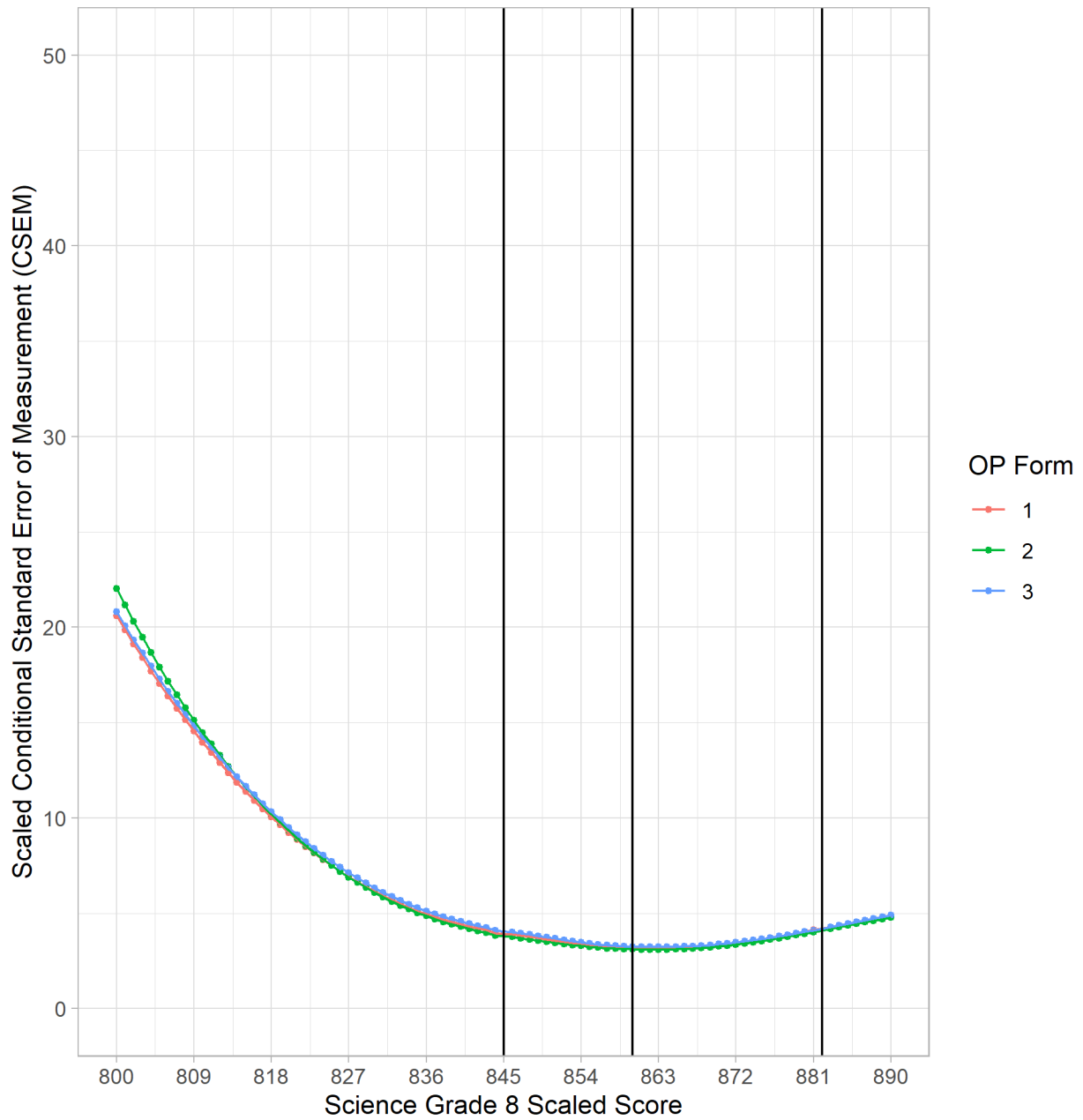
Figure K-45. Conditional Standard Errors of Measurement for Science—Grade 11
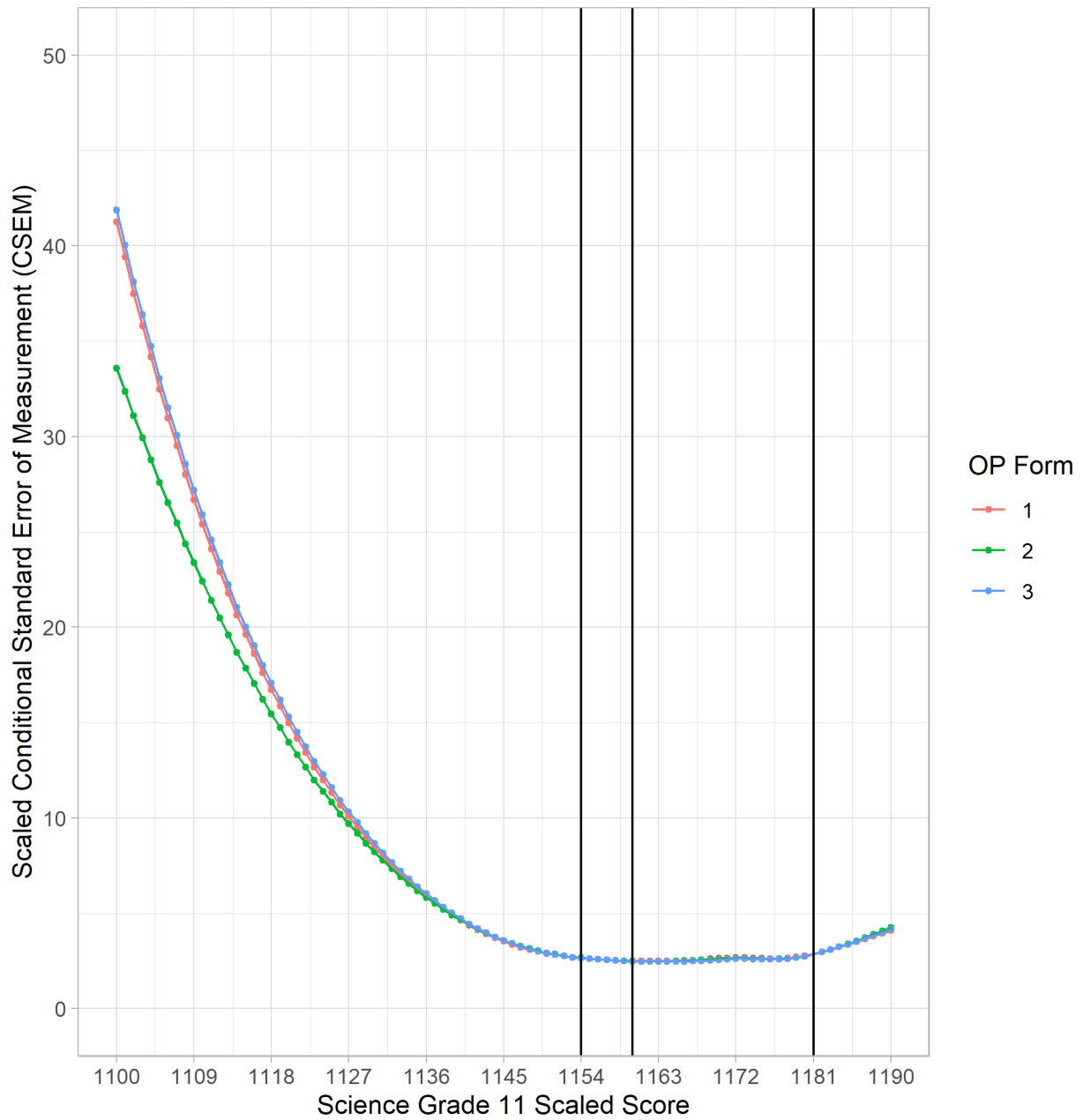
Figure K-46. Conditional Standard Errors of Measurement for SLA—Grade 3
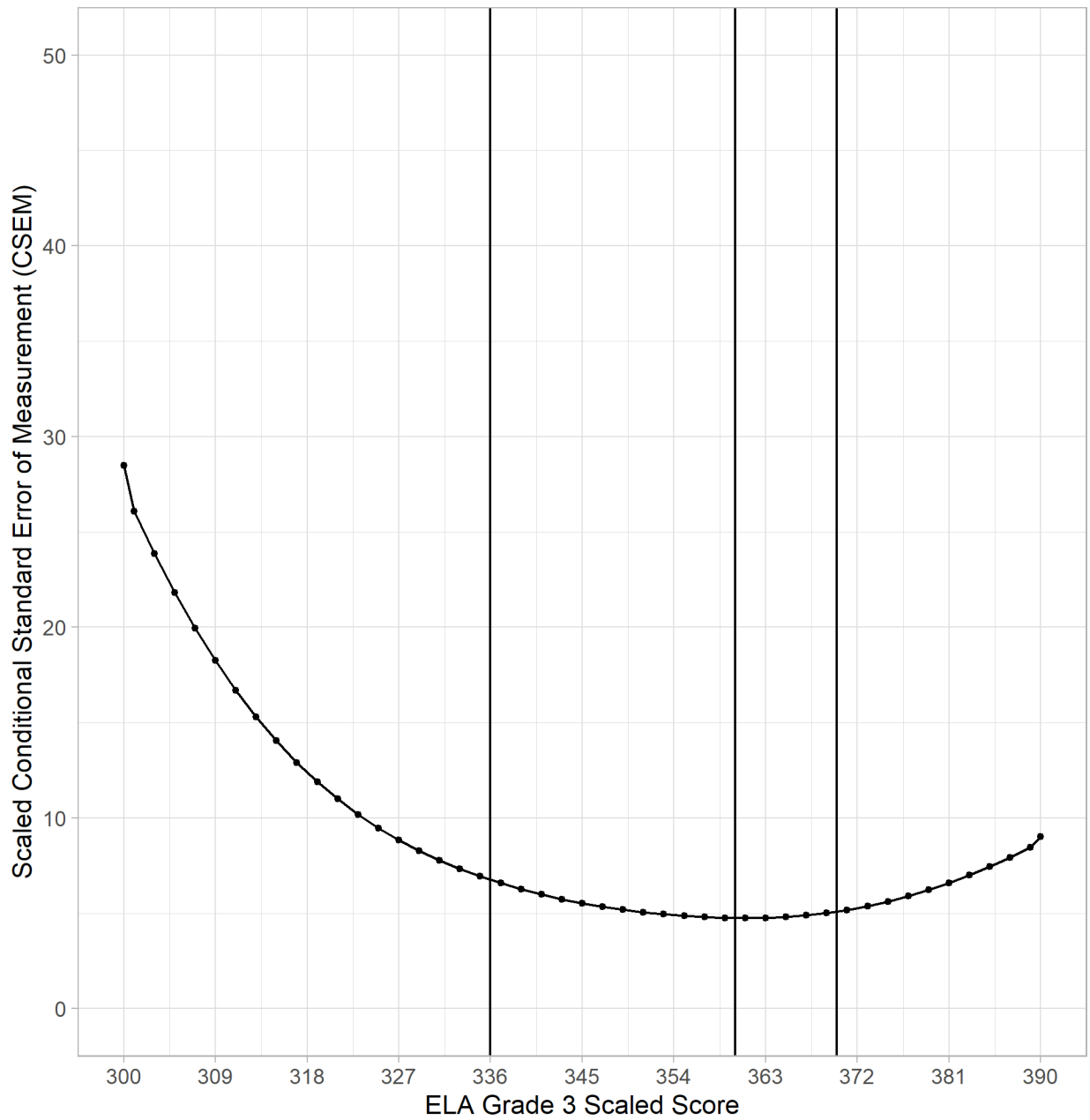
Figure K-47. Conditional Standard Errors of Measurement for SLA—Grade 4
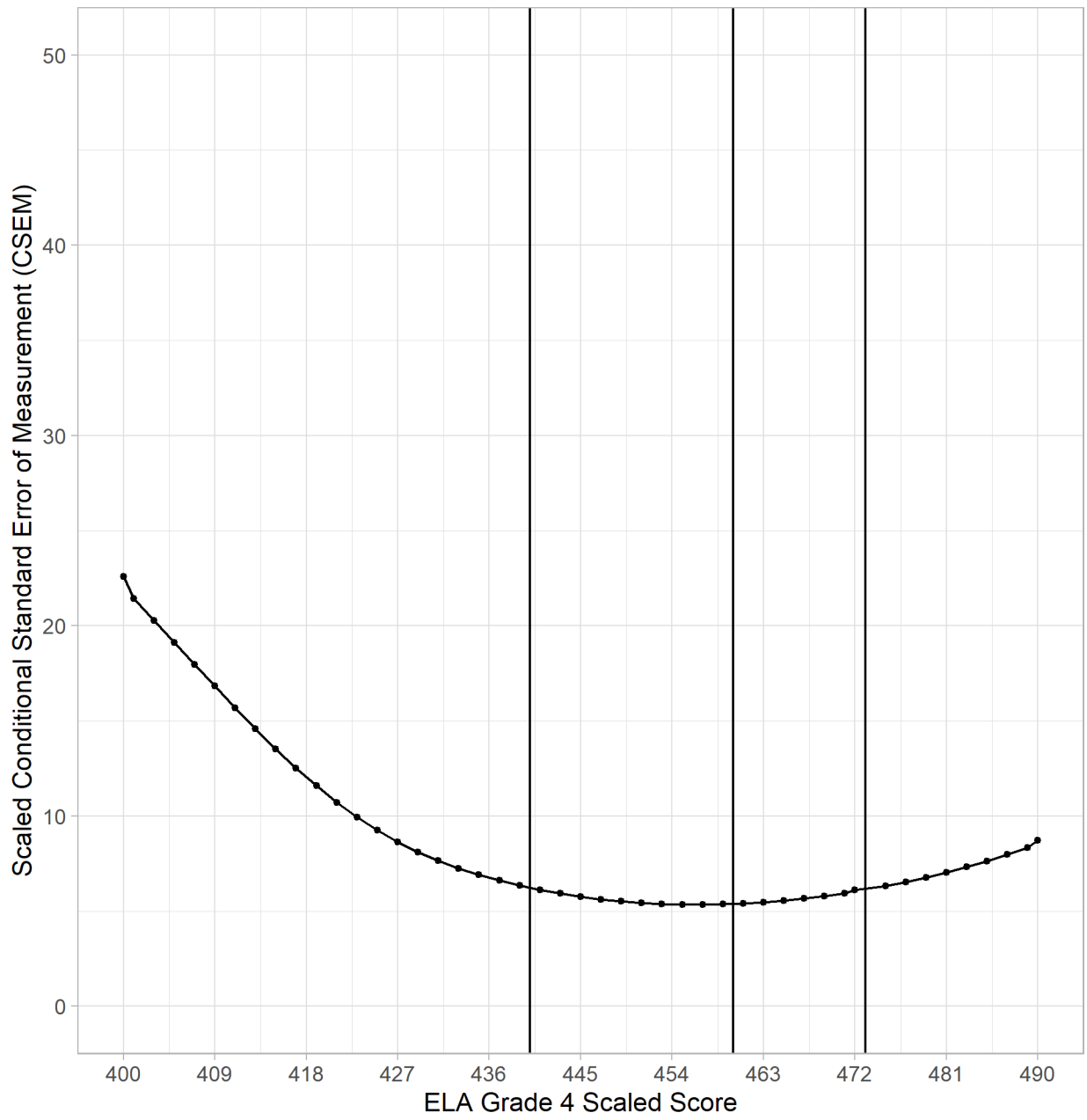
Figure K-48. Conditional Standard Errors of Measurement for SLA—Grade 5
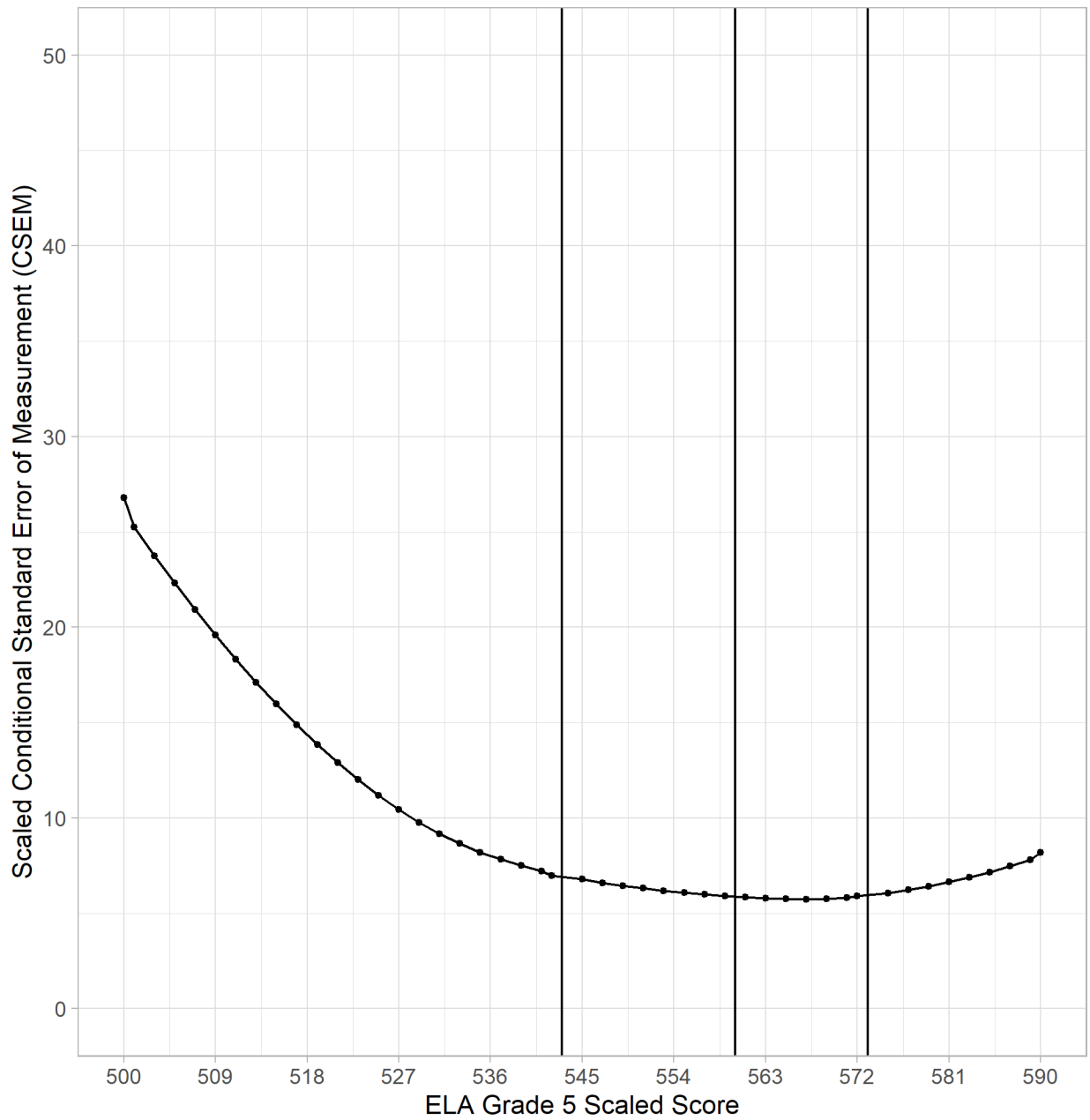
Figure K-49. Conditional Standard Errors of Measurement for SLA—Grade 6
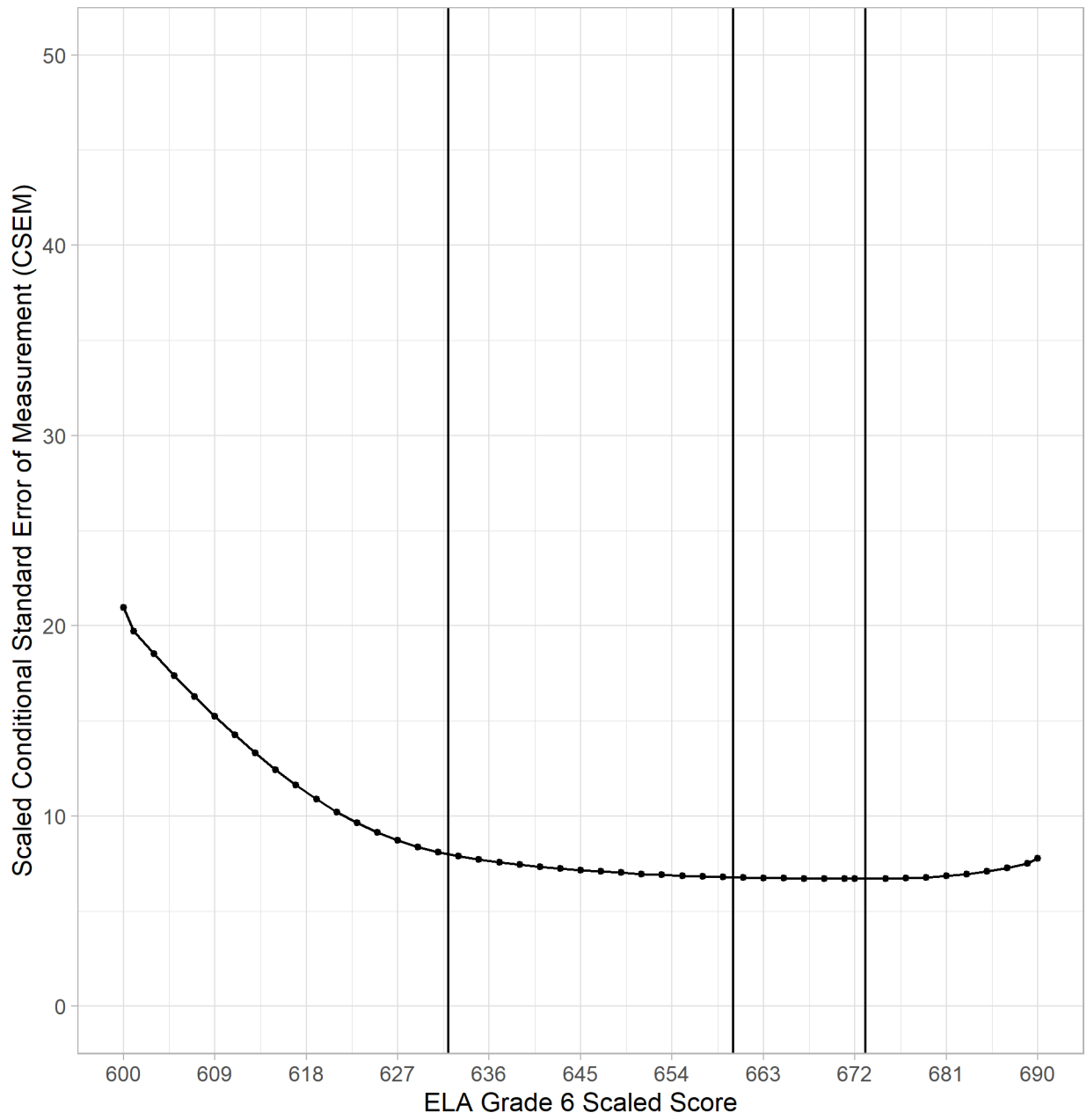
Figure K-50. Conditional Standard Errors of Measurement for SLA—Grade 7
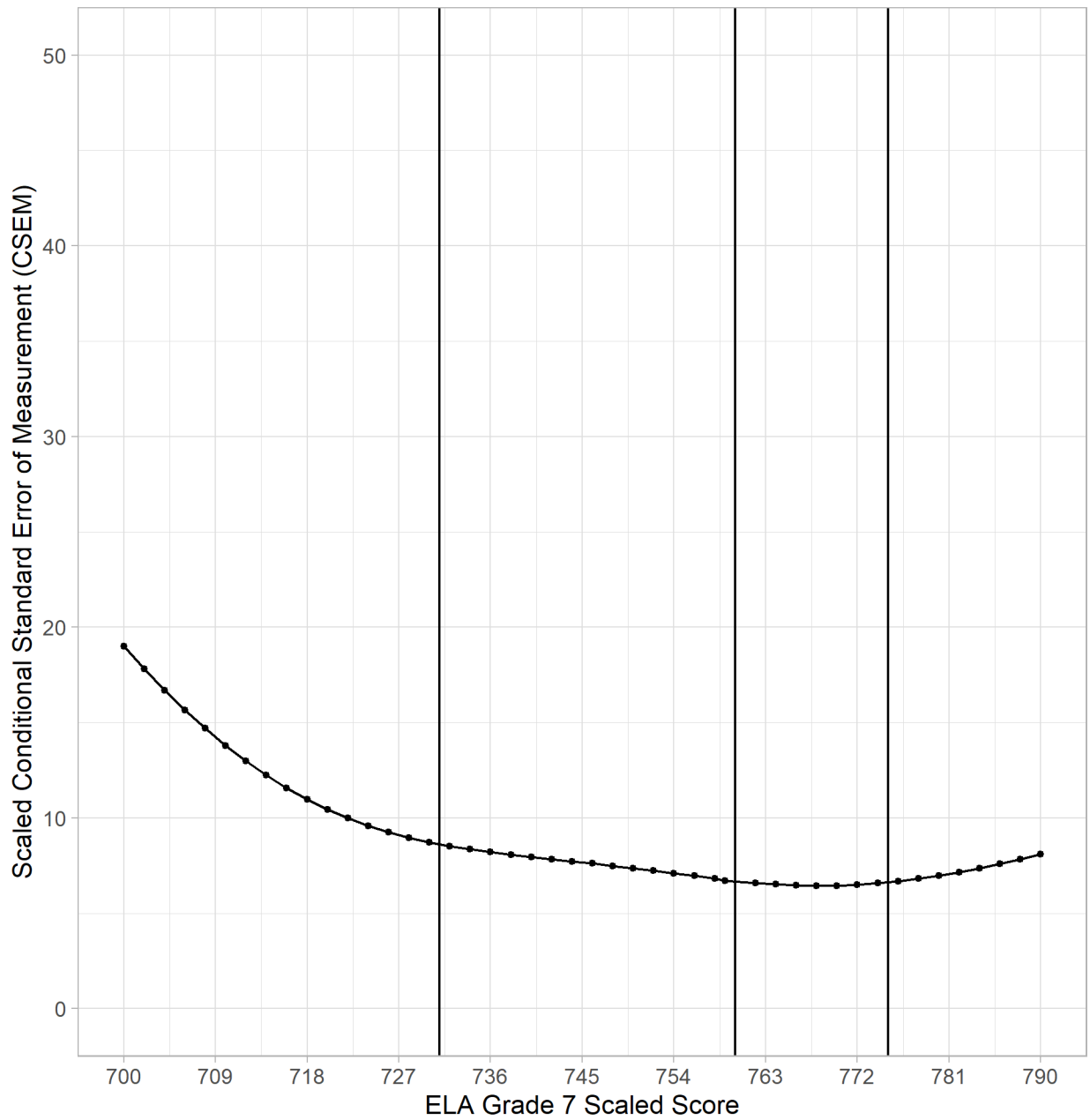
Figure K-51. Conditional Standard Errors of Measurement for SLA—Grade 8
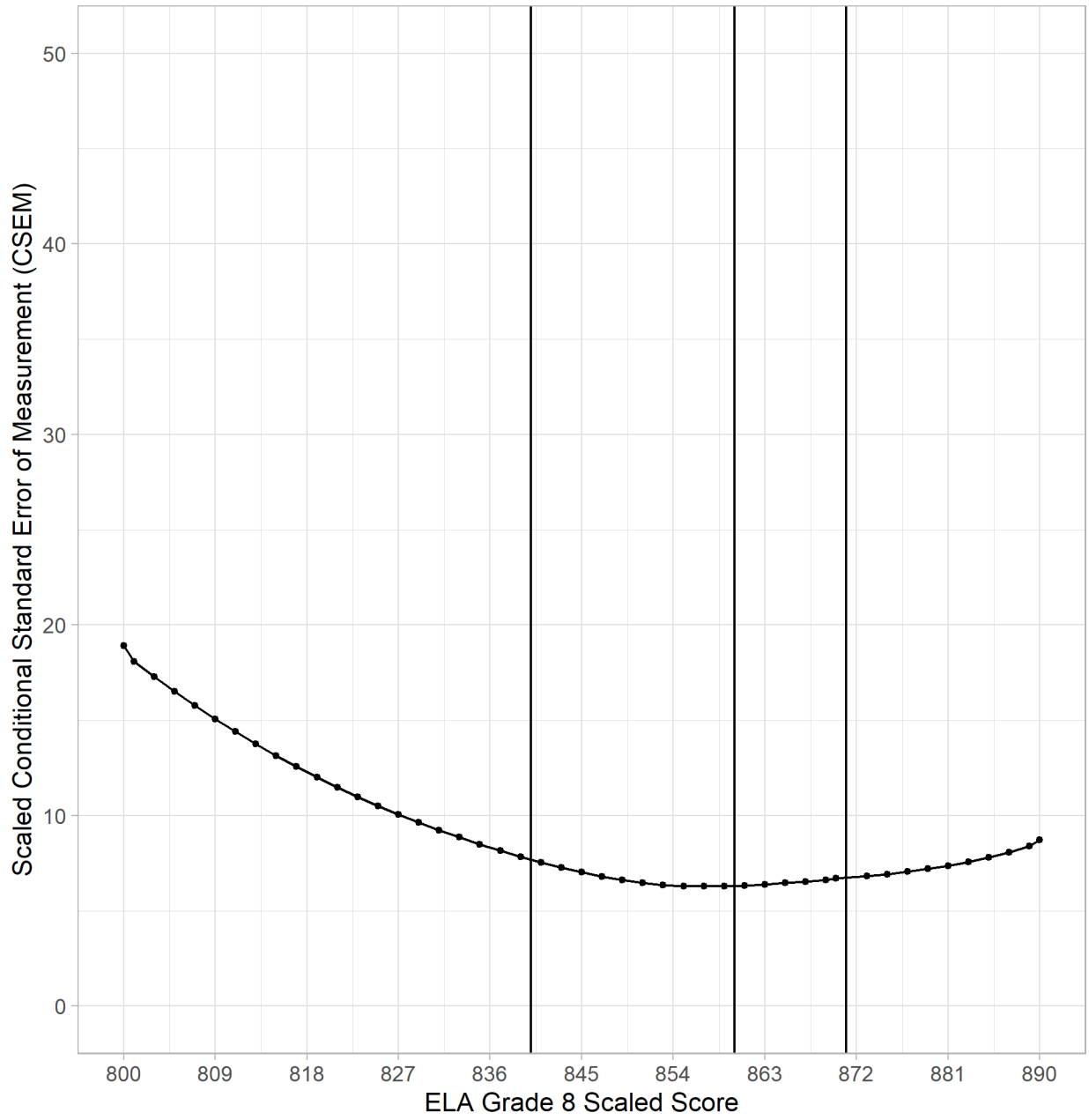
Figure K-52. Conditional Standard Errors of Measurement for Mathematics (Spanish Transadapted)—Grade 3
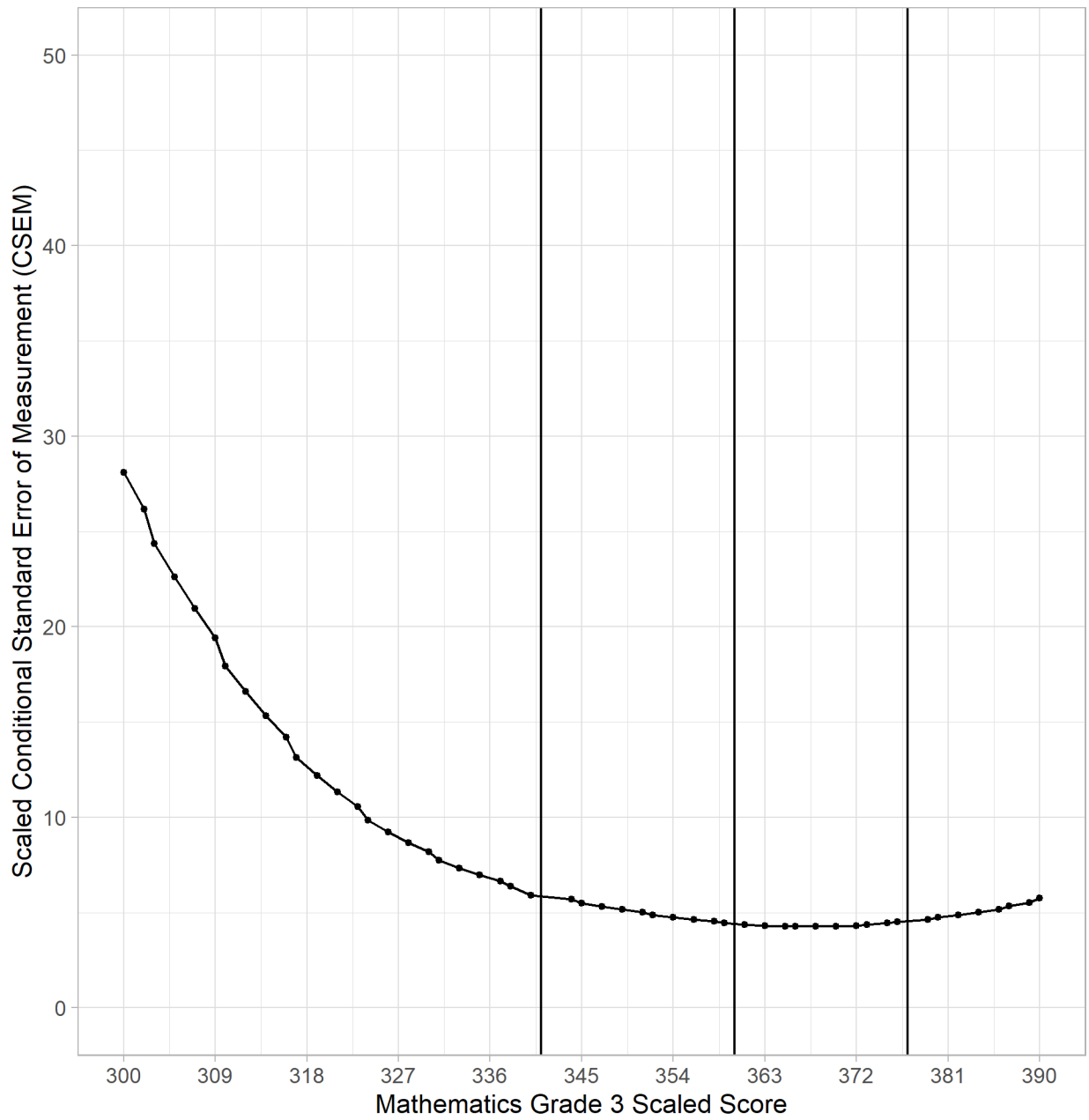
Figure K-53. Conditional Standard Errors of Measurement for Mathematics (Spanish Transadapted)—Grade 4
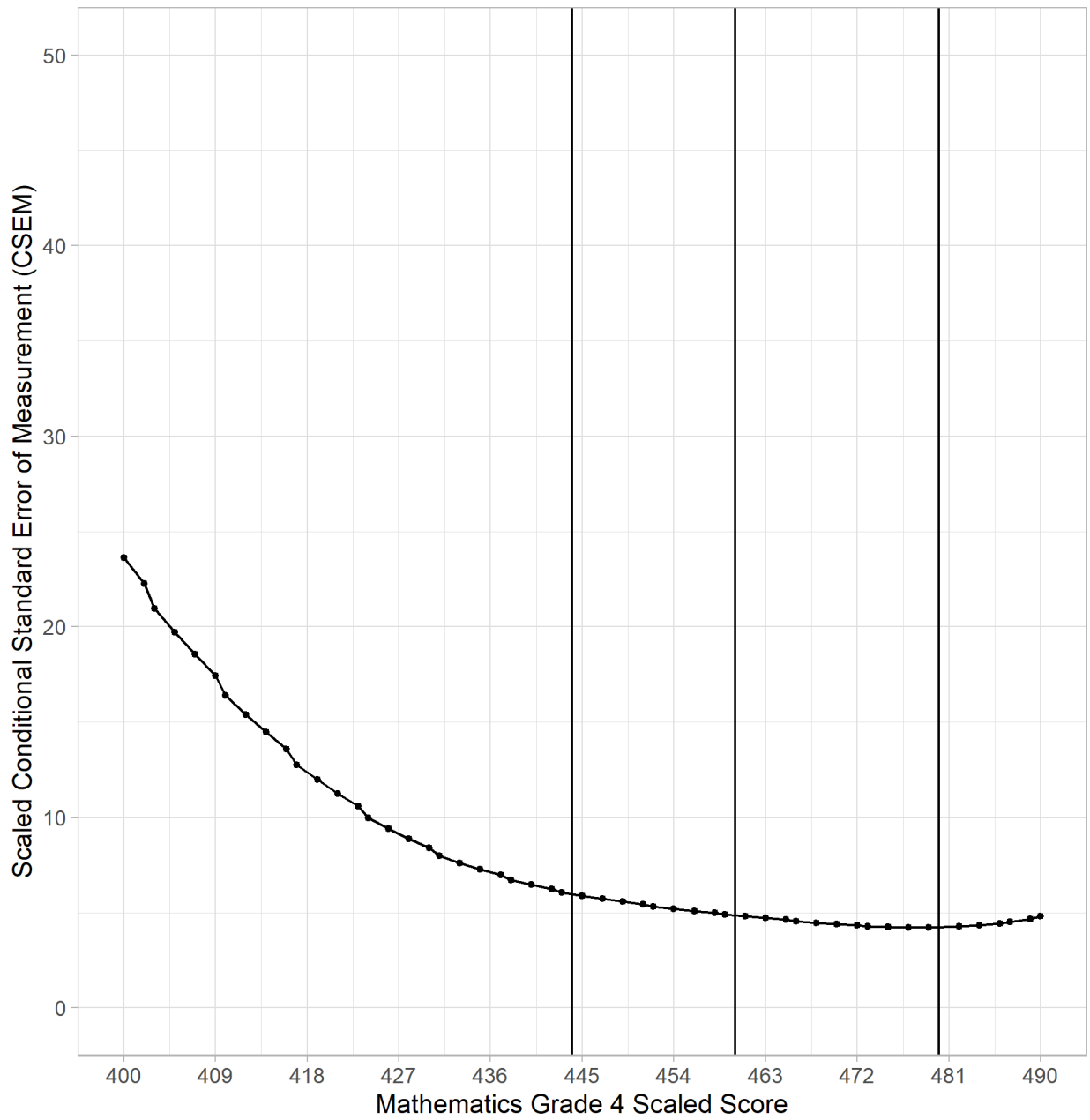
Figure K-54. Conditional Standard Errors of Measurement for Mathematics (Spanish Transadapted)—Grade 5
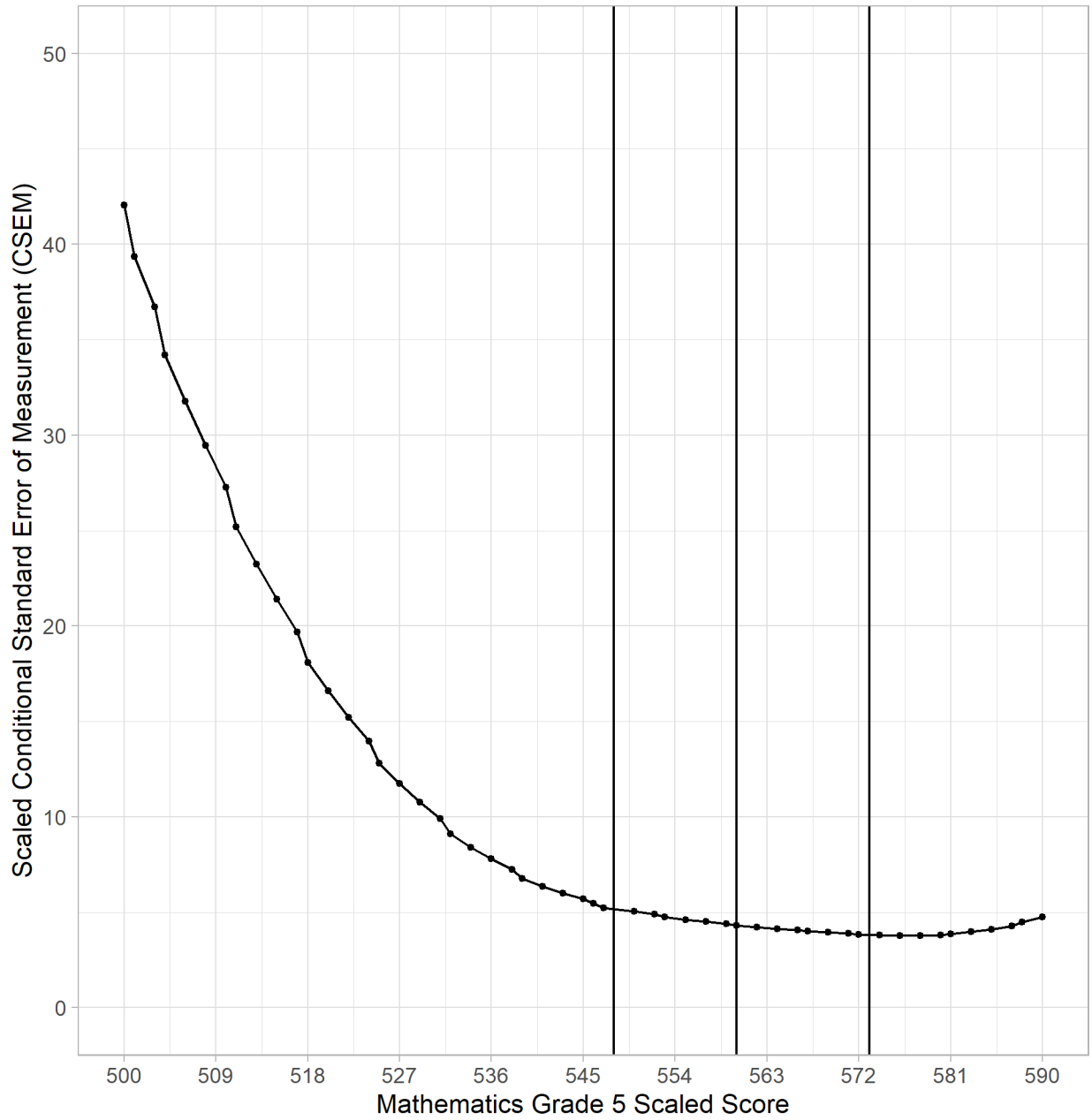
Figure K-55. Conditional Standard Errors of Measurement for Mathematics (Spanish Transadapted)—Grade 6
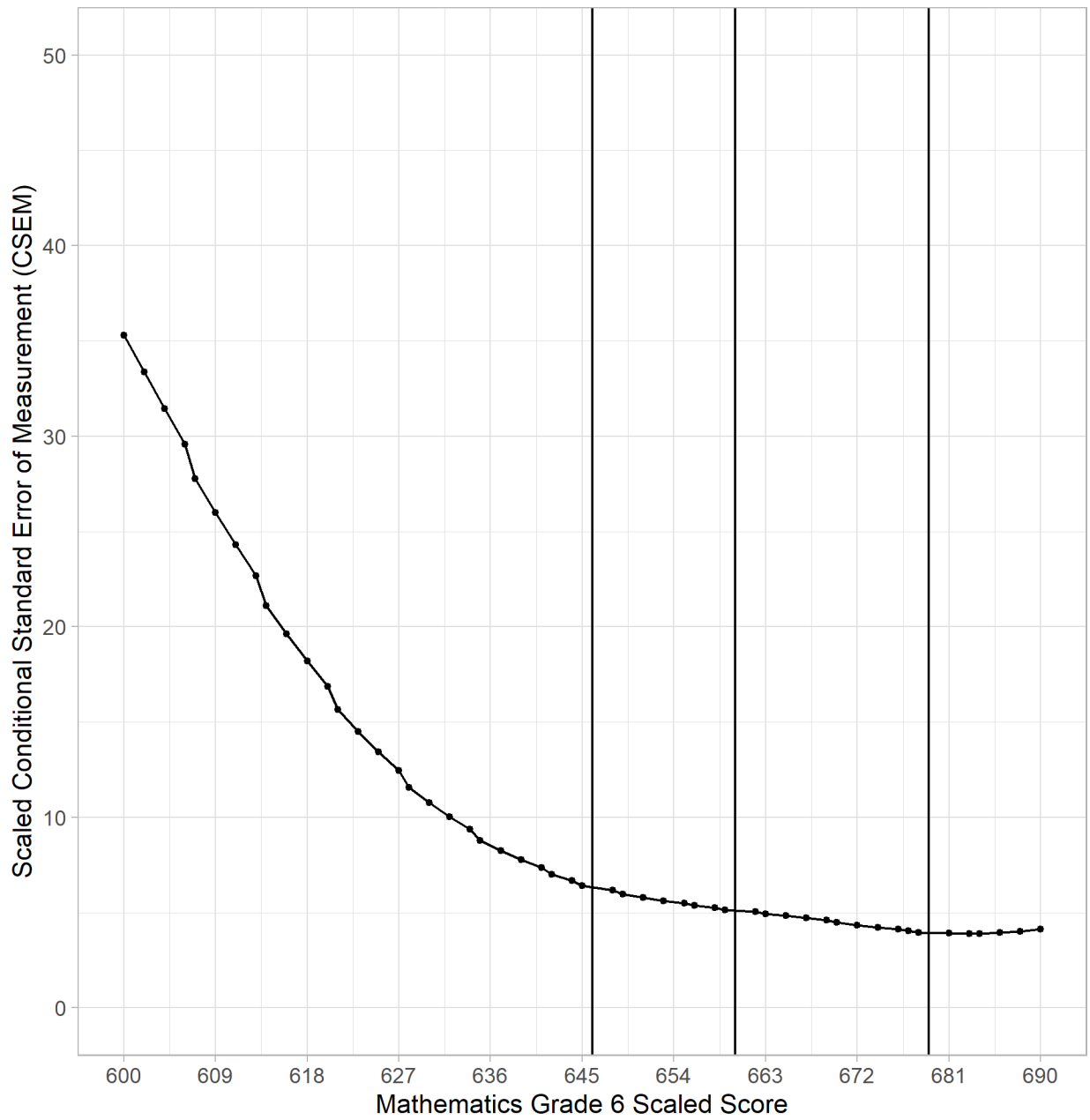
Figure K-56. Conditional Standard Errors of Measurement for Mathematics (Spanish Transadapted)—Grade 7
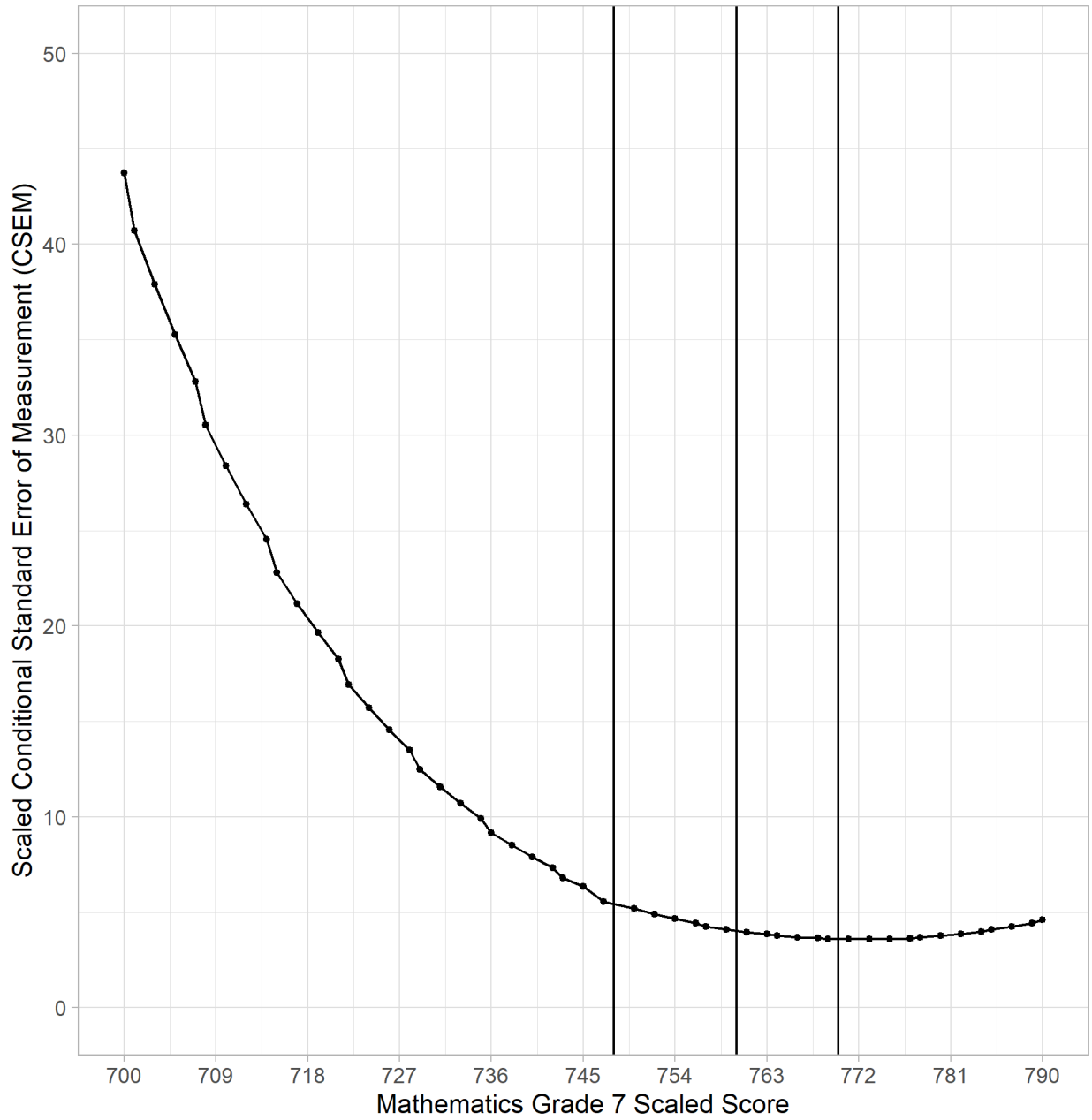
Figure K-57. Conditional Standard Errors of Measurement for Mathematics (Spanish Transadapted)—Grade 8
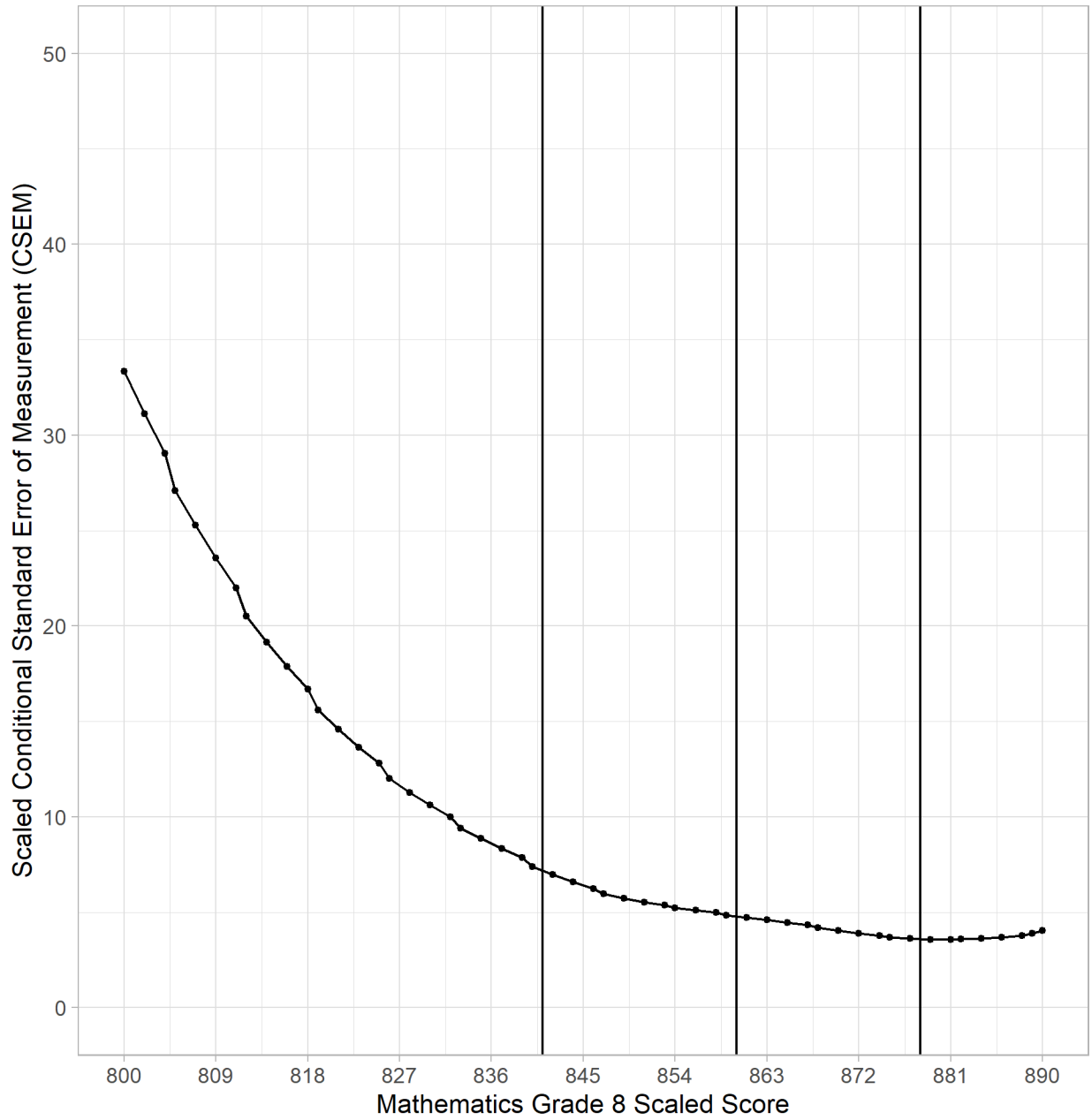
Figure K-58. Conditional Standard Errors of Measurement for Science (Spanish Transadapted)—Grade 5
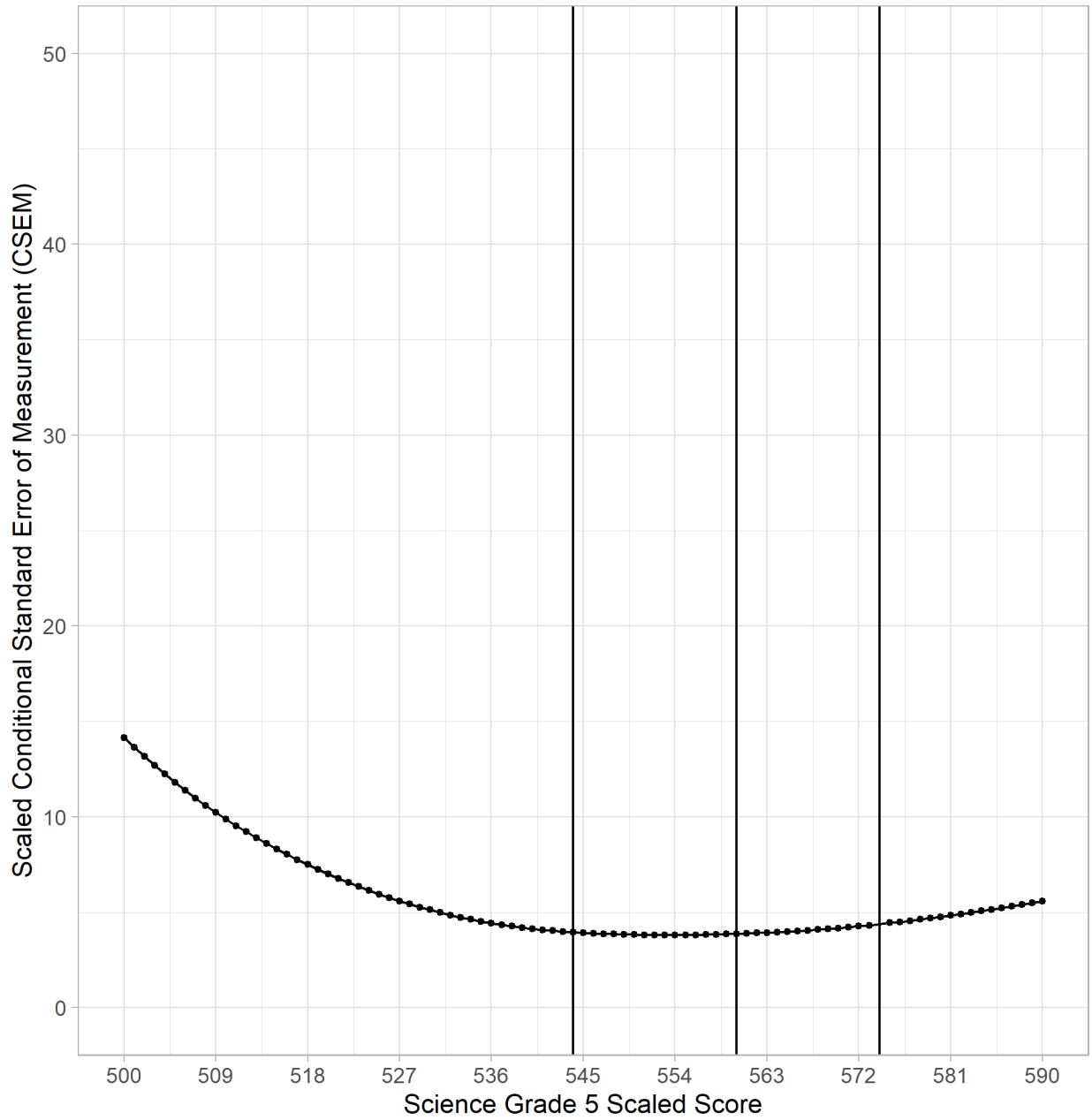
Figure K-59. Conditional Standard Errors of Measurement for Science (Spanish Transadapted)—Grade 8
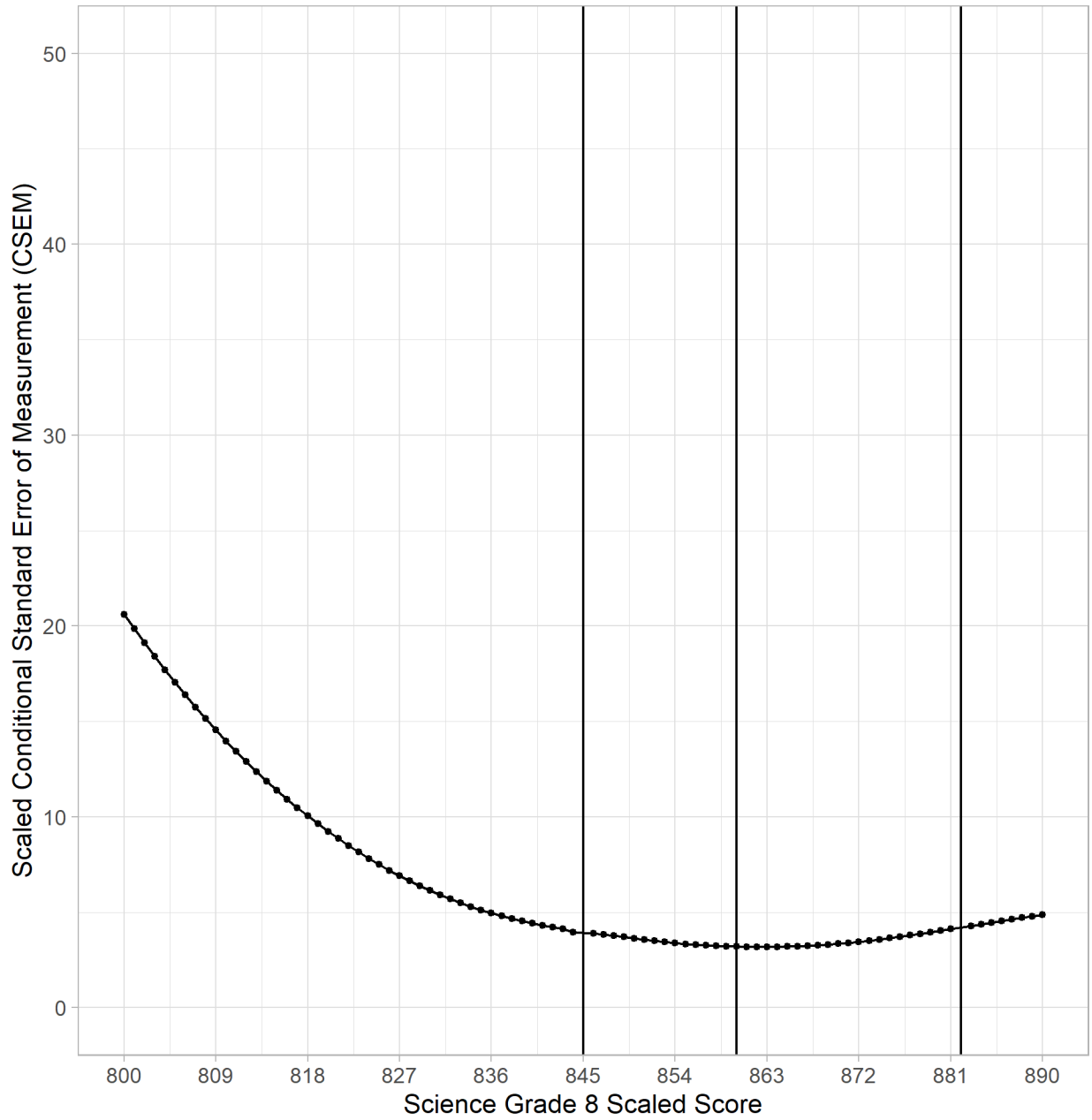
Figure K-60. Conditional Standard Errors of Measurement for Science (Spanish Transadapted)—Grade 11
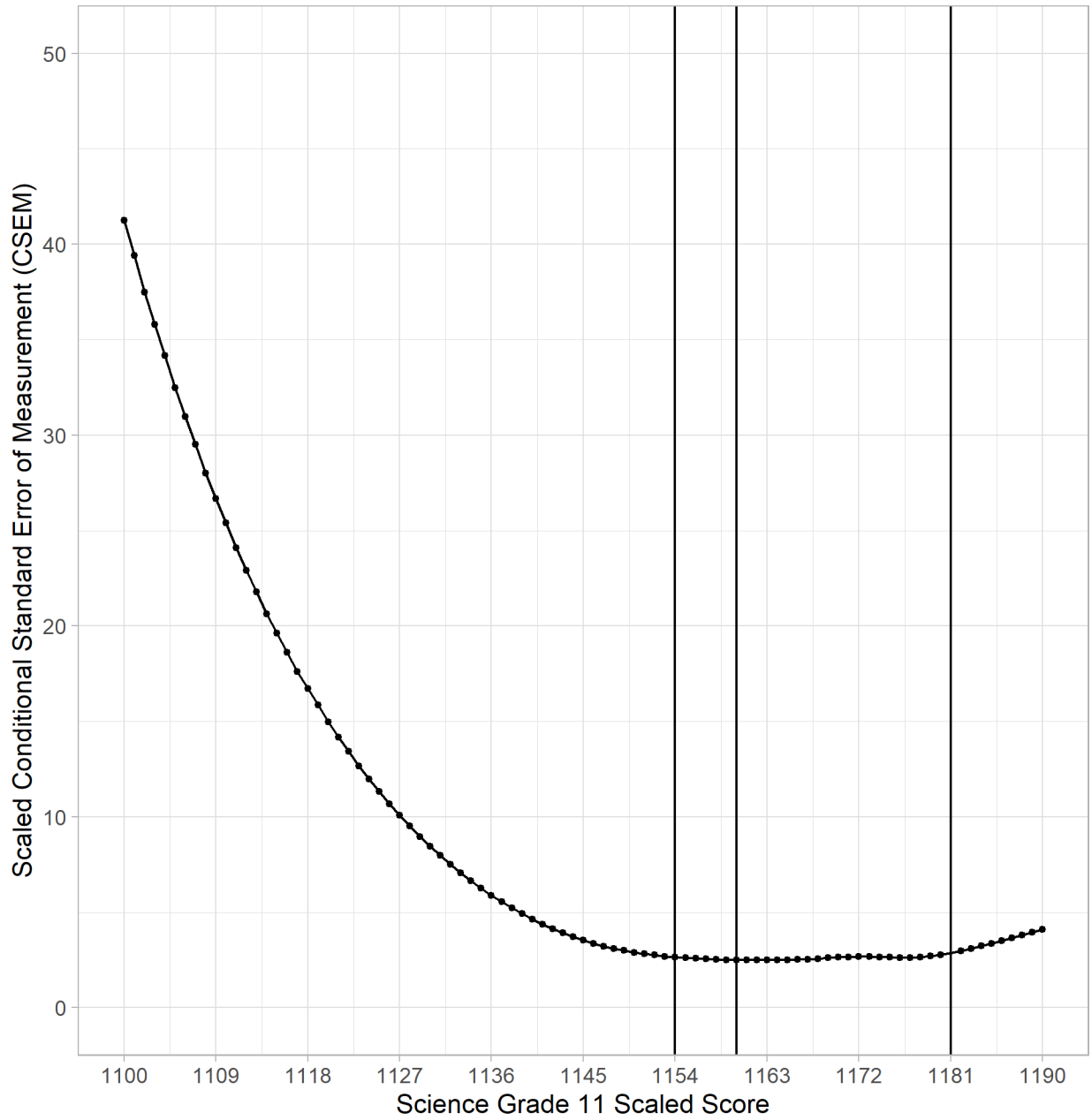
APPENDIX L
RAW TO SCALED SCORE LOOKUP TABLES

Table L-1. Raw to Scaled Score Look-up Table—ELA Grade 3

Raw Score	Theta	Scale Score	2022 Performance Level	CSEM	Scaled CSEM
0	-4.00000	300	1	3.91742	78.3
1	-3.84052	300	1	3.51214	70.2
2	-3.68103	300	1	3.13603	62.7
3	-3.52155	300	1	2.78835	55.8
4	-3.36206	300	1	2.46845	49.4
5	-3.20258	300	1	2.17574	43.5
6	-3.04309	300	1	1.90963	38.2
7	-2.88361	300	1	1.66947	33.4
8	-2.08417	311	1	0.82363	16.5
9	-1.70539	319	1	0.59730	11.9
10	-1.44934	324	1	0.49072	9.8
11	-1.25197	328	1	0.42811	8.6
12	-1.08881	331	1	0.38639	7.7
13	-0.94793	334	1	0.35619	7.1
14	-0.82260	336	2	0.33307	6.7
15	-0.70867	339	2	0.31470	6.3
16	-0.60336	341	2	0.29976	6.0
17	-0.50470	343	2	0.28746	5.7
18	-0.41125	345	2	0.27726	5.5
19	-0.32189	346	2	0.26878	5.4
20	-0.23573	348	2	0.26171	5.2
21	-0.15205	350	2	0.25583	5.1
22	-0.07026	352	2	0.25092	5.0
23	0.01017	353	2	0.24686	4.9
24	0.08969	355	2	0.24353	4.9
25	0.16874	356	2	0.24091	4.8
26	0.24774	358	2	0.23898	4.8
27	0.32714	359	2	0.23780	4.8
28	0.40742	361	3	0.23745	4.7
29	0.48911	363	3	0.23807	4.8
30	0.57286	364	3	0.23982	4.8
31	0.65944	366	3	0.24291	4.9
32	0.74978	368	3	0.24762	5.0
33	0.84509	369	3	0.25428	5.1
34	0.94690	372	4	0.26339	5.3
35	1.05728	374	4	0.27561	5.5
36	1.17910	377	4	0.29196	5.8
37	1.31650	379	4	0.31400	6.3
38	1.47584	382	4	0.34437	6.9
39	1.66761	386	4	0.38791	7.8
40	1.91103	389	4	0.45460	9.1
41	2.24700	389	4	0.56942	11.4
42	2.78766	389	4	0.81753	16.4
43	4.00000	390	4	1.70076	34.0
44	4.00000	390	4	1.70076	34.0

Table L-2. Raw to Scaled Score Look-up Table—ELA Grade 4

Raw Score	Theta	Scale Score	2022 Performance Level	CSEM	Scaled CSEM
0	-4.00000	400	1	1.87321	37.5
1	-3.89245	400	1	1.78776	35.8
2	-3.78489	400	1	1.70577	34.1
3	-3.67734	400	1	1.62700	32.5
4	-3.56978	400	1	1.55122	31.0
5	-3.46223	400	1	1.47818	29.6
6	-3.35468	400	1	1.40763	28.2
7	-2.58533	405	1	0.94726	18.9
8	-2.15611	414	1	0.70613	14.1
9	-1.86105	420	1	0.56170	11.2
10	-1.63564	424	1	0.47384	9.5
11	-1.45142	428	1	0.41810	8.4
12	-1.29366	431	1	0.38075	7.6
13	-1.15399	434	1	0.35421	7.1
14	-1.02735	437	1	0.33428	6.7
15	-0.91047	439	1	0.31867	6.4
16	-0.80112	441	2	0.30613	6.1
17	-0.69767	443	2	0.29597	5.9
18	-0.59886	445	2	0.28777	5.8
19	-0.50366	447	2	0.28125	5.6
20	-0.41125	449	2	0.27618	5.5
21	-0.32090	451	2	0.27239	5.4
22	-0.23199	452	2	0.26973	5.4
23	-0.14396	454	2	0.26810	5.4
24	-0.05629	456	2	0.26741	5.3
25	0.03152	458	2	0.26762	5.4
26	0.11994	459	2	0.26872	5.4
27	0.20951	461	3	0.27073	5.4
28	0.30074	463	3	0.27369	5.5
29	0.39423	465	3	0.27767	5.6
30	0.49065	467	3	0.28277	5.7
31	0.59076	469	3	0.28914	5.8
32	0.69548	471	3	0.29697	5.9
33	0.80593	472	3	0.30652	6.1
34	0.92350	476	4	0.31816	6.4
35	1.05001	478	4	0.33242	6.6
36	1.18788	481	4	0.35004	7.0
37	1.34050	484	4	0.37220	7.4
38	1.51282	487	4	0.40071	8.0
39	1.71250	489	4	0.43870	8.8
40	1.95247	489	4	0.49190	9.8
41	2.25703	489	4	0.57241	11.4
42	2.68124	489	4	0.71199	14.2
43	3.40314	489	4	1.03959	20.8
44	4.00000	490	4	1.42080	28.4

Table L-3. Raw to Scaled Score Look-up Table—ELA Grade 5

Raw Score	Theta	Scale Score	2022 Performance Level	CSEM	Scaled CSEM
0	-4.00000	500	1	2.37547	47.5
1	-3.89424	500	1	2.25946	45.2
2	-3.78849	500	1	2.14733	42.9
3	-3.68273	500	1	2.03893	40.8
4	-3.57697	500	1	1.93411	38.7
5	-3.47122	500	1	1.83273	36.7
6	-3.36546	500	1	1.73465	34.7
7	-3.25970	500	1	1.63975	32.8
8	-2.51052	507	1	1.05348	21.1
9	-2.08389	515	1	0.78950	15.8
10	-1.78425	521	1	0.63762	12.8
11	-1.55112	526	1	0.54041	10.8
12	-1.35796	530	1	0.47514	9.5
13	-1.19081	533	1	0.43019	8.6
14	-1.04147	536	1	0.39851	8.0
15	-0.90479	539	1	0.37554	7.5
16	-0.77742	541	1	0.35825	7.2
17	-0.65705	544	2	0.34469	6.9
18	-0.54204	546	2	0.33368	6.7
19	-0.43120	548	2	0.32453	6.5
20	-0.32355	550	2	0.31682	6.3
21	-0.21835	552	2	0.31030	6.2
22	-0.11493	555	2	0.30473	6.1
23	-0.01275	557	2	0.29993	6.0
24	0.08868	559	2	0.29574	5.9
25	0.18979	561	3	0.29214	5.8
26	0.29103	563	3	0.28925	5.8
27	0.39289	565	3	0.28734	5.7
28	0.49598	567	3	0.28678	5.7
29	0.60105	569	3	0.28798	5.8
30	0.70905	571	3	0.29132	5.8
31	0.82113	572	3	0.29713	5.9
32	0.93871	576	4	0.30563	6.1
33	1.06346	578	4	0.31703	6.3
34	1.19747	581	4	0.33166	6.6
35	1.34342	584	4	0.35022	7.0
36	1.50500	587	4	0.37424	7.5
37	1.68773	589	4	0.40659	8.1
38	1.90019	589	4	0.45210	9.0
39	2.15636	589	4	0.51830	10.4
40	2.48004	589	4	0.61705	12.3
41	2.91613	589	4	0.77101	15.4
42	3.56821	589	4	1.04312	20.9
43	4.00000	590	4	1.25501	25.1
44	4.00000	590	4	1.25501	25.1

Table L-4. Raw to Scaled Score Look-up Table—ELA Grade 6

Raw Score	Theta	Scale Score	2022 Performance Level	CSEM	Scaled CSEM
0	-4.00000	600	1	2.07735	41.5
1	-3.89129	600	1	1.96107	39.2
2	-3.78258	600	1	1.84950	37.0
3	-3.67388	600	1	1.74264	34.9
4	-3.56517	600	1	1.64048	32.8
5	-3.45646	600	1	1.54300	30.9
6	-3.34775	600	1	1.45015	29.0
7	-3.23904	600	1	1.36185	27.2
8	-2.57114	603	1	0.90917	18.2
9	-2.17270	611	1	0.69954	14.0
10	-1.88573	617	1	0.57554	11.5
11	-1.65771	622	1	0.49788	10.0
12	-1.46470	625	1	0.44888	9.0
13	-1.29400	629	1	0.41787	8.4
14	-1.13829	631	1	0.39800	8.0
15	-0.99318	635	2	0.38480	7.7
16	-0.85595	638	2	0.37544	7.5
17	-0.72481	640	2	0.36823	7.4
18	-0.59855	643	2	0.36228	7.2
19	-0.47619	645	2	0.35719	7.1
20	-0.35698	648	2	0.35276	7.1
21	-0.24025	650	2	0.34894	7.0
22	-0.12539	652	2	0.34569	6.9
23	-0.01186	654	2	0.34297	6.9
24	0.10083	657	2	0.34075	6.8
25	0.21314	659	2	0.33897	6.8
26	0.32552	661	3	0.33761	6.8
27	0.43840	663	3	0.33659	6.7
28	0.55222	666	3	0.33587	6.7
29	0.66743	668	3	0.33539	6.7
30	0.78455	670	3	0.33514	6.7
31	0.90416	672	3	0.33520	6.7
32	1.02704	675	4	0.33585	6.7
33	1.15425	678	4	0.33765	6.8
34	1.28727	680	4	0.34151	6.8
35	1.42833	683	4	0.34878	7.0
36	1.58069	686	4	0.36129	7.2
37	1.74936	689	4	0.38157	7.6
38	1.94219	689	4	0.41341	8.3
39	2.17233	689	4	0.46333	9.3
40	2.46379	689	4	0.54455	10.9
41	2.86731	689	4	0.68887	13.8
42	3.51576	689	4	0.99315	19.9
43	4.00000	690	4	1.27353	25.5
44	4.00000	690	4	1.27353	25.5

Table L-5. Raw to Scaled Score Look-up Table—ELA Grade 7

Raw Score	Theta	Scale Score	2022 Performance Level	CSEM	Scaled CSEM
0	-4.00000	700	1	1.88614	37.7
1	-3.94825	700	1	1.83658	36.7
2	-3.89650	700	1	1.78803	35.8
3	-3.84475	700	1	1.74044	34.8
4	-3.79300	700	1	1.69377	33.9
5	-3.74125	700	1	1.64800	33.0
6	-3.68950	700	1	1.60308	32.1
7	-2.86392	700	1	0.98880	19.8
8	-2.40709	707	1	0.73803	14.8
9	-2.08381	714	1	0.60618	12.1
10	-1.82741	719	1	0.52887	10.6
11	-1.60999	723	1	0.48104	9.6
12	-1.41753	727	1	0.45045	9.0
13	-1.24219	730	1	0.43020	8.6
14	-1.07937	734	2	0.41607	8.3
15	-0.92621	737	2	0.40542	8.1
16	-0.78087	740	2	0.39662	7.9
17	-0.64209	743	2	0.38870	7.8
18	-0.50893	745	2	0.38104	7.6
19	-0.38068	748	2	0.37333	7.5
20	-0.25671	751	2	0.36542	7.3
21	-0.13647	753	2	0.35735	7.1
22	-0.01944	755	2	0.34933	7.0
23	0.09491	758	2	0.34169	6.8
24	0.20716	759	2	0.33480	6.7
25	0.31794	762	3	0.32907	6.6
26	0.42793	764	3	0.32485	6.5
27	0.53790	766	3	0.32241	6.4
28	0.64870	769	3	0.32197	6.4
29	0.76126	771	3	0.32367	6.5
30	0.87659	773	3	0.32760	6.6
31	0.99583	776	4	0.33383	6.7
32	1.12024	778	4	0.34243	6.8
33	1.25130	781	4	0.35352	7.1
34	1.39076	783	4	0.36734	7.3
35	1.54083	786	4	0.38432	7.7
36	1.70443	789	4	0.40522	8.1
37	1.88558	789	4	0.43133	8.6
38	2.09028	789	4	0.46491	9.3
39	2.32793	789	4	0.50996	10.2
40	2.61468	789	4	0.57407	11.5
41	2.98149	789	4	0.67357	13.5
42	3.49960	789	4	0.85158	17.0
43	4.00000	790	4	1.06978	21.4
44	4.00000	790	4	1.06978	21.4

Table L-6. Raw to Scaled Score Look-up Table—ELA Grade 8

Raw Score	Theta	Scale Score	2022 Performance Level	CSEM	Scaled CSEM
0	-4.00000	800	1	1.51807	30.4
1	-3.93280	800	1	1.47682	29.5
2	-3.86559	800	1	1.43646	28.7
3	-3.79839	800	1	1.39696	27.9
4	-3.73118	800	1	1.35830	27.2
5	-3.66398	800	1	1.32048	26.4
6	-3.59678	800	1	1.28348	25.7
7	-3.52957	800	1	1.24729	24.9
8	-2.87248	800	1	0.93449	18.7
9	-2.44077	808	1	0.76794	15.4
10	-2.11821	815	1	0.66269	13.3
11	-1.85944	820	1	0.58941	11.8
12	-1.64216	824	1	0.53505	10.7
13	-1.45376	828	1	0.49284	9.9
14	-1.28643	831	1	0.45894	9.2
15	-1.13502	834	1	0.43098	8.6
16	-0.99589	837	1	0.40741	8.1
17	-0.86642	839	1	0.38719	7.7
18	-0.74458	842	2	0.36970	7.4
19	-0.62875	845	2	0.35463	7.1
20	-0.51759	847	2	0.34188	6.8
21	-0.40992	849	2	0.33151	6.6
22	-0.30471	851	2	0.32359	6.5
23	-0.20098	853	2	0.31811	6.4
24	-0.09787	855	2	0.31496	6.3
25	0.00542	857	2	0.31392	6.3
26	0.10965	859	2	0.31470	6.3
27	0.21547	861	3	0.31693	6.3
28	0.32351	864	3	0.32027	6.4
29	0.43436	866	3	0.32442	6.5
30	0.54863	868	3	0.32915	6.6
31	0.66699	870	3	0.33443	6.7
32	0.79024	873	4	0.34040	6.8
33	0.91940	876	4	0.34751	7.0
34	1.05592	878	4	0.35654	7.1
35	1.20185	881	4	0.36866	7.4
36	1.36016	884	4	0.38546	7.7
37	1.53527	888	4	0.40909	8.2
38	1.73381	889	4	0.44250	8.8
39	1.96618	889	4	0.49021	9.8
40	2.24973	889	4	0.55997	11.2
41	2.61669	889	4	0.66747	13.3
42	3.13870	889	4	0.85254	17.1
43	4.00000	890	4	1.25000	25.0
44	4.00000	890	4	1.25000	25.0

Table L-7. Raw to Scaled Score Look-up Table—Mathematics Grade 3

Raw Score	2022				
	Theta	Scale Score	Performance Level	CSEM	Scaled CSEM
0	-4.00000	300	1	2.85887	50.0
1	-3.89219	300	1	2.71153	47.5
2	-3.78437	300	1	2.56693	44.9
3	-3.67656	300	1	2.42508	42.4
4	-3.56874	300	1	2.28601	40.0
5	-3.46093	300	1	2.14981	37.6
6	-3.35311	300	1	2.01663	35.3
7	-3.24530	300	1	1.88669	33.0
8	-2.21820	314	1	0.88921	15.6
9	-1.76855	321	1	0.63301	11.1
10	-1.47010	327	1	0.51769	9.1
11	-1.24174	331	1	0.45192	7.9
12	-1.05390	334	1	0.40925	7.2
13	-0.89244	337	1	0.37922	6.6
14	-0.74948	339	1	0.35684	6.2
15	-0.62020	340	1	0.33937	5.9
16	-0.50139	344	2	0.32522	5.7
17	-0.39085	345	2	0.31337	5.5
18	-0.28698	347	2	0.30319	5.3
19	-0.18857	349	2	0.29427	5.1
20	-0.09468	351	2	0.28633	5.0
21	-0.00457	352	2	0.27922	4.9
22	0.08237	354	2	0.27284	4.8
23	0.16667	355	2	0.26713	4.7
24	0.24878	357	2	0.26205	4.6
25	0.32910	358	2	0.25759	4.5
26	0.40800	359	2	0.25374	4.4
27	0.48582	361	3	0.25050	4.4
28	0.56288	362	3	0.24786	4.3
29	0.63949	364	3	0.24583	4.3
30	0.71596	365	3	0.24441	4.3
31	0.79262	366	3	0.24362	4.3
32	0.86977	368	3	0.24345	4.3
33	0.94777	369	3	0.24394	4.3
34	1.02696	370	3	0.24508	4.3
35	1.10773	372	3	0.24691	4.3
36	1.19051	373	3	0.24945	4.4
37	1.27577	375	3	0.25272	4.4
38	1.36404	376	3	0.25678	4.5
39	1.45594	376	3	0.26168	4.6
40	1.55222	380	4	0.26752	4.7
41	1.65376	381	4	0.27445	4.8
42	1.76174	383	4	0.28273	4.9
43	1.87770	385	4	0.29280	5.1
44	2.00382	387	4	0.30536	5.3
45	2.14330	389	4	0.32158	5.6
46	2.30120	389	4	0.34350	6.0
47	2.48614	389	4	0.37488	6.6
48	2.71451	389	4	0.42361	7.4
49	3.02369	389	4	0.51049	8.9
50	3.53619	389	4	0.72160	12.6
51	4.00000	390	4	1.00783	17.6

Table L-8. Raw to Scaled Score Look-up Table—Mathematics Grade 4

Raw Score	2022				
	Theta	Scale Score	Performance Level	CSEM	Scaled CSEM
0	-4.00000	400	1	2.42099	42.4
1	-3.91540	400	1	2.30644	40.4
2	-3.83079	400	1	2.19697	38.4
3	-3.74619	400	1	2.09235	36.6
4	-3.66158	400	1	1.99241	34.9
5	-3.57698	400	1	1.89693	33.2
6	-3.49237	400	1	1.80572	31.6
7	-2.23042	413	1	0.84234	14.7
8	-1.72723	422	1	0.61470	10.8
9	-1.40107	428	1	0.50736	8.9
10	-1.15419	432	1	0.44578	7.8
11	-0.95160	436	1	0.40643	7.1
12	-0.77698	439	1	0.37928	6.6
13	-0.62150	441	1	0.35932	6.3
14	-0.47994	443	1	0.34380	6.0
15	-0.34898	446	2	0.33117	5.8
16	-0.22638	448	2	0.32055	5.6
17	-0.11055	450	2	0.31143	5.5
18	-0.00032	452	2	0.30350	5.3
19	0.10521	454	2	0.29653	5.2
20	0.20676	456	2	0.29033	5.1
21	0.30486	458	2	0.28474	5.0
22	0.39999	459	2	0.27961	4.9
23	0.49249	461	3	0.27483	4.8
24	0.58268	462	3	0.27029	4.7
25	0.67080	464	3	0.26596	4.7
26	0.75712	466	3	0.26182	4.6
27	0.84186	467	3	0.25791	4.5
28	0.92524	468	3	0.25426	4.4
29	1.00751	470	3	0.25093	4.4
30	1.08894	471	3	0.24800	4.3
31	1.16978	473	3	0.24551	4.3
32	1.25034	474	3	0.24355	4.3
33	1.33094	476	3	0.24216	4.2
34	1.41194	477	3	0.24140	4.2
35	1.49373	478	3	0.24134	4.2
36	1.57674	479	3	0.24203	4.2
37	1.66149	481	4	0.24355	4.3
38	1.74853	483	4	0.24599	4.3
39	1.83858	484	4	0.24949	4.4
40	1.93245	486	4	0.25421	4.4
41	2.03120	488	4	0.26041	4.6
42	2.13618	489	4	0.26848	4.7
43	2.24923	489	4	0.27897	4.9
44	2.37290	489	4	0.29275	5.1
45	2.51094	489	4	0.31117	5.4
46	2.66923	489	4	0.33653	5.9
47	2.85768	489	4	0.37306	6.5
48	3.09508	489	4	0.42971	7.5
49	3.42393	489	4	0.52968	9.3
50	3.98007	489	4	0.76461	13.4
51	4.00000	490	4	0.77480	13.6

Table L-9. Raw to Scaled Score Look-up Table—Mathematics Grade 5

| Raw Score | 2022 | | | | |
	Theta	Scale Score	Performance Level	CSEM	Scaled CSEM
0	-4.00000	500	1	3.80175	66.5
1	-3.82644	500	1	3.47502	60.8
2	-3.65287	500	1	3.16146	55.3
3	-3.47931	500	1	2.86051	50.1
4	-3.30574	500	1	2.57227	45.0
5	-3.13218	500	1	2.29764	40.2
6	-2.95861	503	1	2.03815	35.7
7	-2.78505	506	1	1.79572	31.4
8	-2.61148	509	1	1.57222	27.5
9	-1.75117	524	1	0.76450	13.4
10	-1.34850	531	1	0.54170	9.5
11	-1.08303	536	1	0.43947	7.7
12	-0.88217	540	1	0.38229	6.7
13	-0.71809	543	1	0.34659	6.1
14	-0.57735	545	1	0.32256	5.6
15	-0.45253	547	1	0.30542	5.3
16	-0.33913	549	2	0.29251	5.1
17	-0.23426	551	2	0.28231	4.9
18	-0.13597	553	2	0.27390	4.8
19	-0.04286	554	2	0.26675	4.7
20	0.04609	556	2	0.26054	4.6
21	0.13166	557	2	0.25508	4.5
22	0.21446	559	2	0.25022	4.4
23	0.29498	560	3	0.24588	4.3
24	0.37362	562	3	0.24196	4.2
25	0.45070	563	3	0.23841	4.2
26	0.52651	564	3	0.23516	4.1
27	0.60127	566	3	0.23215	4.1
28	0.67520	567	3	0.22936	4.0
29	0.74849	568	3	0.22674	4.0
30	0.82133	569	3	0.22429	3.9
31	0.89392	571	3	0.22199	3.9
32	0.96645	572	3	0.21988	3.8
33	1.03918	572	3	0.21803	3.8
34	1.11238	575	4	0.21653	3.8
35	1.18639	576	4	0.21555	3.8
36	1.26164	577	4	0.21527	3.8
37	1.33865	579	4	0.21592	3.8
38	1.41805	580	4	0.21770	3.8
39	1.50068	581	4	0.22089	3.9
40	1.58756	583	4	0.22577	4.0
41	1.68004	584	4	0.23270	4.1
42	1.77993	586	4	0.24223	4.2
43	1.88975	588	4	0.25516	4.5
44	2.01316	589	4	0.27277	4.8
45	2.15587	589	4	0.29730	5.2
46	2.32742	589	4	0.33289	5.8
47	2.54553	589	4	0.38832	6.8
48	2.84866	589	4	0.48581	8.5
49	3.34288	589	4	0.69987	12.2
50	4.00000	590	4	1.08255	18.9
51	4.00000	590	4	1.08255	18.9

Table L-10. Raw to Scaled Score Look-up Table—Mathematics Grade 6

Raw Score	2022 Theta	Scale Score	Performance Level	CSEM	Scaled CSEM
0	-4.00000	600	1	2.65979	46.5
1	-3.99644	600	1	2.65573	46.5
2	-3.99289	600	1	2.65166	46.4
3	-3.98933	600	1	2.64760	46.3
4	-3.98577	600	1	2.64354	46.3
5	-3.98221	600	1	2.63948	46.2
6	-3.97866	600	1	2.63542	46.1
7	-3.97510	600	1	2.63136	46.0
8	-2.43271	619	1	1.03003	18.0
9	-1.90190	628	1	0.67842	11.9
10	-1.58036	634	1	0.53491	9.4
11	-1.34415	638	1	0.45841	8.0
12	-1.15321	641	1	0.41149	7.2
13	-0.98990	644	1	0.38016	6.7
14	-0.84502	647	2	0.35799	6.3
15	-0.71318	649	2	0.34158	6.0
16	-0.59103	651	2	0.32897	5.8
17	-0.47633	653	2	0.31892	5.6
18	-0.36756	655	2	0.31064	5.4
19	-0.26363	657	2	0.30354	5.3
20	-0.16377	659	2	0.29724	5.2
21	-0.06739	660	3	0.29143	5.1
22	0.02591	662	3	0.28589	5.0
23	0.11648	664	3	0.28046	4.9
24	0.20456	665	3	0.27502	4.8
25	0.29035	667	3	0.26952	4.7
26	0.37402	668	3	0.26393	4.6
27	0.45573	670	3	0.25829	4.5
28	0.53564	671	3	0.25269	4.4
29	0.61391	672	3	0.24721	4.3
30	0.69074	674	3	0.24199	4.2
31	0.76634	675	3	0.23714	4.2
32	0.84094	676	3	0.23280	4.1
33	0.91483	678	3	0.22907	4.0
34	0.98830	678	3	0.22604	4.0
35	1.06169	680	4	0.22380	3.9
36	1.13539	682	4	0.22242	3.9
37	1.20980	683	4	0.22195	3.9
38	1.28540	684	4	0.22246	3.9
39	1.36272	686	4	0.22402	3.9
40	1.44235	687	4	0.22670	4.0
41	1.52500	688	4	0.23059	4.0
42	1.61148	689	4	0.23581	4.1
43	1.70278	689	4	0.24252	4.2
44	1.80013	689	4	0.25091	4.4
45	1.90505	689	4	0.26127	4.6
46	2.01954	689	4	0.27399	4.8
47	2.14627	689	4	0.28964	5.1
48	2.28900	689	4	0.30917	5.4
49	2.45335	689	4	0.33439	5.9
50	2.64877	689	4	0.36920	6.5
51	2.89362	689	4	0.42321	7.4
52	3.23243	689	4	0.52427	9.2
53	3.82317	689	4	0.79448	13.9
54	4.00000	690	4	0.90231	15.8

Table L-11. Raw to Scaled Score Look-up Table—Mathematics Grade 7

Raw Score	Theta	Scale Score	2022 Performance Level	CSEM	Scaled CSEM
0	-4.00000	700	1	3.81962	66.8
1	-3.81779	700	1	3.36061	58.8
2	-3.63558	700	1	2.95478	51.7
3	-3.45337	700	1	2.59610	45.4
4	-3.27116	702	1	2.27926	39.9
5	-3.08895	705	1	1.99958	35.0
6	-2.90673	708	1	1.75286	30.7
7	-2.72452	712	1	1.53536	26.9
8	-2.54231	715	1	1.34368	23.5
9	-1.79927	728	1	0.77014	13.5
10	-1.42527	734	1	0.57734	10.1
11	-1.17230	739	1	0.47572	8.3
12	-0.97922	742	1	0.41190	7.2
13	-0.82155	745	1	0.36766	6.4
14	-0.68708	747	1	0.33507	5.9
15	-0.56885	749	2	0.31014	5.4
16	-0.46252	751	2	0.29060	5.1
17	-0.36521	753	2	0.27503	4.8
18	-0.27489	754	2	0.26245	4.6
19	-0.19009	756	2	0.25217	4.4
20	-0.10973	757	2	0.24366	4.3
21	-0.03295	759	2	0.23655	4.1
22	0.04089	759	2	0.23054	4.0
23	0.11232	761	3	0.22542	3.9
24	0.18178	762	3	0.22106	3.9
25	0.24963	764	3	0.21734	3.8
26	0.31619	765	3	0.21420	3.7
27	0.38174	766	3	0.21157	3.7
28	0.44655	767	3	0.20944	3.7
29	0.51085	768	3	0.20775	3.6
30	0.57488	769	3	0.20649	3.6
31	0.63887	769	3	0.20562	3.6
32	0.70303	772	4	0.20515	3.6
33	0.76758	773	4	0.20506	3.6
34	0.83277	774	4	0.20534	3.6
35	0.89884	775	4	0.20604	3.6
36	0.96607	776	4	0.20718	3.6
37	1.03475	777	4	0.20882	3.7
38	1.10524	779	4	0.21103	3.7
39	1.17797	780	4	0.21392	3.7
40	1.25340	781	4	0.21760	3.8
41	1.33214	783	4	0.22217	3.9
42	1.41487	784	4	0.22778	4.0
43	1.50243	786	4	0.23456	4.1
44	1.59585	787	4	0.24267	4.2
45	1.69639	789	4	0.25228	4.4
46	1.80563	789	4	0.26364	4.6
47	1.92568	789	4	0.27715	4.9
48	2.05946	789	4	0.29348	5.1
49	2.21132	789	4	0.31396	5.5
50	2.38847	789	4	0.34125	6.0
51	2.60449	789	4	0.38146	6.7
52	2.89063	789	4	0.45183	7.9
53	3.35164	789	4	0.62659	11.0
54	4.00000	790	4	1.06310	18.6

Table L-12. Raw to Scaled Score Look-up Table—Mathematics Grade 8

Raw Score	Theta	Scale Score	2022 Performance Level	CSEM	Scaled CSEM
0	-4.00000	800	1	3.76103	65.8
1	-3.80977	800	1	3.30806	57.9
2	-3.61954	800	1	2.90839	50.9
3	-3.42932	800	1	2.55571	44.7
4	-3.23909	800	1	2.24447	39.3
5	-3.04886	800	1	1.96987	34.5
6	-2.85863	803	1	1.72770	30.2
7	-2.66840	806	1	1.51440	26.5
8	-2.47818	809	1	1.32691	23.2
9	-2.28795	813	1	1.16268	20.3
10	-1.63422	824	1	0.74747	13.1
11	-1.24496	831	1	0.58624	10.3
12	-0.96255	836	1	0.49470	8.7
13	-0.73832	840	1	0.43191	7.6
14	-0.55012	843	2	0.38642	6.8
15	-0.38573	846	2	0.35398	6.2
16	-0.23783	849	2	0.33143	5.8
17	-0.10187	851	2	0.31577	5.5
18	0.02483	853	2	0.30438	5.3
19	0.14387	855	2	0.29530	5.2
20	0.25617	857	2	0.28734	5.0
21	0.36240	859	2	0.27987	4.9
22	0.46309	861	3	0.27265	4.8
23	0.55877	862	3	0.26561	4.6
24	0.64993	864	3	0.25871	4.5
25	0.73707	866	3	0.25192	4.4
26	0.82062	867	3	0.24525	4.3
27	0.90101	868	3	0.23872	4.2
28	0.97862	870	3	0.23242	4.1
29	1.05380	871	3	0.22646	4.0
30	1.12688	872	3	0.22097	3.9
31	1.19820	874	3	0.21609	3.8
32	1.26808	875	3	0.21194	3.7
33	1.33684	876	3	0.20860	3.7
34	1.40482	877	3	0.20612	3.6
35	1.47235	877	3	0.20451	3.6
36	1.53977	880	4	0.20377	3.6
37	1.60746	881	4	0.20385	3.6
38	1.67578	882	4	0.20466	3.6
39	1.74511	883	4	0.20613	3.6
40	1.81587	884	4	0.20819	3.6
41	1.88855	886	4	0.21086	3.7
42	1.96369	887	4	0.21422	3.7
43	2.04201	888	4	0.21853	3.8
44	2.12445	889	4	0.22422	3.9
45	2.21230	889	4	0.23187	4.1
46	2.30735	889	4	0.24229	4.2
47	2.41220	889	4	0.25655	4.5
48	2.53069	889	4	0.27621	4.8
49	2.66883	889	4	0.30380	5.3
50	2.83682	889	4	0.34400	6.0
51	3.05411	889	4	0.40677	7.1
52	3.36532	889	4	0.51834	9.1
53	3.91719	889	4	0.78497	13.7
54	4.00000	890	4	0.83350	14.6

Table L-13. Raw to Scaled Score Look-up Table—Science Grade 5 Operational Set A

Raw Score	Theta	Scale Score	2022 Performance Level	CSEM	Scaled CSEM
0	-4.32534	500	1	1.17162	14.6
1	-4.15155	502	1	1.08379	13.5
2	-3.97776	504	1	1.00232	12.5
3	-3.35191	512	1	0.75725	9.5
4	-2.93782	517	1	0.63170	7.9
5	-2.62582	521	1	0.55328	6.9
6	-2.37381	524	1	0.49885	6.2
7	-2.16119	527	1	0.45863	5.7
8	-1.97632	529	1	0.42779	5.3
9	-1.81191	531	1	0.40359	5.0
10	-1.66311	533	1	0.38433	4.8
11	-1.52648	534	1	0.36887	4.6
12	-1.39952	536	1	0.35638	4.5
13	-1.28034	538	1	0.34625	4.3
14	-1.16749	539	1	0.33800	4.2
15	-1.05985	540	1	0.33126	4.1
16	-0.95651	542	1	0.32572	4.1
17	-0.85677	543	1	0.32116	4.0
18	-0.76002	543	1	0.31739	4.0
19	-0.66579	545	2	0.31427	3.9
20	-0.57365	546	2	0.31170	3.9
21	-0.48327	548	2	0.30960	3.9
22	-0.39433	549	2	0.30791	3.8
23	-0.30657	550	2	0.30660	3.8
24	-0.21972	551	2	0.30565	3.8
25	-0.13358	552	2	0.30503	3.8
26	-0.04793	553	2	0.30473	3.8
27	0.03743	554	2	0.30475	3.8
28	0.12267	555	2	0.30506	3.8
29	0.20797	556	2	0.30565	3.8
30	0.29350	557	2	0.30652	3.8
31	0.37941	558	2	0.30766	3.8
32	0.46586	559	2	0.30905	3.9
33	0.55301	560	3	0.31070	3.9
34	0.64100	562	3	0.31261	3.9
35	0.73001	563	3	0.31478	3.9
36	0.82020	564	3	0.31724	4.0
37	0.91174	565	3	0.32000	4.0
38	1.00482	566	3	0.32308	4.0
39	1.09967	567	3	0.32653	4.1
40	1.19650	569	3	0.33037	4.1
41	1.29557	570	3	0.33465	4.2
42	1.39717	571	3	0.33940	4.2
43	1.50161	572	3	0.34468	4.3
44	1.60927	573	3	0.35055	4.4
45	1.72054	575	4	0.35706	4.5
46	1.83592	577	4	0.36429	4.6
47	1.95592	578	4	0.37231	4.7
48	2.08118	580	4	0.38120	4.8
49	2.21243	581	4	0.39103	4.9
50	2.35051	583	4	0.40185	5.0

Raw Score	2022				
	Theta	Scale Score	Performance Level	CSEM	Scaled CSEM
51	2.49641	585	4	0.41369	5.2
52	2.65129	587	4	0.42657	5.3
53	2.81658	589	4	0.44053	5.5
54	2.95466	590	4	0.45236	5.7
55	2.95466	590	4	0.45236	5.7
56	2.95466	590	4	0.45236	5.7
57	2.95466	590	4	0.45236	5.7
58	2.95466	590	4	0.45236	5.7
59	2.95466	590	4	0.45236	5.7
60	2.95466	590	4	0.45236	5.7
61	2.95466	590	4	0.45236	5.7
62	2.95466	590	4	0.45236	5.7
63	2.95466	590	4	0.45236	5.7
64	2.95466	590	4	0.45236	5.7

Table L-14. Raw to Scaled Score Look-up Table—Science Grade 5 Operational Set B

Raw Score	2022				
	Theta	Scale Score	Performance Level	CSEM	Scaled CSEM
0	-4.32534	500	1	1.14519	14.3
1	-4.22859	501	1	1.09899	13.7
2	-4.13185	502	1	1.05446	13.2
3	-3.47372	510	1	0.79328	9.9
4	-3.04083	516	1	0.65786	8.2
5	-2.71712	520	1	0.57368	7.2
6	-2.45724	523	1	0.51598	6.4
7	-2.23888	526	1	0.47395	5.9
8	-2.04947	528	1	0.44207	5.5
9	-1.88122	530	1	0.41720	5.2
10	-1.72899	532	1	0.39741	5.0
11	-1.58920	534	1	0.38146	4.8
12	-1.45928	535	1	0.36848	4.6
13	-1.33729	537	1	0.35785	4.5
14	-1.22176	538	1	0.34911	4.4
15	-1.11153	540	1	0.34189	4.3
16	-1.00569	541	1	0.33592	4.2
17	-0.90351	542	1	0.33098	4.1
18	-0.80437	543	1	0.32689	4.1
19	-0.70778	545	2	0.32351	4.0
20	-0.61331	546	2	0.32074	4.0
21	-0.52061	547	2	0.31848	4.0
22	-0.42936	548	2	0.31666	4.0
23	-0.33930	549	2	0.31524	3.9
24	-0.25017	550	2	0.31418	3.9
25	-0.16176	552	2	0.31344	3.9
26	-0.07386	553	2	0.31301	3.9
27	0.01371	554	2	0.31286	3.9
28	0.10112	555	2	0.31297	3.9
29	0.18854	556	2	0.31334	3.9
30	0.27614	557	2	0.31396	3.9
31	0.36405	558	2	0.31482	3.9
32	0.45245	559	2	0.31592	3.9
33	0.54147	560	3	0.31727	4.0

Raw Score	2022				
	Theta	Scale Score	Performance Level	CSEM	Scaled CSEM
34	0.63128	561	3	0.31889	4.0
35	0.72204	563	3	0.32078	4.0
36	0.81392	564	3	0.32297	4.0
37	0.90711	565	3	0.32549	4.1
38	1.00181	566	3	0.32837	4.1
39	1.09822	567	3	0.33164	4.1
40	1.19659	569	3	0.33533	4.2
41	1.29719	570	3	0.33948	4.2
42	1.40029	571	3	0.34414	4.3
43	1.50621	572	3	0.34932	4.4
44	1.61533	573	3	0.35509	4.4
45	1.72802	575	4	0.36149	4.5
46	1.84476	577	4	0.36858	4.6
47	1.96607	578	4	0.37641	4.7
48	2.09253	580	4	0.38506	4.8
49	2.22485	581	4	0.39457	4.9
50	2.36384	583	4	0.40502	5.1
51	2.51046	585	4	0.41644	5.2
52	2.66587	587	4	0.42889	5.4
53	2.83149	589	4	0.44248	5.5
54	2.95466	590	4	0.45284	5.7
55	2.95466	590	4	0.45284	5.7
56	2.95466	590	4	0.45284	5.7
57	2.95466	590	4	0.45284	5.7
58	2.95466	590	4	0.45284	5.7
59	2.95466	590	4	0.45284	5.7
60	2.95466	590	4	0.45284	5.7
61	2.95466	590	4	0.45284	5.7
62	2.95466	590	4	0.45284	5.7
63	2.95466	590	4	0.45284	5.7
64	2.95466	590	4	0.45284	5.7

Table L-15. Raw to Scaled Score Look-up Table— Science Grade 8 Operational Set A

Raw Score	Theta	Scale Score	2022 Performance Level	CSEM	Scaled CSEM
0	-5.56012	800	1	2.13164	21.3
1	-5.06220	804	1	1.76551	17.7
2	-4.56429	809	1	1.45133	14.5
3	-4.06637	814	1	1.18492	11.8
4	-3.31329	822	1	0.86483	8.6
5	-2.83395	827	1	0.70871	7.1
6	-2.48075	830	1	0.61556	6.2
7	-2.19903	833	1	0.55380	5.5
8	-1.96275	835	1	0.51016	5.1
9	-1.75759	838	1	0.47798	4.8
10	-1.57489	839	1	0.45353	4.5
11	-1.40903	841	1	0.43451	4.3
12	-1.25619	843	1	0.41941	4.2
13	-1.11368	844	1	0.40714	4.1
14	-0.97954	844	1	0.39690	4.0
15	-0.85231	847	2	0.38805	3.9
16	-0.73089	848	2	0.38010	3.8
17	-0.61443	849	2	0.37269	3.7
18	-0.50225	850	2	0.36559	3.7
19	-0.39379	851	2	0.35870	3.6
20	-0.28858	852	2	0.35206	3.5
21	-0.18619	853	2	0.34579	3.5
22	-0.08622	854	2	0.34002	3.4
23	0.01169	855	2	0.33491	3.3
24	0.10788	856	2	0.33052	3.3
25	0.20268	857	2	0.32691	3.3
26	0.29637	858	2	0.32404	3.2
27	0.38925	859	2	0.32186	3.2
28	0.48156	859	2	0.32031	3.2
29	0.57355	861	3	0.31931	3.2
30	0.66544	862	3	0.31883	3.2
31	0.75746	863	3	0.31885	3.2
32	0.84984	864	3	0.31935	3.2
33	0.94283	865	3	0.32037	3.2
34	1.03667	865	3	0.32194	3.2
35	1.13163	866	3	0.32408	3.2
36	1.22801	867	3	0.32686	3.3
37	1.32609	868	3	0.33030	3.3
38	1.42621	869	3	0.33444	3.3
39	1.52872	870	3	0.33932	3.4
40	1.63398	871	3	0.34497	3.4
41	1.74238	873	3	0.35139	3.5
42	1.85433	874	3	0.35862	3.6
43	1.97028	875	3	0.36666	3.7
44	2.09068	876	3	0.37551	3.8
45	2.21602	877	3	0.38517	3.9
46	2.34684	879	3	0.39565	4.0
47	2.48368	880	3	0.40696	4.1
48	2.62718	881	3	0.41910	4.2
49	2.77800	883	4	0.43207	4.3
50	2.93688	884	4	0.44579	4.5

Raw Score	2022				
	Theta	Scale Score	Performance Level	CSEM	Scaled CSEM
51	3.10465	886	4	0.46010	4.6
52	3.28220	888	4	0.47475	4.7
53	3.47054	889	4	0.48948	4.9
54	3.53988	890	4	0.49469	4.9
55	3.53988	890	4	0.49469	4.9
56	3.53988	890	4	0.49469	4.9
57	3.53988	890	4	0.49469	4.9
58	3.53988	890	4	0.49469	4.9
59	3.53988	890	4	0.49469	4.9
60	3.53988	890	4	0.49469	4.9
61	3.53988	890	4	0.49469	4.9
62	3.53988	890	4	0.49469	4.9
63	3.53988	890	4	0.49469	4.9
64	3.53988	890	4	0.49469	4.9

Table L-16. Raw to Scaled Score Look-up Table— Science Grade 8 Operational Set B

Raw Score	2022				
	Theta	Scale Score	Performance Level	CSEM	Scaled CSEM
0	-5.56012	800	1	2.28546	22.9
1	-5.49593	800	1	2.22685	22.3
2	-5.43175	801	1	2.16946	21.7
3	-3.81286	817	1	1.08587	10.9
4	-3.12171	824	1	0.80137	8.0
5	-2.67793	828	1	0.66277	6.6
6	-2.34820	832	1	0.57941	5.8
7	-2.08349	834	1	0.52367	5.2
8	-1.86039	836	1	0.48397	4.8
9	-1.66597	838	1	0.45455	4.5
10	-1.49235	840	1	0.43210	4.3
11	-1.33437	842	1	0.41461	4.1
12	-1.18852	843	1	0.40069	4.0
13	-1.05231	844	1	0.38937	3.9
14	-0.92392	846	2	0.37990	3.8
15	-0.80199	847	2	0.37171	3.7
16	-0.68548	848	2	0.36436	3.6
17	-0.57359	849	2	0.35753	3.6
18	-0.46569	850	2	0.35103	3.5
19	-0.36124	851	2	0.34478	3.4
20	-0.25979	853	2	0.33883	3.4
21	-0.16094	853	2	0.33325	3.3
22	-0.06432	854	2	0.32818	3.3
23	0.03042	855	2	0.32370	3.2
24	0.12359	856	2	0.31988	3.2
25	0.21548	857	2	0.31673	3.2
26	0.30638	858	2	0.31425	3.1
27	0.39653	859	2	0.31238	3.1
28	0.48617	859	2	0.31106	3.1
29	0.57553	861	3	0.31024	3.1
30	0.66481	862	3	0.30988	3.1
31	0.75423	863	3	0.30997	3.1
32	0.84400	864	3	0.31050	3.1
33	0.93433	864	3	0.31149	3.1

continued

Raw Score	Theta	Scale Score	2022 Performance Level	CSEM	Scaled CSEM
34	1.02547	865	3	0.31297	3.1
35	1.11764	866	3	0.31496	3.1
36	1.21113	867	3	0.31751	3.2
37	1.30620	868	3	0.32065	3.2
38	1.40315	869	3	0.32442	3.2
39	1.50232	870	3	0.32884	3.3
40	1.60405	871	3	0.33396	3.3
41	1.70871	872	3	0.33981	3.4
42	1.81672	873	3	0.34640	3.5
43	1.92849	874	3	0.35377	3.5
44	2.04450	876	3	0.36193	3.6
45	2.16527	877	3	0.37092	3.7
46	2.29134	878	3	0.38075	3.8
47	2.42332	879	3	0.39146	3.9
48	2.56189	881	3	0.40307	4.0
49	2.70777	881	3	0.41562	4.2
50	2.86178	884	4	0.42906	4.3
51	3.02482	885	4	0.44331	4.4
52	3.19787	887	4	0.45814	4.6
53	3.38197	889	4	0.47326	4.7
54	3.53988	890	4	0.48559	4.9
55	3.53988	890	4	0.48559	4.9
56	3.53988	890	4	0.48559	4.9
57	3.53988	890	4	0.48559	4.9
58	3.53988	890	4	0.48559	4.9
59	3.53988	890	4	0.48559	4.9
60	3.53988	890	4	0.48559	4.9
61	3.53988	890	4	0.48559	4.9
62	3.53988	890	4	0.48559	4.9
63	3.53988	890	4	0.48559	4.9
64	3.53988	890	4	0.48559	4.9

Table L-17. Raw to Scaled Score Look-up Table— Science Grade 11 Operational Set A

Raw Score	Theta	Scale Score	2022 Performance Level	CSEM	Scaled CSEM
0	-8.02951	1100	1	5.75316	43.1
1	-6.86502	1108	1	3.78584	28.4
2	-5.70054	1117	1	2.41582	18.1
3	-4.53605	1126	1	1.49054	11.2
4	-3.50341	1133	1	0.94370	7.1
5	-2.95124	1138	1	0.73423	5.5
6	-2.57345	1140	1	0.61993	4.6
7	-2.28483	1143	1	0.54759	4.1
8	-2.04965	1144	1	0.49794	3.7
9	-1.84964	1146	1	0.46212	3.5
10	-1.67425	1147	1	0.43541	3.3
11	-1.51683	1148	1	0.41500	3.1
12	-1.37297	1149	1	0.39916	3.0
13	-1.23960	1150	1	0.38668	2.9
14	-1.11448	1151	1	0.37673	2.8
15	-0.99596	1152	1	0.36873	2.8
16	-0.88279	1153	1	0.36221	2.7
17	-0.77399	1153	1	0.35683	2.7
18	-0.66877	1155	2	0.35235	2.6
19	-0.56653	1155	2	0.34855	2.6
20	-0.46674	1156	2	0.34530	2.6
21	-0.36899	1157	2	0.34249	2.6
22	-0.27292	1158	2	0.34004	2.6
23	-0.17822	1158	2	0.33791	2.5
24	-0.08462	1159	2	0.33608	2.5
25	0.00812	1159	2	0.33454	2.5
26	0.10021	1160	3	0.33329	2.5
27	0.19188	1161	3	0.33237	2.5
28	0.28330	1162	3	0.33179	2.5
29	0.37468	1163	3	0.33159	2.5
30	0.46619	1163	3	0.33180	2.5
31	0.55802	1164	3	0.33244	2.5
32	0.65035	1165	3	0.33353	2.5
33	0.74336	1165	3	0.33507	2.5
34	0.83721	1166	3	0.33707	2.5
35	0.93206	1167	3	0.33950	2.5
36	1.02807	1167	3	0.34228	2.6
37	1.12537	1168	3	0.34533	2.6
38	1.22406	1169	3	0.34849	2.6
39	1.32423	1170	3	0.35155	2.6
40	1.42591	1170	3	0.35421	2.7
41	1.52911	1171	3	0.35616	2.7
42	1.63381	1172	3	0.35709	2.7
43	1.73995	1173	3	0.35686	2.7
44	1.84751	1174	3	0.35553	2.7
45	1.95648	1174	3	0.35355	2.7
46	2.06700	1175	3	0.35160	2.6
47	2.17934	1176	3	0.35058	2.6
48	2.29397	1177	3	0.35132	2.6
49	2.41157	1178	3	0.35451	2.7
50	2.53299	1179	3	0.36061	2.7

Raw Score	2022				
	Theta	Scale Score	Performance Level	CSEM	Scaled CSEM
51	2.65925	1180	3	0.36984	2.8
52	2.79149	1180	3	0.38226	2.9
53	2.93094	1182	4	0.39781	3.0
54	3.07898	1183	4	0.41639	3.1
55	3.23712	1184	4	0.43789	3.3
56	3.40709	1185	4	0.46223	3.5
57	3.59091	1187	4	0.48937	3.7
58	3.79101	1188	4	0.51940	3.9
59	4.01046	1189	4	0.55254	4.1
60	4.10383	1190	4	0.56667	4.3
61	4.10383	1190	4	0.56667	4.3
62	4.10383	1190	4	0.56667	4.3
63	4.10383	1190	4	0.56667	4.3
64	4.10383	1190	4	0.56667	4.3
65	4.10383	1190	4	0.56667	4.3
66	4.10383	1190	4	0.56667	4.3
67	4.10383	1190	4	0.56667	4.3
68	4.10383	1190	4	0.56667	4.3

Table L-18. Raw to Scaled Score Look-up Table— Science Grade 11 Operational Set B

Raw Score	2022				
	Theta	Scale Score	Performance Level	CSEM	Scaled CSEM
0	-8.02951	1100	1	4.64566	34.8
1	-7.13752	1106	1	3.57735	26.8
2	-6.24553	1113	1	2.68212	20.1
3	-5.35354	1120	1	1.95261	14.6
4	-3.98142	1130	1	1.13200	8.5
5	-3.29469	1135	1	0.84486	6.3
6	-2.84210	1138	1	0.69546	5.2
7	-2.50504	1141	1	0.60321	4.5
8	-2.23577	1143	1	0.54069	4.1
9	-2.01049	1145	1	0.49582	3.7
10	-1.81573	1146	1	0.46241	3.5
11	-1.64311	1147	1	0.43688	3.3
12	-1.48711	1149	1	0.41699	3.1
13	-1.34391	1150	1	0.40128	3.0
14	-1.21076	1151	1	0.38870	2.9
15	-1.08562	1152	1	0.37852	2.8
16	-0.96697	1152	1	0.37020	2.8
17	-0.85361	1153	1	0.36330	2.7
18	-0.74460	1154	2	0.35753	2.7
19	-0.63920	1155	2	0.35263	2.6
20	-0.53680	1156	2	0.34844	2.6
21	-0.43690	1156	2	0.34482	2.6
22	-0.33906	1157	2	0.34167	2.6
23	-0.24294	1158	2	0.33893	2.5
24	-0.14821	1159	2	0.33657	2.5
25	-0.05461	1159	2	0.33456	2.5
26	0.03811	1160	3	0.33289	2.5
27	0.13019	1161	3	0.33159	2.5
28	0.22184	1161	3	0.33065	2.5
29	0.31325	1162	3	0.33011	2.5

| Raw Score | 2022 | | | | |
	Theta	Scale Score	Performance Level	CSEM	Scaled CSEM
30	0.40463	1163	3	0.32997	2.5
31	0.49616	1163	3	0.33025	2.5
32	0.58802	1164	3	0.33097	2.5
33	0.68039	1165	3	0.33214	2.5
34	0.77344	1166	3	0.33373	2.5
35	0.86732	1166	3	0.33573	2.5
36	0.96219	1167	3	0.33809	2.5
37	1.05817	1168	3	0.34073	2.6
38	1.15539	1168	3	0.34355	2.6
39	1.25393	1169	3	0.34637	2.6
40	1.35385	1170	3	0.34899	2.6
41	1.45519	1171	3	0.35113	2.6
42	1.55795	1171	3	0.35251	2.6
43	1.66211	1172	3	0.35290	2.6
44	1.76766	1173	3	0.35224	2.6
45	1.87459	1174	3	0.35072	2.6
46	1.98300	1175	3	0.34881	2.6
47	2.09307	1175	3	0.34723	2.6
48	2.20519	1176	3	0.34684	2.6
49	2.31992	1177	3	0.34842	2.6
50	2.43806	1178	3	0.35262	2.6
51	2.56058	1179	3	0.35990	2.7
52	2.68865	1180	3	0.37050	2.8
53	2.82363	1180	3	0.38459	2.9
54	2.96702	1182	4	0.40223	3.0
55	3.12055	1183	4	0.42350	3.2
56	3.28623	1184	4	0.44849	3.4
57	3.46645	1186	4	0.47739	3.6
58	3.66412	1187	4	0.51044	3.8
59	3.88292	1189	4	0.54808	4.1
60	4.10383	1190	4	0.58676	4.4
61	4.10383	1190	4	0.58676	4.4
62	4.10383	1190	4	0.58676	4.4
63	4.10383	1190	4	0.58676	4.4
64	4.10383	1190	4	0.58676	4.4
65	4.10383	1190	4	0.58676	4.4
66	4.10383	1190	4	0.58676	4.4
67	4.10383	1190	4	0.58676	4.4
68	4.10383	1190	4	0.58676	4.4

Table L-19. Raw to Scaled Score Look-up Table—SLA Grade 3

Raw Score	Theta	Scale Score	2022 Performance Level	CSEM	Scaled CSEM
0	-4.00000	300	1	3.91742	78.3
1	-3.84052	300	1	3.51214	70.2
2	-3.68103	300	1	3.13603	62.7
3	-3.52155	300	1	2.78835	55.8
4	-3.36206	300	1	2.46845	49.4
5	-3.20258	300	1	2.17574	43.5
6	-3.04309	300	1	1.90963	38.2
7	-2.88361	300	1	1.66947	33.4
8	-2.08417	311	1	0.82363	16.5
9	-1.70539	319	1	0.59730	11.9
10	-1.44934	324	1	0.49072	9.8
11	-1.25197	328	1	0.42811	8.6
12	-1.08881	331	1	0.38639	7.7
13	-0.94793	334	1	0.35619	7.1
14	-0.82260	336	2	0.33307	6.7
15	-0.70867	339	2	0.31470	6.3
16	-0.60336	341	2	0.29976	6.0
17	-0.50470	343	2	0.28746	5.7
18	-0.41125	345	2	0.27726	5.5
19	-0.32189	346	2	0.26878	5.4
20	-0.23573	348	2	0.26171	5.2
21	-0.15205	350	2	0.25583	5.1
22	-0.07026	352	2	0.25092	5.0
23	0.01017	353	2	0.24686	4.9
24	0.08969	355	2	0.24353	4.9
25	0.16874	356	2	0.24091	4.8
26	0.24774	358	2	0.23898	4.8
27	0.32714	359	2	0.23780	4.8
28	0.40742	361	3	0.23745	4.7
29	0.48911	363	3	0.23807	4.8
30	0.57286	364	3	0.23982	4.8
31	0.65944	366	3	0.24291	4.9
32	0.74978	368	3	0.24762	5.0
33	0.84509	369	3	0.25428	5.1
34	0.94690	372	4	0.26339	5.3
35	1.05728	374	4	0.27561	5.5
36	1.17910	377	4	0.29196	5.8
37	1.31650	379	4	0.31400	6.3
38	1.47584	382	4	0.34437	6.9
39	1.66761	386	4	0.38791	7.8
40	1.91103	389	4	0.45460	9.1
41	2.24700	389	4	0.56942	11.4
42	2.78766	389	4	0.81753	16.4
43	4.00000	390	4	1.70076	34.0
44	4.00000	390	4	1.70076	34.0

Table L-20. Raw to Scaled Score Look-up Table—SLA Grade 4

Raw Score	Theta	Scale Score	2022 Performance Level	CSEM	Scaled CSEM
0	-4.00000	400	1	1.87321	37.5
1	-3.89245	400	1	1.78776	35.8
2	-3.78489	400	1	1.70577	34.1
3	-3.67734	400	1	1.62700	32.5
4	-3.56978	400	1	1.55122	31.0
5	-3.46223	400	1	1.47818	29.6
6	-3.35468	400	1	1.40763	28.2
7	-2.58533	405	1	0.94726	18.9
8	-2.15611	414	1	0.70613	14.1
9	-1.86105	420	1	0.56170	11.2
10	-1.63564	424	1	0.47384	9.5
11	-1.45142	428	1	0.41810	8.4
12	-1.29366	431	1	0.38075	7.6
13	-1.15399	434	1	0.35421	7.1
14	-1.02735	437	1	0.33428	6.7
15	-0.91047	439	1	0.31867	6.4
16	-0.80112	441	2	0.30613	6.1
17	-0.69767	443	2	0.29597	5.9
18	-0.59886	445	2	0.28777	5.8
19	-0.50366	447	2	0.28125	5.6
20	-0.41125	449	2	0.27618	5.5
21	-0.32090	451	2	0.27239	5.4
22	-0.23199	452	2	0.26973	5.4
23	-0.14396	454	2	0.26810	5.4
24	-0.05629	456	2	0.26741	5.3
25	0.03152	458	2	0.26762	5.4
26	0.11994	459	2	0.26872	5.4
27	0.20951	461	3	0.27073	5.4
28	0.30074	463	3	0.27369	5.5
29	0.39423	465	3	0.27767	5.6
30	0.49065	467	3	0.28277	5.7
31	0.59076	469	3	0.28914	5.8
32	0.69548	471	3	0.29697	5.9
33	0.80593	472	3	0.30652	6.1
34	0.92350	476	4	0.31816	6.4
35	1.05001	478	4	0.33242	6.6
36	1.18788	481	4	0.35004	7.0
37	1.34050	484	4	0.37220	7.4
38	1.51282	487	4	0.40071	8.0
39	1.71250	489	4	0.43870	8.8
40	1.95247	489	4	0.49190	9.8
41	2.25703	489	4	0.57241	11.4
42	2.68124	489	4	0.71199	14.2
43	3.40314	489	4	1.03959	20.8
44	4.00000	490	4	1.42080	28.4

Table L-21. Raw to Scaled Score Look-up Table—SLA Grade 5

Raw Score	Theta	Scale Score	2022 Performance Level	CSEM	Scaled CSEM
0	-4.00000	500	1	2.37547	47.5
1	-3.89424	500	1	2.25946	45.2
2	-3.78849	500	1	2.14733	42.9
3	-3.68273	500	1	2.03893	40.8
4	-3.57697	500	1	1.93411	38.7
5	-3.47122	500	1	1.83273	36.7
6	-3.36546	500	1	1.73465	34.7
7	-3.25970	500	1	1.63975	32.8
8	-2.51052	507	1	1.05348	21.1
9	-2.08389	515	1	0.78950	15.8
10	-1.78425	521	1	0.63762	12.8
11	-1.55112	526	1	0.54041	10.8
12	-1.35796	530	1	0.47514	9.5
13	-1.19081	533	1	0.43019	8.6
14	-1.04147	536	1	0.39851	8.0
15	-0.90479	539	1	0.37554	7.5
16	-0.77742	541	1	0.35825	7.2
17	-0.65705	544	2	0.34469	6.9
18	-0.54204	546	2	0.33368	6.7
19	-0.43120	548	2	0.32453	6.5
20	-0.32355	550	2	0.31682	6.3
21	-0.21835	552	2	0.31030	6.2
22	-0.11493	555	2	0.30473	6.1
23	-0.01275	557	2	0.29993	6.0
24	0.08868	559	2	0.29574	5.9
25	0.18979	561	3	0.29214	5.8
26	0.29103	563	3	0.28925	5.8
27	0.39289	565	3	0.28734	5.7
28	0.49598	567	3	0.28678	5.7
29	0.60105	569	3	0.28798	5.8
30	0.70905	571	3	0.29132	5.8
31	0.82113	572	3	0.29713	5.9
32	0.93871	576	4	0.30563	6.1
33	1.06346	578	4	0.31703	6.3
34	1.19747	581	4	0.33166	6.6
35	1.34342	584	4	0.35022	7.0
36	1.50500	587	4	0.37424	7.5
37	1.68773	589	4	0.40659	8.1
38	1.90019	589	4	0.45210	9.0
39	2.15636	589	4	0.51830	10.4
40	2.48004	589	4	0.61705	12.3
41	2.91613	589	4	0.77101	15.4
42	3.56821	589	4	1.04312	20.9
43	4.00000	590	4	1.25501	25.1
44	4.00000	590	4	1.25501	25.1

Table L-22. Raw to Scaled Score Look-up Table—SLA Grade 6

Raw Score	Theta	Scale Score	2022 Performance Level	CSEM	Scaled CSEM
0	-4.00000	600	1	2.07735	41.5
1	-3.89129	600	1	1.96107	39.2
2	-3.78258	600	1	1.84950	37.0
3	-3.67388	600	1	1.74264	34.9
4	-3.56517	600	1	1.64048	32.8
5	-3.45646	600	1	1.54300	30.9
6	-3.34775	600	1	1.45015	29.0
7	-3.23904	600	1	1.36185	27.2
8	-2.57114	603	1	0.90917	18.2
9	-2.17270	611	1	0.69954	14.0
10	-1.88573	617	1	0.57554	11.5
11	-1.65771	622	1	0.49788	10.0
12	-1.46470	625	1	0.44888	9.0
13	-1.29400	629	1	0.41787	8.4
14	-1.13829	631	1	0.39800	8.0
15	-0.99318	635	2	0.38480	7.7
16	-0.85595	638	2	0.37544	7.5
17	-0.72481	640	2	0.36823	7.4
18	-0.59855	643	2	0.36228	7.2
19	-0.47619	645	2	0.35719	7.1
20	-0.35698	648	2	0.35276	7.1
21	-0.24025	650	2	0.34894	7.0
22	-0.12539	652	2	0.34569	6.9
23	-0.01186	654	2	0.34297	6.9
24	0.10083	657	2	0.34075	6.8
25	0.21314	659	2	0.33897	6.8
26	0.32552	661	3	0.33761	6.8
27	0.43840	663	3	0.33659	6.7
28	0.55222	666	3	0.33587	6.7
29	0.66743	668	3	0.33539	6.7
30	0.78455	670	3	0.33514	6.7
31	0.90416	672	3	0.33520	6.7
32	1.02704	675	4	0.33585	6.7
33	1.15425	678	4	0.33765	6.8
34	1.28727	680	4	0.34151	6.8
35	1.42833	683	4	0.34878	7.0
36	1.58069	686	4	0.36129	7.2
37	1.74936	689	4	0.38157	7.6
38	1.94219	689	4	0.41341	8.3
39	2.17233	689	4	0.46333	9.3
40	2.46379	689	4	0.54455	10.9
41	2.86731	689	4	0.68887	13.8
42	3.51576	689	4	0.99315	19.9
43	4.00000	690	4	1.27353	25.5
44	4.00000	690	4	1.27353	25.5

Table L-23. Raw to Scaled Score Look-up Table—SLA Grade 7

Raw Score	Theta	Scale Score	2022 Performance Level	CSEM	Scaled CSEM
0	-4.00000	700	1	1.88614	37.7
1	-3.94825	700	1	1.83658	36.7
2	-3.89650	700	1	1.78803	35.8
3	-3.84475	700	1	1.74044	34.8
4	-3.79300	700	1	1.69377	33.9
5	-3.74125	700	1	1.64800	33.0
6	-3.68950	700	1	1.60308	32.1
7	-2.86392	700	1	0.98880	19.8
8	-2.40709	707	1	0.73803	14.8
9	-2.08381	714	1	0.60618	12.1
10	-1.82741	719	1	0.52887	10.6
11	-1.60999	723	1	0.48104	9.6
12	-1.41753	727	1	0.45045	9.0
13	-1.24219	730	1	0.43020	8.6
14	-1.07937	734	2	0.41607	8.3
15	-0.92621	737	2	0.40542	8.1
16	-0.78087	740	2	0.39662	7.9
17	-0.64209	743	2	0.38870	7.8
18	-0.50893	745	2	0.38104	7.6
19	-0.38068	748	2	0.37333	7.5
20	-0.25671	751	2	0.36542	7.3
21	-0.13647	753	2	0.35735	7.1
22	-0.01944	755	2	0.34933	7.0
23	0.09491	758	2	0.34169	6.8
24	0.20716	759	2	0.33480	6.7
25	0.31794	762	3	0.32907	6.6
26	0.42793	764	3	0.32485	6.5
27	0.53790	766	3	0.32241	6.4
28	0.64870	769	3	0.32197	6.4
29	0.76126	771	3	0.32367	6.5
30	0.87659	773	3	0.32760	6.6
31	0.99583	776	4	0.33383	6.7
32	1.12024	778	4	0.34243	6.8
33	1.25130	781	4	0.35352	7.1
34	1.39076	783	4	0.36734	7.3
35	1.54083	786	4	0.38432	7.7
36	1.70443	789	4	0.40522	8.1
37	1.88558	789	4	0.43133	8.6
38	2.09028	789	4	0.46491	9.3
39	2.32793	789	4	0.50996	10.2
40	2.61468	789	4	0.57407	11.5
41	2.98149	789	4	0.67357	13.5
42	3.49960	789	4	0.85158	17.0
43	4.00000	790	4	1.06978	21.4
44	4.00000	790	4	1.06978	21.4

Table L-24. Raw to Scaled Score Look-up Table—SLA Grade 8

Raw Score	Theta	Scale Score	2022 Performance Level	CSEM	Scaled CSEM
0	-4.00000	800	1	1.51807	30.4
1	-3.93280	800	1	1.47682	29.5
2	-3.86559	800	1	1.43646	28.7
3	-3.79839	800	1	1.39696	27.9
4	-3.73118	800	1	1.35830	27.2
5	-3.66398	800	1	1.32048	26.4
6	-3.59678	800	1	1.28348	25.7
7	-3.52957	800	1	1.24729	24.9
8	-2.87248	800	1	0.93449	18.7
9	-2.44077	808	1	0.76794	15.4
10	-2.11821	815	1	0.66269	13.3
11	-1.85944	820	1	0.58941	11.8
12	-1.64216	824	1	0.53505	10.7
13	-1.45376	828	1	0.49284	9.9
14	-1.28643	831	1	0.45894	9.2
15	-1.13502	834	1	0.43098	8.6
16	-0.99589	837	1	0.40741	8.1
17	-0.86642	839	1	0.38719	7.7
18	-0.74458	842	2	0.36970	7.4
19	-0.62875	845	2	0.35463	7.1
20	-0.51759	847	2	0.34188	6.8
21	-0.40992	849	2	0.33151	6.6
22	-0.30471	851	2	0.32359	6.5
23	-0.20098	853	2	0.31811	6.4
24	-0.09787	855	2	0.31496	6.3
25	0.00542	857	2	0.31392	6.3
26	0.10965	859	2	0.31470	6.3
27	0.21547	861	3	0.31693	6.3
28	0.32351	864	3	0.32027	6.4
29	0.43436	866	3	0.32442	6.5
30	0.54863	868	3	0.32915	6.6
31	0.66699	870	3	0.33443	6.7
32	0.79024	873	4	0.34040	6.8
33	0.91940	876	4	0.34751	7.0
34	1.05592	878	4	0.35654	7.1
35	1.20185	881	4	0.36866	7.4
36	1.36016	884	4	0.38546	7.7
37	1.53527	888	4	0.40909	8.2
38	1.73381	889	4	0.44250	8.8
39	1.96618	889	4	0.49021	9.8
40	2.24973	889	4	0.55997	11.2
41	2.61669	889	4	0.66747	13.3
42	3.13870	889	4	0.85254	17.1
43	4.00000	890	4	1.25000	25.0
44	4.00000	890	4	1.25000	25.0

Table L-25. Raw to Scaled Score Look-up Table—Mathematics (Spanish Transadapted) Grade 3

Raw Score	Theta	Scale Score	2022 Performance Level	CSEM	Scaled CSEM
0	-4.00000	300	1	2.85887	50.0
1	-3.89219	300	1	2.71153	47.5
2	-3.78437	300	1	2.56693	44.9
3	-3.67656	300	1	2.42508	42.4
4	-3.56874	300	1	2.28601	40.0
5	-3.46093	300	1	2.14981	37.6
6	-3.35311	300	1	2.01663	35.3
7	-3.24530	300	1	1.88669	33.0
8	-2.21820	314	1	0.88921	15.6
9	-1.76855	321	1	0.63301	11.1
10	-1.47010	327	1	0.51769	9.1
11	-1.24174	331	1	0.45192	7.9
12	-1.05390	334	1	0.40925	7.2
13	-0.89244	337	1	0.37922	6.6
14	-0.74948	339	1	0.35684	6.2
15	-0.62020	340	1	0.33937	5.9
16	-0.50139	344	2	0.32522	5.7
17	-0.39085	345	2	0.31337	5.5
18	-0.28698	347	2	0.30319	5.3
19	-0.18857	349	2	0.29427	5.1
20	-0.09468	351	2	0.28633	5.0
21	-0.00457	352	2	0.27922	4.9
22	0.08237	354	2	0.27284	4.8
23	0.16667	355	2	0.26713	4.7
24	0.24878	357	2	0.26205	4.6
25	0.32910	358	2	0.25759	4.5
26	0.40800	359	2	0.25374	4.4
27	0.48582	361	3	0.25050	4.4
28	0.56288	362	3	0.24786	4.3
29	0.63949	364	3	0.24583	4.3
30	0.71596	365	3	0.24441	4.3
31	0.79262	366	3	0.24362	4.3
32	0.86977	368	3	0.24345	4.3
33	0.94777	369	3	0.24394	4.3
34	1.02696	370	3	0.24508	4.3
35	1.10773	372	3	0.24691	4.3
36	1.19051	373	3	0.24945	4.4
37	1.27577	375	3	0.25272	4.4
38	1.36404	376	3	0.25678	4.5
39	1.45594	376	3	0.26168	4.6
40	1.55222	380	4	0.26752	4.7
41	1.65376	381	4	0.27445	4.8
42	1.76174	383	4	0.28273	4.9
43	1.87770	385	4	0.29280	5.1
44	2.00382	387	4	0.30536	5.3
45	2.14330	389	4	0.32158	5.6
46	2.30120	389	4	0.34350	6.0
47	2.48614	389	4	0.37488	6.6
48	2.71451	389	4	0.42361	7.4
49	3.02369	389	4	0.51049	8.9
50	3.53619	389	4	0.72160	12.6
51	4.00000	390	4	1.00783	17.6

Table L-26. Raw to Scaled Score Look-up Table—Mathematics (Spanish Transadapted) Grade 4

Raw Score	Theta	Scale Score	2022 Performance Level	CSEM	Scaled CSEM
0	-4.00000	400	1	2.42099	42.4
1	-3.91540	400	1	2.30644	40.4
2	-3.83079	400	1	2.19697	38.4
3	-3.74619	400	1	2.09235	36.6
4	-3.66158	400	1	1.99241	34.9
5	-3.57698	400	1	1.89693	33.2
6	-3.49237	400	1	1.80572	31.6
7	-2.23042	413	1	0.84234	14.7
8	-1.72723	422	1	0.61470	10.8
9	-1.40107	428	1	0.50736	8.9
10	-1.15419	432	1	0.44578	7.8
11	-0.95160	436	1	0.40643	7.1
12	-0.77698	439	1	0.37928	6.6
13	-0.62150	441	1	0.35932	6.3
14	-0.47994	443	1	0.34380	6.0
15	-0.34898	446	2	0.33117	5.8
16	-0.22638	448	2	0.32055	5.6
17	-0.11055	450	2	0.31143	5.5
18	-0.00032	452	2	0.30350	5.3
19	0.10521	454	2	0.29653	5.2
20	0.20676	456	2	0.29033	5.1
21	0.30486	458	2	0.28474	5.0
22	0.39999	459	2	0.27961	4.9
23	0.49249	461	3	0.27483	4.8
24	0.58268	462	3	0.27029	4.7
25	0.67080	464	3	0.26596	4.7
26	0.75712	466	3	0.26182	4.6
27	0.84186	467	3	0.25791	4.5
28	0.92524	468	3	0.25426	4.4
29	1.00751	470	3	0.25093	4.4
30	1.08894	471	3	0.24800	4.3
31	1.16978	473	3	0.24551	4.3
32	1.25034	474	3	0.24355	4.3
33	1.33094	476	3	0.24216	4.2
34	1.41194	477	3	0.24140	4.2
35	1.49373	478	3	0.24134	4.2
36	1.57674	479	3	0.24203	4.2
37	1.66149	481	4	0.24355	4.3
38	1.74853	483	4	0.24599	4.3
39	1.83858	484	4	0.24949	4.4
40	1.93245	486	4	0.25421	4.4
41	2.03120	488	4	0.26041	4.6
42	2.13618	489	4	0.26848	4.7
43	2.24923	489	4	0.27897	4.9
44	2.37290	489	4	0.29275	5.1
45	2.51094	489	4	0.31117	5.4
46	2.66923	489	4	0.33653	5.9
47	2.85768	489	4	0.37306	6.5
48	3.09508	489	4	0.42971	7.5
49	3.42393	489	4	0.52968	9.3
50	3.98007	489	4	0.76461	13.4
51	4.00000	490	4	0.77480	13.6

Table L-27. Raw to Scaled Score Look-up Table—Mathematics (Spanish Transadapted) Grade 5

Raw Score	Theta	Scale Score	2022 Performance Level	CSEM	Scaled CSEM
0	-4.00000	500	1	3.80175	66.5
1	-3.82644	500	1	3.47502	60.8
2	-3.65287	500	1	3.16146	55.3
3	-3.47931	500	1	2.86051	50.1
4	-3.30574	500	1	2.57227	45.0
5	-3.13218	500	1	2.29764	40.2
6	-2.95861	503	1	2.03815	35.7
7	-2.78505	506	1	1.79572	31.4
8	-2.61148	509	1	1.57222	27.5
9	-1.75117	524	1	0.76450	13.4
10	-1.34850	531	1	0.54170	9.5
11	-1.08303	536	1	0.43947	7.7
12	-0.88217	540	1	0.38229	6.7
13	-0.71809	543	1	0.34659	6.1
14	-0.57735	545	1	0.32256	5.6
15	-0.45253	547	1	0.30542	5.3
16	-0.33913	549	2	0.29251	5.1
17	-0.23426	551	2	0.28231	4.9
18	-0.13597	553	2	0.27390	4.8
19	-0.04286	554	2	0.26675	4.7
20	0.04609	556	2	0.26054	4.6
21	0.13166	557	2	0.25508	4.5
22	0.21446	559	2	0.25022	4.4
23	0.29498	560	3	0.24588	4.3
24	0.37362	562	3	0.24196	4.2
25	0.45070	563	3	0.23841	4.2
26	0.52651	564	3	0.23516	4.1
27	0.60127	566	3	0.23215	4.1
28	0.67520	567	3	0.22936	4.0
29	0.74849	568	3	0.22674	4.0
30	0.82133	569	3	0.22429	3.9
31	0.89392	571	3	0.22199	3.9
32	0.96645	572	3	0.21988	3.8
33	1.03918	572	3	0.21803	3.8
34	1.11238	575	4	0.21653	3.8
35	1.18639	576	4	0.21555	3.8
36	1.26164	577	4	0.21527	3.8
37	1.33865	579	4	0.21592	3.8
38	1.41805	580	4	0.21770	3.8
39	1.50068	581	4	0.22089	3.9
40	1.58756	583	4	0.22577	4.0
41	1.68004	584	4	0.23270	4.1
42	1.77993	586	4	0.24223	4.2
43	1.88975	588	4	0.25516	4.5
44	2.01316	589	4	0.27277	4.8
45	2.15587	589	4	0.29730	5.2
46	2.32742	589	4	0.33289	5.8
47	2.54553	589	4	0.38832	6.8
48	2.84866	589	4	0.48581	8.5
49	3.34288	589	4	0.69987	12.2
50	4.00000	590	4	1.08255	18.9
51	4.00000	590	4	1.08255	18.9

Table L-28. Raw to Scaled Score Look-up Table—Mathematics (Spanish Transadapted) Grade 6

Raw Score	Theta	Scale Score	2022 Performance Level	CSEM	Scaled CSEM
0	-4.00000	600	1	2.59201	45.4
1	-3.99801	600	1	2.58969	45.3
2	-3.99602	600	1	2.58737	45.3
3	-3.99404	600	1	2.58504	45.2
4	-3.99205	600	1	2.58272	45.2
5	-3.99006	600	1	2.58040	45.2
6	-3.98807	600	1	2.57808	45.1
7	-3.98608	600	1	2.57575	45.1
8	-2.46350	619	1	1.01212	17.7
9	-1.93519	628	1	0.67841	11.9
10	-1.61260	633	1	0.53953	9.4
11	-1.37459	638	1	0.46391	8.1
12	-1.18185	641	1	0.41666	7.3
13	-1.01694	644	1	0.38465	6.7
14	-0.87069	645	1	0.36175	6.3
15	-0.73769	649	2	0.34471	6.0
16	-0.61454	651	2	0.33160	5.8
17	-0.49897	653	2	0.32118	5.6
18	-0.38940	655	2	0.31262	5.5
19	-0.28472	657	2	0.30534	5.3
20	-0.18412	658	2	0.29892	5.2
21	-0.08703	660	3	0.29303	5.1
22	0.00701	662	3	0.28746	5.0
23	0.09830	663	3	0.28201	4.9
24	0.18711	665	3	0.27656	4.8
25	0.27362	666	3	0.27104	4.7
26	0.35801	668	3	0.26543	4.6
27	0.44041	669	3	0.25976	4.5
28	0.52099	671	3	0.25409	4.4
29	0.59990	672	3	0.24853	4.3
30	0.67733	674	3	0.24321	4.3
31	0.75348	675	3	0.23824	4.2
32	0.82859	676	3	0.23377	4.1
33	0.90294	677	3	0.22991	4.0
34	0.97682	678	3	0.22675	4.0
35	1.05059	680	4	0.22439	3.9
36	1.12461	681	4	0.22289	3.9
37	1.19933	683	4	0.22232	3.9
38	1.27520	684	4	0.22274	3.9
39	1.35276	685	4	0.22423	3.9
40	1.43262	687	4	0.22685	4.0
41	1.51550	688	4	0.23071	4.0
42	1.60221	689	4	0.23592	4.1
43	1.69377	689	4	0.24263	4.2
44	1.79139	689	4	0.25107	4.4
45	1.89665	689	4	0.26149	4.6
46	2.01153	689	4	0.27430	4.8
47	2.13874	689	4	0.29005	5.1
48	2.28203	689	4	0.30969	5.4
49	2.44706	689	4	0.33499	5.9
50	2.64325	689	4	0.36985	6.5

Raw Score	2022				
	Theta	Scale Score	Performance Level	CSEM	Scaled CSEM
51	2.88896	689	4	0.42386	7.4
52	3.22871	689	4	0.52491	9.2
53	3.82065	689	4	0.79535	13.9
54	4.00000	690	4	0.90473	15.8

Table L-29. Raw to Scaled Score Look-up Table—Mathematics (Spanish Transadapted) Grade 7

Raw Score	2022				
	Theta	Scale Score	Performance Level	CSEM	Scaled CSEM
0	-4.00000	700	1	3.81962	66.8
1	-3.81779	700	1	3.36061	58.8
2	-3.63558	700	1	2.95478	51.7
3	-3.45337	700	1	2.59610	45.4
4	-3.27116	702	1	2.27926	39.9
5	-3.08895	705	1	1.99958	35.0
6	-2.90673	708	1	1.75286	30.7
7	-2.72452	712	1	1.53536	26.9
8	-2.54231	715	1	1.34368	23.5
9	-1.79927	728	1	0.77014	13.5
10	-1.42527	734	1	0.57734	10.1
11	-1.17230	739	1	0.47572	8.3
12	-0.97922	742	1	0.41190	7.2
13	-0.82155	745	1	0.36766	6.4
14	-0.68708	747	1	0.33507	5.9
15	-0.56885	749	2	0.31014	5.4
16	-0.46252	751	2	0.29060	5.1
17	-0.36521	753	2	0.27503	4.8
18	-0.27489	754	2	0.26245	4.6
19	-0.19009	756	2	0.25217	4.4
20	-0.10973	757	2	0.24366	4.3
21	-0.03295	759	2	0.23655	4.1
22	0.04089	759	2	0.23054	4.0
23	0.11232	761	3	0.22542	3.9
24	0.18178	762	3	0.22106	3.9
25	0.24963	764	3	0.21734	3.8
26	0.31619	765	3	0.21420	3.7
27	0.38174	766	3	0.21157	3.7
28	0.44655	767	3	0.20944	3.7
29	0.51085	768	3	0.20775	3.6
30	0.57488	769	3	0.20649	3.6
31	0.63887	769	3	0.20562	3.6
32	0.70303	772	4	0.20515	3.6
33	0.76758	773	4	0.20506	3.6
34	0.83277	774	4	0.20534	3.6
35	0.89884	775	4	0.20604	3.6
36	0.96607	776	4	0.20718	3.6
37	1.03475	777	4	0.20882	3.7
38	1.10524	779	4	0.21103	3.7
39	1.17797	780	4	0.21392	3.7
40	1.25340	781	4	0.21760	3.8
41	1.33214	783	4	0.22217	3.9
42	1.41487	784	4	0.22778	4.0
43	1.50243	786	4	0.23456	4.1

Raw Score	2022				
	Theta	Scale Score	Performance Level	CSEM	Scaled CSEM
44	1.59585	787	4	0.24267	4.2
45	1.69639	789	4	0.25228	4.4
46	1.80563	789	4	0.26364	4.6
47	1.92568	789	4	0.27715	4.9
48	2.05946	789	4	0.29348	5.1
49	2.21132	789	4	0.31396	5.5
50	2.38847	789	4	0.34125	6.0
51	2.60449	789	4	0.38146	6.7
52	2.89063	789	4	0.45183	7.9
53	3.35164	789	4	0.62659	11.0
54	4.00000	790	4	1.06310	18.6

Table L-30. Raw to Scaled Score Look-up Table—Mathematics (Spanish Transadapted) Grade 8

Raw Score	2022				
	Theta	Scale Score	Performance Level	CSEM	Scaled CSEM
0	-4.00000	800	1	3.76103	65.8
1	-3.80977	800	1	3.30806	57.9
2	-3.61954	800	1	2.90839	50.9
3	-3.42932	800	1	2.55571	44.7
4	-3.23909	800	1	2.24447	39.3
5	-3.04886	800	1	1.96987	34.5
6	-2.85863	803	1	1.72770	30.2
7	-2.66840	806	1	1.51440	26.5
8	-2.47818	809	1	1.32691	23.2
9	-2.28795	813	1	1.16268	20.3
10	-1.63422	824	1	0.74747	13.1
11	-1.24496	831	1	0.58624	10.3
12	-0.96255	836	1	0.49470	8.7
13	-0.73832	840	1	0.43191	7.6
14	-0.55012	843	2	0.38642	6.8
15	-0.38573	846	2	0.35398	6.2
16	-0.23783	849	2	0.33143	5.8
17	-0.10187	851	2	0.31577	5.5
18	0.02483	853	2	0.30438	5.3
19	0.14387	855	2	0.29530	5.2
20	0.25617	857	2	0.28734	5.0
21	0.36240	859	2	0.27987	4.9
22	0.46309	861	3	0.27265	4.8
23	0.55877	862	3	0.26561	4.6
24	0.64993	864	3	0.25871	4.5
25	0.73707	866	3	0.25192	4.4
26	0.82062	867	3	0.24525	4.3
27	0.90101	868	3	0.23872	4.2
28	0.97862	870	3	0.23242	4.1
29	1.05380	871	3	0.22646	4.0
30	1.12688	872	3	0.22097	3.9
31	1.19820	874	3	0.21609	3.8
32	1.26808	875	3	0.21194	3.7
33	1.33684	876	3	0.20860	3.7
34	1.40482	877	3	0.20612	3.6
35	1.47235	877	3	0.20451	3.6
36	1.53977	880	4	0.20377	3.6

| Raw Score | 2022 | | | | |
	Theta	Scale Score	Performance Level	CSEM	Scaled CSEM
37	1.60746	881	4	0.20385	3.6
38	1.67578	882	4	0.20466	3.6
39	1.74511	883	4	0.20613	3.6
40	1.81587	884	4	0.20819	3.6
41	1.88855	886	4	0.21086	3.7
42	1.96369	887	4	0.21422	3.7
43	2.04201	888	4	0.21853	3.8
44	2.12445	889	4	0.22422	3.9
45	2.21230	889	4	0.23187	4.1
46	2.30735	889	4	0.24229	4.2
47	2.41220	889	4	0.25655	4.5
48	2.53069	889	4	0.27621	4.8
49	2.66883	889	4	0.30380	5.3
50	2.83682	889	4	0.34400	6.0
51	3.05411	889	4	0.40677	7.1
52	3.36532	889	4	0.51834	9.1
53	3.91719	889	4	0.78497	13.7
54	4.00000	890	4	0.83350	14.6

Table L-31. Raw to Scaled Score Look-up Table—Science (Spanish Transadapted) Grade 5

| Raw Score | 2022 | | | | |
	Theta	Scale Score	Performance Level	CSEM	Scaled CSEM
0	-4.32534	500	1	1.17162	14.6
1	-4.15155	502	1	1.08379	13.5
2	-3.97776	504	1	1.00232	12.5
3	-3.35191	512	1	0.75725	9.5
4	-2.93782	517	1	0.63170	7.9
5	-2.62582	521	1	0.55328	6.9
6	-2.37381	524	1	0.49885	6.2
7	-2.16119	527	1	0.45863	5.7
8	-1.97632	529	1	0.42779	5.3
9	-1.81191	531	1	0.40359	5.0
10	-1.66311	533	1	0.38433	4.8
11	-1.52648	534	1	0.36887	4.6
12	-1.39952	536	1	0.35638	4.5
13	-1.28034	538	1	0.34625	4.3
14	-1.16749	539	1	0.33800	4.2
15	-1.05985	540	1	0.33126	4.1
16	-0.95651	542	1	0.32572	4.1
17	-0.85677	543	1	0.32116	4.0
18	-0.76002	543	1	0.31739	4.0
19	-0.66579	545	2	0.31427	3.9
20	-0.57365	546	2	0.31170	3.9
21	-0.48327	548	2	0.30960	3.9
22	-0.39433	549	2	0.30791	3.8
23	-0.30657	550	2	0.30660	3.8
24	-0.21972	551	2	0.30565	3.8
25	-0.13358	552	2	0.30503	3.8
26	-0.04793	553	2	0.30473	3.8
27	0.03743	554	2	0.30475	3.8
28	0.12267	555	2	0.30506	3.8
29	0.20797	556	2	0.30565	3.8

Raw Score	2022				
	Theta	Scale Score	Performance Level	CSEM	Scaled CSEM
30	0.29350	557	2	0.30652	3.8
31	0.37941	558	2	0.30766	3.8
32	0.46586	559	2	0.30905	3.9
33	0.55301	560	3	0.31070	3.9
34	0.64100	562	3	0.31261	3.9
35	0.73001	563	3	0.31478	3.9
36	0.82020	564	3	0.31724	4.0
37	0.91174	565	3	0.32000	4.0
38	1.00482	566	3	0.32308	4.0
39	1.09967	567	3	0.32653	4.1
40	1.19650	569	3	0.33037	4.1
41	1.29557	570	3	0.33465	4.2
42	1.39717	571	3	0.33940	4.2
43	1.50161	572	3	0.34468	4.3
44	1.60927	573	3	0.35055	4.4
45	1.72054	575	4	0.35706	4.5
46	1.83592	577	4	0.36429	4.6
47	1.95592	578	4	0.37231	4.7
48	2.08118	580	4	0.38120	4.8
49	2.21243	581	4	0.39103	4.9
50	2.35051	583	4	0.40185	5.0
51	2.49641	585	4	0.41369	5.2
52	2.65129	587	4	0.42657	5.3
53	2.81658	589	4	0.44053	5.5
54	2.95466	590	4	0.45236	5.7
55	2.95466	590	4	0.45236	5.7
56	2.95466	590	4	0.45236	5.7
57	2.95466	590	4	0.45236	5.7
58	2.95466	590	4	0.45236	5.7
59	2.95466	590	4	0.45236	5.7
60	2.95466	590	4	0.45236	5.7
61	2.95466	590	4	0.45236	5.7
62	2.95466	590	4	0.45236	5.7
63	2.95466	590	4	0.45236	5.7
64	2.95466	590	4	0.45236	5.7

Table L-32. Raw to Scaled Score Look-up Table—Science (Spanish Transadapted) Grade 8

Raw Score	2022				
	Theta	Scale Score	Performance Level	CSEM	Scaled CSEM
0	-5.56012	800	1	2.13164	21.3
1	-5.06220	804	1	1.76551	17.7
2	-4.56429	809	1	1.45133	14.5
3	-4.06637	814	1	1.18492	11.8
4	-3.31329	822	1	0.86483	8.6
5	-2.83395	827	1	0.70871	7.1
6	-2.48075	830	1	0.61556	6.2
7	-2.19903	833	1	0.55380	5.5
8	-1.96275	835	1	0.51016	5.1
9	-1.75759	838	1	0.47798	4.8
10	-1.57489	839	1	0.45353	4.5
11	-1.40903	841	1	0.43451	4.3
12	-1.25619	843	1	0.41941	4.2

Raw Score	2022				
	Theta	Scale Score	Performance Level	CSEM	Scaled CSEM
13	-1.11368	844	1	0.40714	4.1
14	-0.97954	844	1	0.39690	4.0
15	-0.85231	847	2	0.38805	3.9
16	-0.73089	848	2	0.38010	3.8
17	-0.61443	849	2	0.37269	3.7
18	-0.50225	850	2	0.36559	3.7
19	-0.39379	851	2	0.35870	3.6
20	-0.28858	852	2	0.35206	3.5
21	-0.18619	853	2	0.34579	3.5
22	-0.08622	854	2	0.34002	3.4
23	0.01169	855	2	0.33491	3.3
24	0.10788	856	2	0.33052	3.3
25	0.20268	857	2	0.32691	3.3
26	0.29637	858	2	0.32404	3.2
27	0.38925	859	2	0.32186	3.2
28	0.48156	859	2	0.32031	3.2
29	0.57355	861	3	0.31931	3.2
30	0.66544	862	3	0.31883	3.2
31	0.75746	863	3	0.31885	3.2
32	0.84984	864	3	0.31935	3.2
33	0.94283	865	3	0.32037	3.2
34	1.03667	865	3	0.32194	3.2
35	1.13163	866	3	0.32408	3.2
36	1.22801	867	3	0.32686	3.3
37	1.32609	868	3	0.33030	3.3
38	1.42621	869	3	0.33444	3.3
39	1.52872	870	3	0.33932	3.4
40	1.63398	871	3	0.34497	3.4
41	1.74238	873	3	0.35139	3.5
42	1.85433	874	3	0.35862	3.6
43	1.97028	875	3	0.36666	3.7
44	2.09068	876	3	0.37551	3.8
45	2.21602	877	3	0.38517	3.9
46	2.34684	879	3	0.39565	4.0
47	2.48368	880	3	0.40696	4.1
48	2.62718	881	3	0.41910	4.2
49	2.77800	883	4	0.43207	4.3
50	2.93688	884	4	0.44579	4.5
51	3.10465	886	4	0.46010	4.6
52	3.28220	888	4	0.47475	4.7
53	3.47054	889	4	0.48948	4.9
54	3.53988	890	4	0.49469	4.9
55	3.53988	890	4	0.49469	4.9
56	3.53988	890	4	0.49469	4.9
57	3.53988	890	4	0.49469	4.9
58	3.53988	890	4	0.49469	4.9
59	3.53988	890	4	0.49469	4.9
60	3.53988	890	4	0.49469	4.9
61	3.53988	890	4	0.49469	4.9
62	3.53988	890	4	0.49469	4.9
63	3.53988	890	4	0.49469	4.9
64	3.53988	890	4	0.49469	4.9

Table L-33. Raw to Scaled Score Look-up Table—Science (Spanish Transadapted) Grade 11

Raw Score	Theta	Scale Score	2022 Performance Level	CSEM	Scaled CSEM
0	-8.02951	1100	1	5.75316	43.1
1	-6.86502	1108	1	3.78584	28.4
2	-5.70054	1117	1	2.41582	18.1
3	-4.53605	1126	1	1.49054	11.2
4	-3.50341	1133	1	0.94370	7.1
5	-2.95124	1138	1	0.73423	5.5
6	-2.57345	1140	1	0.61993	4.6
7	-2.28483	1143	1	0.54759	4.1
8	-2.04965	1144	1	0.49794	3.7
9	-1.84964	1146	1	0.46212	3.5
10	-1.67425	1147	1	0.43541	3.3
11	-1.51683	1148	1	0.41500	3.1
12	-1.37297	1149	1	0.39916	3.0
13	-1.23960	1150	1	0.38668	2.9
14	-1.11448	1151	1	0.37673	2.8
15	-0.99596	1152	1	0.36873	2.8
16	-0.88279	1153	1	0.36221	2.7
17	-0.77399	1153	1	0.35683	2.7
18	-0.66877	1155	2	0.35235	2.6
19	-0.56653	1155	2	0.34855	2.6
20	-0.46674	1156	2	0.34530	2.6
21	-0.36899	1157	2	0.34249	2.6
22	-0.27292	1158	2	0.34004	2.6
23	-0.17822	1158	2	0.33791	2.5
24	-0.08462	1159	2	0.33608	2.5
25	0.00812	1159	2	0.33454	2.5
26	0.10021	1160	3	0.33329	2.5
27	0.19188	1161	3	0.33237	2.5
28	0.28330	1162	3	0.33179	2.5
29	0.37468	1163	3	0.33159	2.5
30	0.46619	1163	3	0.33180	2.5
31	0.55802	1164	3	0.33244	2.5
32	0.65035	1165	3	0.33353	2.5
33	0.74336	1165	3	0.33507	2.5
34	0.83721	1166	3	0.33707	2.5
35	0.93206	1167	3	0.33950	2.5
36	1.02807	1167	3	0.34228	2.6
37	1.12537	1168	3	0.34533	2.6
38	1.22406	1169	3	0.34849	2.6
39	1.32423	1170	3	0.35155	2.6
40	1.42591	1170	3	0.35421	2.7
41	1.52911	1171	3	0.35616	2.7
42	1.63381	1172	3	0.35709	2.7
43	1.73995	1173	3	0.35686	2.7
44	1.84751	1174	3	0.35553	2.7
45	1.95648	1174	3	0.35355	2.7
46	2.06700	1175	3	0.35160	2.6
47	2.17934	1176	3	0.35058	2.6
48	2.29397	1177	3	0.35132	2.6
49	2.41157	1178	3	0.35451	2.7
50	2.53299	1179	3	0.36061	2.7

Raw Score	Theta	Scale Score	2022 Performance Level	CSEM	Scaled CSEM
51	2.65925	1180	3	0.36984	2.8
52	2.79149	1180	3	0.38226	2.9
53	2.93094	1182	4	0.39781	3.0
54	3.07898	1183	4	0.41639	3.1
55	3.23712	1184	4	0.43789	3.3
56	3.40709	1185	4	0.46223	3.5
57	3.59091	1187	4	0.48937	3.7
58	3.79101	1188	4	0.51940	3.9
59	4.01046	1189	4	0.55254	4.1
60	4.10383	1190	4	0.56667	4.3
61	4.10383	1190	4	0.56667	4.3
62	4.10383	1190	4	0.56667	4.3
63	4.10383	1190	4	0.56667	4.3
64	4.10383	1190	4	0.56667	4.3

APPENDIX—M
iMSSA 2021–22 TECHNICAL REPORT ADDENDUM

New Mexico Interim Measure of Student Success and Achievement

2021–22 Technical Report Addendum

1. Introduction

The Interim Measure of Student Success and Achievement (iMSSA) includes assessments in mathematics, reading, and language usage that are administered online to students in New Mexico in grades 3–8. Schools can administer up to three different, equivalent test forms, one per administration window, during the school year. The iMSSA is designed to measure student achievement against college- and career-readiness standards, such as the Common Core State Standards or similar frameworks, in the assessed content areas. These academic content and process standards express what students should know and be able to do in each grade and within each subject area.

The iMSSA provides point-in-time information about the academic achievement and progress of students. Student results are reported according to academic achievement descriptors using cut scores established in standard setting for each of three achievement levels: Needs Support, Near Target, and On Target. The results from these assessments provide educators with information to guide the creation and modification of future educational practices to meet the needs of students, their families, and educators by utilizing information about students' progress.

The iMSSA is not a required assessments in New Mexico, except for K5 Plus schools which were required to take these assessments.

This addendum builds upon the information provided in the Cognia Interim Assessments technical report. The intent of this document is to provide information specific to the administration of the iMSSA assessments in New Mexico in the 2021–2022 school year.

2. Administration and Participation

The iMSSA administration was broken into three windows:

  • Beginning-of-Year (BOY): August 16, 2021 – October 22, 2021
  • Middle-of-Year (MOY): December 6, 2021 – January 28, 2022
  • End-of-Year (EOY): April 4, 2022 – May 27, 2022

Each window is preceded by a time for schools and districts to upload student rosters to the iTester platform and schedule tests for administration. Reports are then delivered to educators in eMetric's Data Interaction Platform and to families using the Parent Portal.

The iMSSA assessments are computer-based only, with certain accommodations embedded into the platform. A list of available accommodations can be found in the New Mexico Assessments: Universal Tools, Accessibility Features, and Accommodations document.

2.1 Summary of iMSSA 2021–22 Administration

Table 1 provides a summary of the iMSSA administrations overall and by administration window (i.e., BOY, MOY, EOY). Appendix 1 provides the counts of students participating in iMSSA by school and district for each of the administration windows in the 2021–22 school year.

During the 2021–22 school year, valid responses to iMSSA were provided by a total of 51,424 students in Grades 3 through 8 from 303 schools in 71 districts across New Mexico. Generally, the number of participating students, schools, and districts increased across the year; at BOY there were approximately 6,700 to 7,800 students per grade while at EOY there were 7,000 to 8,400 students per grade.

Table 1. Summary of iMSSA 2021–22 Administration

		Overall	BOY	MOY	EOY
Counts	Students	51,424	43,733	46,722	46,372
	Tests	387,137	122,211	132,227	132,699
	Schools	303	277	303	287
	Districts	71	50	62	55
Grade	3	7,848	6,837	7,032	7,146
	4	7,737	6,768	7,128	7,080
	5	7,938	7,030	7,343	7,247
	6	9,216	7,775	8,315	8,293
	7	9,420	7,739	8,508	8,337
	8	9,285	7,587	8,396	8,269

3. Scale Scores

Scale scores are computed as linear transformations of student ability estimates resulting from responses to items on each of the mathematics, reading, and language usage test forms. Calculated separately for each grade and subject, these continuous scales are defined according to common properties and specifications, which allow for convenient interpretation of student performance and aggregation at the classroom, school, district, or state level. These scale scores are constructed similarly for each administration period, facilitating longitudinal examination and comparison of student performance.

Three-digit scale scores are presented for each subject area and specified according to parameters that facilitate interpretation of student performance within the current grade level:

- On Target cut points are located at the scale score where grade is in the hundreds place followed by 60;
- Lowest obtainable scale score (LOSS) is defined as 100 points below the On Target cut point; and
- Highest obtainable scale score (HOSS) is defined as 80 points above the On Target cut point.

3.1 Summary of iMSSA 2021–22 Scale Scores

Scale scores for the 2021–22 administration of iMSSA are summarized by subject, grade, and administration window in Table 2; box-and-whisker plots of corresponding student performance are presented in Figure 1.

Scale scores follow the monotonically increasing pattern defined by grade level with averages typically near but below the On Target cut point (e.g., 360 for Grade 3 test forms). In general, EOY averages demonstrate an increase over BOY averages; between administration windows, however, certain grade-

subject combinations demonstrate slight decreases from the prior administration window. For example, slight decreases between BOY and MOY are observed for Mathematics grades 5 to 8; slight decreases between MOY and EOY are observed for Mathematics grade 8, Reading grade 5, and Language Usage grades 7 and 8.

Table 2. Summary of Scale Scores* for iMSSA 2021−22

Subject	Grade	BOY	MOY	EOY
Mathematics	3	323.697 (20.53)*	335.553 (24.05)	346.450 (26.31)
	4	428.141 (23.77)	430.147 (24.95)	441.091 (26.99)
	5	536.783 (20.49)	531.678 (27.04)	540.483 (26.79)
	6	643.394 (19.68)	631.923 (29.62)	633.500 (30.64)
	7	736.753 (27.16)	733.246 (23.58)	735.822 (26.00)
	8	843.206 (17.76)	835.106 (21.85)	832.867 (29.17)
Reading	3	344.087 (20.50)	360.787 (28.99)	364.235 (34.67)
	4	446.569 (20.26)	461.438 (30.97)	462.065 (31.59)
	5	551.450 (19.33)	564.882 (29.65)	556.602 (36.33)
	6	648.042 (21.06)	656.828 (29.74)	657.810 (30.54)
	7	747.092 (23.43)	754.024 (29.75)	758.294 (32.03)
	8	849.712 (19.71)	852.974 (29.78)	852.550 (32.52)
Language Usage	3	340.515 (21.04)	360.160 (24.65)	364.923 (29.81)
	4	445.667 (23.33)	458.312 (27.71)	462.197 (27.78)
	5	550.232 (20.71)	557.249 (26.16)	557.878 (27.79)
	6	646.556 (20.85)	655.847 (27.51)	662.668 (25.55)
	7	747.619 (20.42)	762.954 (26.60)	760.000 (28.79)
	8	844.347 (17.23)	864.377 (25.65)	861.330 (28.05)

* Means; standard deviations in parentheses.

Figure 1. Scale Score Distributions for iMSSA 2021−22
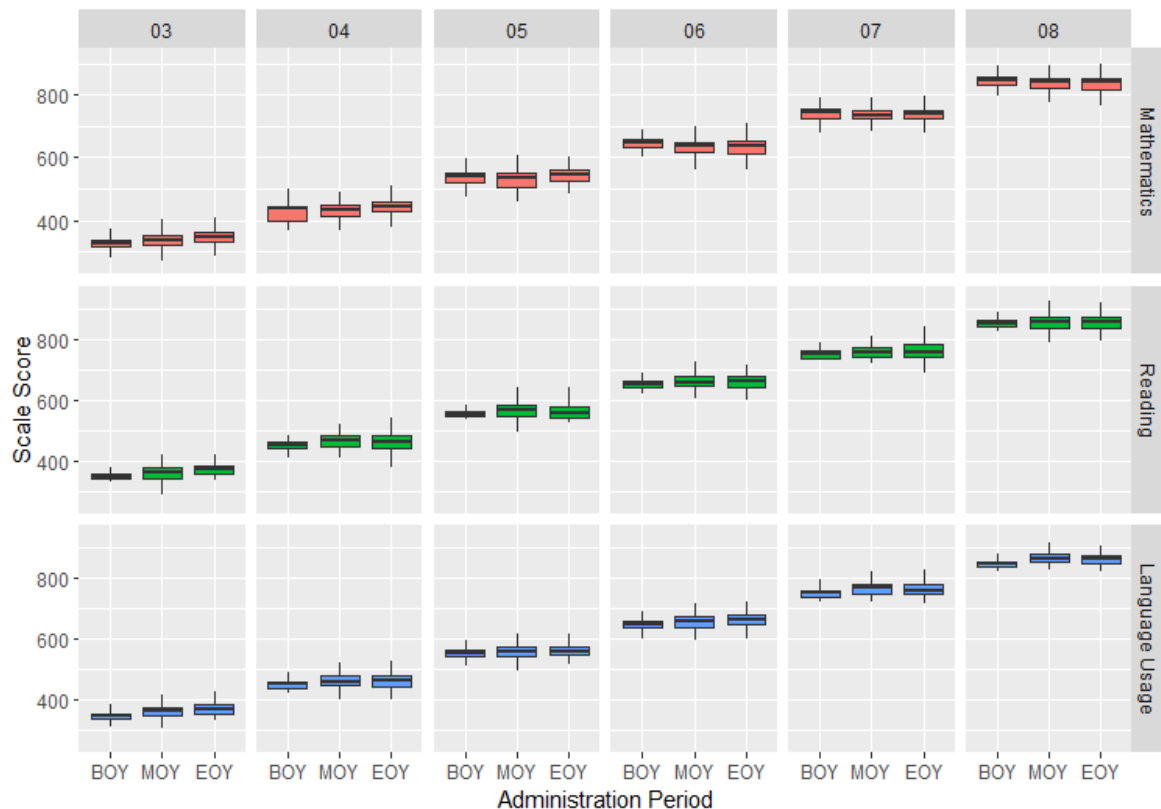
4. Achievement Levels

Overall achievement levels are ordered categories labeled as Needs Support, Near Target, and On Target. These categories indicate the degree to which students can demonstrate knowledge and skills based on end-of-grade expectations in each subject. The specific boundaries of each of these achievement levels are based on cut points that were established during standard setting; the On Target cut points are always located at the scale score beginning with the numeric grade value followed by 60 while the other two cut points were independently determined for each subject and grade.

4.1 Summary of iMSSA 2021–22 Achievement Levels

Table 3 summarizes the distributions of students across achievement levels and Figure 2 provides a visual summary.

Generally, the percentage of students categorized as Needs Support decreased across administration windows within the 2021–22 administration of iMSSA. These decreases were absorbed across the Near Target and On Target achievement levels, showing increased percentages in one or both.

- For mathematics, over two-thirds of all students were categorized as Needs Support at BOY while approximately one-tenth were categorized as On Target. By the end of the year, Needs Support decreased to about half of students while On Target increased to one-fifth of students.
- Distributions of achievement levels are similar between reading and language usage. One-quarter to one-half of students were categorized as Needs Support at BOY, decreasing to under one-third at EOY. The distribution of On Target students increased between BOY and EOY, representing typically one-fifth to over one-half of students.

Table 3. Summary of Achievement-Level Distributions for the iMSSA 2021–22 Administration

Subject	Grade	Needs Support			Near Target			On Target		
		BOY	MOY	EOY	BOY	MOY	EOY	BOY	MOY	EOY
Mathematics	3	85%	52%	36%	13%	34%	34%	2%	14%	30%
	4	77%	65%	43%	18%	26%	31%	4%	10%	25%
	5	52%	58%	42%	36%	26%	35%	12%	16%	23%
	6	49%	54%	54%	33%	34%	25%	18%	12%	21%
	7	36%	55%	49%	51%	33%	33%	13%	12%	17%
	8	59%	57%	56%	26%	32%	29%	14%	11%	15%
Reading	3	62%	25%	24%	22%	21%	9%	15%	54%	67%
	4	40%	22%	26%	40%	18%	19%	21%	61%	55%
	5	23%	19%	26%	43%	21%	24%	34%	60%	50%
	6	42%	24%	30%	33%	27%	17%	25%	49%	53%
	7	27%	24%	31%	47%	36%	21%	26%	40%	48%
	8	47%	31%	33%	24%	28%	24%	29%	41%	43%
Language Usage	3	56%	39%	26%	28%	10%	7%	16%	51%	67%
	4	47%	31%	26%	26%	22%	19%	27%	47%	55%
	5	29%	20%	23%	37%	30%	31%	34%	49%	47%
	6	27%	19%	10%	50%	34%	36%	22%	47%	54%
	7	38%	19%	21%	32%	22%	29%	30%	59%	50%
	8	28%	18%	22%	58%	19%	26%	14%	63%	52%

Figure 2. Distribution of Achievement Levels for the iMSSA 2021−22 Administration
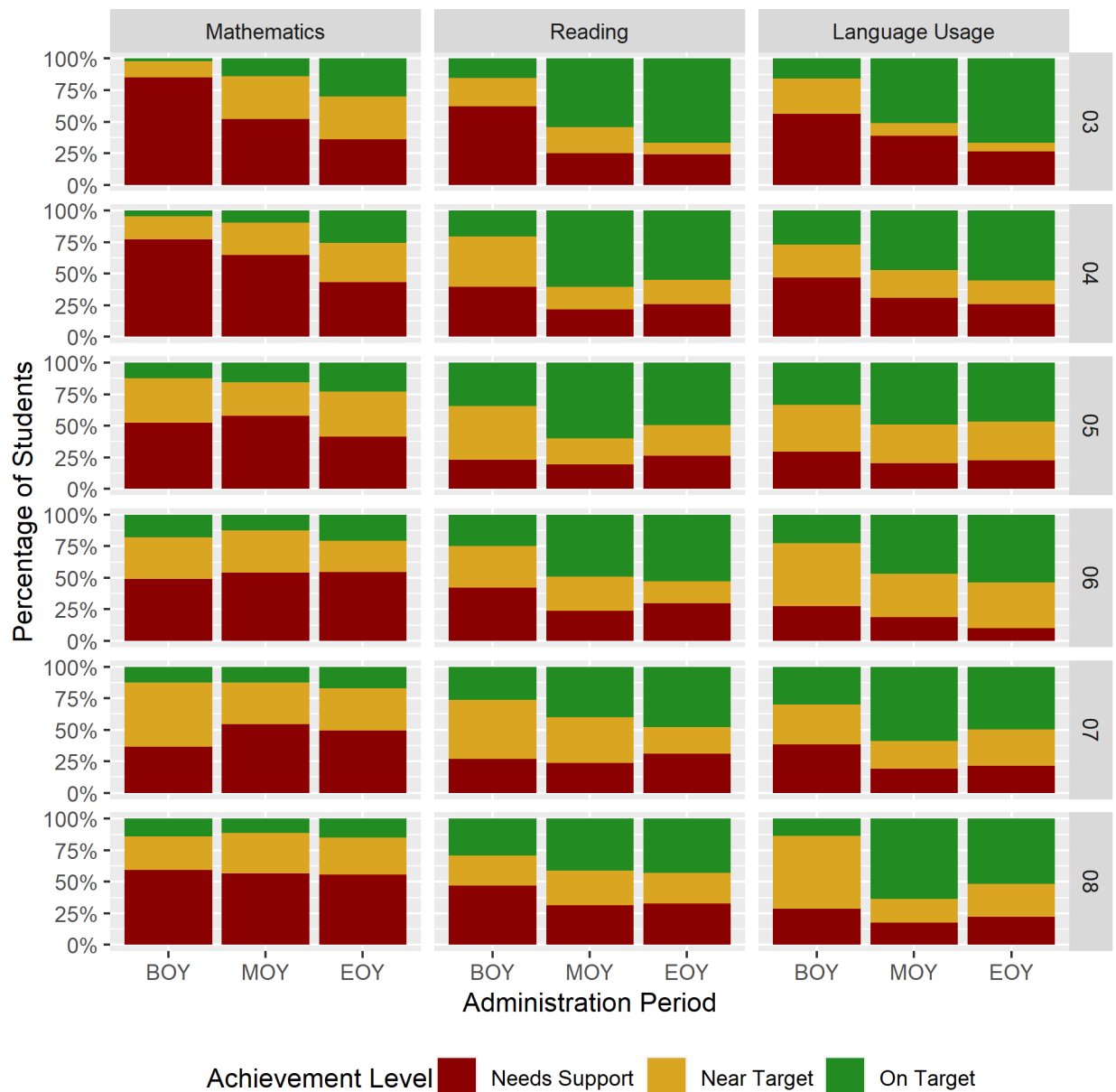
5. Differential Validity

For an interim testing program, it is important to examine differences in student performance that may result from construct-irrelevant factors (see *Standards for Educational and Psychological Testing[1]*). In addition to item and test design activities intended to limit the bias of any specific test content, statistical analyses of the results are conducted to evaluate potential impact of such factors. The degree to which

[1] *American Educational Research Association, American Psychological Association, & National Council on Measurement in Education. (2014). Standards for educational and psychological testing. Washington, DC: American Educational Research Association.*

student performance differs as a function of identification of student subgroup is referred to as Differential Validity.

5.1 Summary of iMSSA 2021–22 Differential Validity

Student subgroup identification provided by the New Mexico Public Education Department is considered in differential validity analysis as follows:

- Gender: Female, Male, Unknown
- Hispanic: Yes, No
- Race: Asian, Black, Caucasian/White, Native Hawaiian/Other Pacific Islander, American Indian/Alaska Native, Multi-race
- English Learner status: Initially Fluent English Proficient – Student never EL, Current EL Student, Reclassified Fluent English Proficient-exited Year 1, Reclassified Fluent English Proficient- exited Year 2, Reclassified Fluent English Proficient – exited Year 3, Reclassified Fluent English Proficient – exited Year 4, Reclassified Fluent English Proficient – exited Year 5
- Special Education / Individualized Education Plan, Bilingual Education, Migrant, Economically Disadvantaged, Homeless, Military, Foster Care, 504 Plan, Title 1, or Homeschool status: Yes, No, Unknown for all.

Student membership in each of the identified subgroups is summarized in Table 4.

Table 4. Summary of Student Subgroups for the iMSSA 2021–22 Administration

Subgroup	Description	Overall	BOY	MOY	EOY
Overall		51,424	43,733	46,722	46,372
Gender	Female	50%	50%	50%	50%
	Male	50%	50%	50%	50%
	Unknown	*	*	*	*
Ethnicity / Race	Hispanic	58%	59%	58%	58%
	American Indian / Alaska Native	14%	14%	14%	14%
	Asian	2%	2%	2%	2%
	Black / African American	3%	3%	3%	3%
	Native Hawaiian / Other Pacific Islander	1%	1%	1%	1%
	Caucasian / White	80%	80%	80%	80%
ELL	Initially Fluent English Proficient – Student never EL	81%	81%	81%	81%
	Current EL Student	17%	17%	17%	17%
	Reclassified Fluent English Proficient – exited Year 1	1%	1%	1%	1%
	Reclassified Fluent English Proficient – exited Year 2	1%	1%	1%	1%
	Reclassified Fluent English Proficient – exited Year 3	< 1%	< 1%	< 1%	< 1%
	Reclassified Fluent English Proficient – exited Year 4	< 1%	< 1%	< 1%	< 1%
	Reclassified Fluent English Proficient – exited Year 5	< 1%	< 1%	< 1%	< 1%
Demographics	Bilingual Education	12%	11%	12%	12%
	Economically Disadvantaged	42%	42%	43%	42%
	Foster Care	*	*	*	*
	Homeless	1%	1%	1%	1%
	Homeschool	*	*	*	*
	Special Education / Individualized Education Plan	12%	12%	12%	13%
	Migrant	< 1%	< 1%	< 1%	< 1%
	Military	1%	1%	1%	2%
	504 Plan	1%	1%	1%	1%
	Title 1	34%	34%	33%	34%

* Results suppressed due to failure to meet minimum reporting threshold n > 20 students.

For each of the 54 iMSSA test forms (i.e., three subjects, six grades, three administration windows) and the 18 student subgroups to be evaluated for each test, there is the very likely potential for inflation of

Type I error; significant effects of subgroup on student performance may be spuriously identified given the large number of calculations conducted. Meaningful statistical results are therefore presented according to effect size calculations produced from regressing student scale scores on each subgroup. These effect sizes are calculated as η^2 and indicate the variability in student scale scores that may be attributed to a student subgroup. Guidelines exist to facilitate the interpretation of effect sizes[2]:

- Very small effect size: $\eta^2 < 0.02$;
- Small effect size: $0.02 \leq \eta^2 < 0.13$;
- Medium effect size: $0.13 \leq \eta^2 < 0.26$; and
- Large effect size: $\eta^2 \geq 0.26$.

Evaluation of differential validity yielded no medium or large effect sizes ($\eta^2 \geq 0.13$) for any of the student subgroups participating in the 2021–22 administration of iMSSA, which would have suggested closer inspection of specific results and test content. Small effect sizes ($0.02 \leq \eta^2 < 0.13$) are demonstrated only for the Hispanic, American Indian / Alaskan Native, Special Education / Individualized Education Plan, Economically Disadvantaged, and English Learner student subgroups across any of the subjects, grades, and administration windows.

Scale scores are presented in Appendix 2 to demonstrate differential validity results of subgroups with small effect sizes for mathematics, reading, and language usage tests by grade and administration window. For example, in grade 5 Mathematics administered at EOY, students identified as Hispanic demonstrate lower average scale scores (537.093) compared to non-Hispanic students (544.832).

Some trends that appear in these results:

- Students identified as *Hispanic* demonstrate lower average scale scores than non-Hispanic students for all subjects and grades.
- Students identified as *American Indian / Alaskan Native* demonstrate lower average scale scores than other students. One or more administrations in all grades and subjects show evidence of differential validity for this student subgroup.
- In all instances where *English Learners* demonstrate small effect sizes, Current English Learners demonstrate lower average scale scores than all other students except in Mathematics grade 6 EOY and Language Usage grade 5 BOY.
- Students identified as *Special Education / Individualized Education Plans* demonstrate lower average scale scores than all other students in all subjects and grades.
- Generally, the effect sizes increase across *administration windows*, from BOY to EOY, as differences between average scale scores increase between student subgroups.

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2 Cohen, J. (1992). A power primer. Psychological bulletin, 112(1), 155.

Appendix 1

Table 1.1. School and District Participation Results for the 2021–22 iMSSA Administration

District Code	School Code	Parent Organization Name	Organization Name	Enrolled (N)*	BOY	MOY	EOY
001	047	Albuquerque Public Schools	Public Academy for Performing Arts (PAPA)	212	200	204	189
001	051	Albuquerque Public Schools	Robert F. Kennedy Charter School	84	85	86	68
001	118	Albuquerque Public Schools	Christine Duncan's Heritage Academy	243	230	239	234
001	216	Albuquerque Public Schools	Atrisco Elementary	132	118	113	112
001	255	Albuquerque Public Schools	Emerson Elementary	170	165	143	164
001	333	Albuquerque Public Schools	Pajarito Elementary	130	124	117	118
001	781	Albuquerque Public Schools	The International School at Mesa Del Sol	167	174	173	170
002	135	Reserve Public Schools	Reserve Elementary	28	26	27	25
002	136	Reserve Public Schools	Reserve High	18	15	16	15
004	009	Roswell Independent Schools	Sidney Gutierrez Charter Middle School	130	130	129	131
004	024	Roswell Independent Schools	Berrendo Elementary	181	158	163	166
004	025	Roswell Independent Schools	Berrendo Middle	665	652	675	680
004	036	Roswell Independent Schools	Mountain View Middle	531	478	487	485
004	041	Roswell Independent Schools	Del Norte Elementary	267	244	244	248
004	042	Roswell Independent Schools	Mesa Middle	408	401	380	392
004	044	Roswell Independent Schools	East Grand Plains Elementary	116	109	121	120
004	050	Roswell Independent Schools	El Capitan Elementary	188	184	182	186
004	052	Roswell Independent Schools	Nancy Lopez Elementary	78	113	106	103
004	095	Roswell Independent Schools	Military Heights Elementary	185	168	167	165
004	100	Roswell Independent Schools	Missouri Avenue Elementary	132	124	134	136
004	105	Roswell Independent Schools	Monterrey Elementary	205	229	230	234
004	120	Roswell Independent Schools	Sunset Elementary	112	125	121	126
004	125	Roswell Independent Schools	Sierra Middle	648	576	609	602
004	126	Roswell Independent Schools	Pecos Elementary	136	147	138	143
004	161	Roswell Independent Schools	Valley View Elementary	233	241	237	241
007	073	Lake Arthur Municipal Schools	Lake Arthur Elementary	20	**	17	19

District Code	School Code	Parent Organization Name	Organization Name	Enrolled (N)*	BOY	MOY	EOY
007	077	Lake Arthur Municipal Schools	Lake Arthur Middle	37	**	26	32
010	058	Springer Municipal Schools	Wilferth Elementary	30	36	36	34
012	040	Clovis Municipal Schools	Barry Elementary	135	143	142	144
012	042	Clovis Municipal Schools	Arts Academy At Bella Vista	166	138	137	140
012	058	Clovis Municipal Schools	Highland Elementary	142	113	113	117
012	066	Clovis Municipal Schools	James Bickley Elementary	144	126	125	123
012	068	Clovis Municipal Schools	Cameo Elementary	118	109	111	113
012	072	Clovis Municipal Schools	La Casita Elementary	111	115	107	108
012	081	Clovis Municipal Schools	CMS IAcademy AT Lincoln Jackson	73	87	89	102
012	084	Clovis Municipal Schools	Lockwood Elementary	157	124	107	130
012	091	Clovis Municipal Schools	Marshall Middle	519	521	496	491
012	095	Clovis Municipal Schools	Mesa Elementary	204	196	194	195
012	098	Clovis Municipal Schools	Yucca Middle	597	515	500	529
012	122	Clovis Municipal Schools	Parkview Elementary	212	175	187	175
012	145	Clovis Municipal Schools	Sandia Elementary	158	174	164	159
012	155	Clovis Municipal Schools	Zia Elementary	165	178	175	182
012	156	Clovis Municipal Schools	Gattis Middle School	551	498	579	577
013	161	Texico Municipal Schools	Texico Elementary	113	111	115	119
013	163	Texico Municipal Schools	Texico Middle	122	131	134	132
016	051	Fort Sumner Municipal Schools	Fort Sumner Elementary	54	54	56	58
016	060	Fort Sumner Municipal Schools	Fort Sumner Middle	90	64	69	69
017	002	Las Cruces Public Schools	Camino Real Middle School	960	908	764	875
017	007	Las Cruces Public Schools	Sonoma Elementary School	362	349	356	368
017	015	Las Cruces Public Schools	Mesa Middle School	812	723	715	718
017	017	Las Cruces Public Schools	Mesilla Valley Leadership Academy Middle School	103	86	94	90
017	034	Las Cruces Public Schools	Central Elementary School	89	85	88	89
017	035	Las Cruces Public Schools	Picacho Middle School	738	706	688	666
017	036	Las Cruces Public Schools	Conlee Elementary School	186	166	163	164
017	044	Las Cruces Public Schools	East Picacho Elementary School	238	208	211	214
017	045	Las Cruces Public Schools	Desert Hills Elementary School	302	276	277	281
017	048	Las Cruces Public Schools	Doña Ana Elementary School	182	134	139	151
017	051	Las Cruces Public Schools	Fairacres Elementary School	225	212	215	214
017	055	Las Cruces Public Schools	Hillrise Elementary School	218	209	219	223

District Code	School Code	Parent Organization Name	Organization Name	Enrolled (N)*	BOY	MOY	EOY
017	086	Las Cruces Public Schools	Lynn Middle School	544	516	524	533
017	097	Las Cruces Public Schools	Mesilla Elementary School	109	104	106	105
017	110	Las Cruces Public Schools	Mesilla Park Elementary School	167	133	162	160
017	140	Las Cruces Public Schools	Sunrise Elementary School	353	196	192	212
017	144	Las Cruces Public Schools	Sierra Middle School	783	770	745	735
017	145	Las Cruces Public Schools	Tombaugh Elementary School	277	234	238	241
017	150	Las Cruces Public Schools	University Hills Elementary School	150	128	136	129
017	170	Las Cruces Public Schools	Vista Middle School	604	599	601	600
017	177	Las Cruces Public Schools	White Sands School	186	166	172	178
017	184	Las Cruces Public Schools	Zia Middle School	677	618	609	610
018	001	Hatch Valley Municipal Schools	Rio Grande Elementary	237	242	247	253
018	050	Hatch Valley Municipal Schools	Hatch Valley Middle	260	279	274	260
019	017	Gadsden Independent Schools	Gadsden Elementary	256	234	225	229
019	025	Gadsden Independent Schools	Yucca Heights Elementary	288	370	342	391
019	120	Gadsden Independent Schools	North Valley Elementary	171	162	154	168
022	001	Artesia Public Schools	Yeso Elementary	486	262	272	274
022	032	Artesia Public Schools	Central Elementary	143	68	65	67
022	056	Artesia Public Schools	Hermosa Elementary	295	139	146	146
022	128	Artesia Public Schools	Penasco Elementary	15	12	12	12
022	139	Artesia Public Schools	Roselawn Elementary	184	109	109	110
022	183	Artesia Public Schools	Yucca Elementary	348	182	185	199
022	187	Artesia Public Schools	Artesia Park Junior High	601	273	259	266
022	189	Artesia Public Schools	Artesia Zia Intermediate	562	540	524	510
024	023	Cobre Consolidated Schools	Bayard Elementary	71	80	80	81
024	033	Cobre Consolidated Schools	Central Elementary	64	75	77	78
024	059	Cobre Consolidated Schools	Hurley Elementary	59	48	46	48
024	143	Cobre Consolidated Schools	San Lorenzo Elementary	28	27	25	28
035	090	Tatum Municipal Schools	Tatum Junior High	54	40	45	45
035	162	Tatum Municipal Schools	Tatum Elementary	80	93	50	48
036	130	Ruidoso Municipal Schools	Ruidoso Middle School	410	419	415	407
036	160	Ruidoso Municipal Schools	White Mountain Elementary School	382	344	344	351
037	035	Carrizozo Municipal Schools	Carrizozo Elementary	33	25	22	22
037	157	Carrizozo Municipal Schools	Carrizozo Middle	31	38	37	38

District Code	School Code	Parent Organization Name	Organization Name	Enrolled (N)*	BOY	MOY	EOY
041	017	Los Alamos Public Schools	Aspen	411	238	241	240
041	021	Los Alamos Public Schools	Barranca Mesa Elementary	378	218	219	219
041	040	Los Alamos Public Schools	Chamisa Elementary	308	163	166	164
041	101	Los Alamos Public Schools	Mountain Elementary School	396	222	229	226
041	124	Los Alamos Public Schools	Los Alamos Middle School	618	588	586	564
041	127	Los Alamos Public Schools	Pinon Elementary	296	164	160	164
044	104	Mora Independent Schools	Mora Elementary	98	86	84	**
046	003	Alamogordo Public Schools	Mountain View Middle	499	487	465	470
046	028	Alamogordo Public Schools	Buena Vista Elementary	104	101	106	107
046	033	Alamogordo Public Schools	Chaparral Middle	618	568	548	576
046	037	Alamogordo Public Schools	Holloman Middle	191	174	174	161
046	056	Alamogordo Public Schools	Sunset Hills Elementary	223	198	210	204
046	057	Alamogordo Public Schools	High Rolls Mountain Park Elementary	9	8	11	10
046	058	Alamogordo Public Schools	Holloman Elementary	231	184	184	182
046	072	Alamogordo Public Schools	La Luz Elementary	119	94	102	108
046	114	Alamogordo Public Schools	North Elementary	91	93	94	96
046	144	Alamogordo Public Schools	Desert Star Elementary	206	250	250	253
046	150	Alamogordo Public Schools	Sierra Elementary	149	136	151	149
046	181	Alamogordo Public Schools	Yucca Elementary	117	118	116	121
047	160	Tularosa Municipal Schools	Tularosa Intermediate School	254	226	237	237
047	164	Tularosa Municipal Schools	Tularosa Middle	144	129	132	131
048	038	Cloudcroft Municipal Schools	Cloudcroft Elementary	81	80	78	74
048	042	Cloudcroft Municipal Schools	Cloudcroft Middle	110	95	88	87
054	044	Dulce Independent Schools	Dulce Elementary	132	110	126	129
054	050	Dulce Independent Schools	Dulce Middle	139	115	120	112
061	016	Bernalillo Public Schools	Algodones Elementary	126	60	61	62
061	020	Bernalillo Public Schools	Cochiti Elementary	159	70	53	72
061	024	Bernalillo Public Schools	Cochiti Middle	87	62	56	68
061	026	Bernalillo Public Schools	Bernalillo Middle	447	369	378	383
061	028	Bernalillo Public Schools	Santo Domingo Middle	97	79	47	83
061	127	Bernalillo Public Schools	Placitas Elementary	109	57	59	59
061	136	Bernalillo Public Schools	Bernalillo Elementary	322	253	243	250
061	151	Bernalillo Public Schools	Santo Domingo Elementary	210	75	53	111

District Code	School Code	Parent Organization Name	Organization Name	Enrolled (N)*	BOY	MOY	EOY
064	001	Aztec Municipal Schools	Mosaic Academy	118	**	115	**
064	017	Aztec Municipal Schools	C.V. Koogler Middle	538	**	483	500
064	099	Aztec Municipal Schools	McCoy Avenue Elementary	84	**	87	92
064	123	Aztec Municipal Schools	Park Avenue Elementary	344	**	304	312
064	136	Aztec Municipal Schools	Lydia Rippey Elementary	68	**	76	81
065	015	Farmington Municipal Schools District #5	Animas Elementary School	196	166	160	169
065	017	Farmington Municipal Schools District #5	Apache Elementary School	211	215	209	211
065	019	Farmington Municipal Schools District #5	Bluffview Elementary School	178	192	190	193
065	037	Farmington Municipal Schools District #5	Country Club Elementary School	265	247	243	249
065	038	Farmington Municipal Schools District #5	Esperanza Elementary School	233	223	218	231
065	058	Farmington Municipal Schools District #5	Hermosa Middle School	619	600	620	625
065	059	Farmington Municipal Schools District #5	Heights Middle School	713	675	670	673
065	073	Farmington Municipal Schools District #5	Ladera Del Norte Elementary	283	255	259	268
065	095	Farmington Municipal Schools District #5	McCormick Elementary School	201	179	173	185
065	100	Farmington Municipal Schools District #5	McKinley Elementary School	191	222	226	226
065	106	Farmington Municipal Schools District #5	Mesa Verde Elementary School	199	216	211	213
065	108	Farmington Municipal Schools District #5	Mesa View Middle School	515	530	526	541
065	118	Farmington Municipal Schools District #5	Northeast Elementary School	246	234	236	239
065	162	Farmington Municipal Schools District #5	Tibbetts Middle School	648	610	647	626
067	026	Central Consolidated Schools	Eva B. Stokely Elementary	112	82	95	102
067	034	Central Consolidated Schools	Kirtland Middle	440	405	424	416
067	038	Central Consolidated Schools	Kirtland Elementary	214	200	213	213
067	060	Central Consolidated Schools	Judy Nelson Elementary	319	295	299	302
067	075	Central Consolidated Schools	Ojo Amarillo Elementary	165	128	161	165
067	110	Central Consolidated Schools	Mesa Elementary	152	108	122	126
067	114	Central Consolidated Schools	Naschitti Elementary	30	34	35	36
067	116	Central Consolidated Schools	Newcomb Elementary	88	79	95	89
067	126	Central Consolidated Schools	Newcomb Middle	180	134	172	162
067	152	Central Consolidated Schools	Nizhoni Elementary	162	124	151	161
067	160	Central Consolidated Schools	Tse'Bit'Ai Middle	448	334	357	348
068	068	West Las Vegas Public Schools	Valley Middle	29	20	23	23
068	172	West Las Vegas Public Schools	West Las Vegas Middle	310	**	279	284
071	005	Santa Fe Public Schools	Cesar Chavez Elementary	167	166	164	169

District Code	School Code	Parent Organization Name	Organization Name	Enrolled (N)*	BOY	MOY	EOY
071	008	Santa Fe Public Schools	Acequia Madre Elementary	96	99	95	93
071	011	Santa Fe Public Schools	El Camino Real Academy Community	515	484	451	485
071	012	Santa Fe Public Schools	Academy at Larragoite	155	103	125	149
071	022	Santa Fe Public Schools	Carlos Gilbert Elementary	194	192	191	184
071	023	Santa Fe Public Schools	Ramirez Thomas Elementary	203	211	204	209
071	024	Santa Fe Public Schools	Academy For Tech & The Classics-ATC	153	142	145	**
071	033	Santa Fe Public Schools	Atalaya Elementary	163	149	148	148
071	054	Santa Fe Public Schools	Aspen Community School	231	224	223	228
071	057	Santa Fe Public Schools	Gonzales Elementary	228	244	229	222
071	070	Santa Fe Public Schools	Kearny Elementary	193	184	179	174
071	099	Santa Fe Public Schools	E.J. Martinez Elementary	91	101	98	94
071	100	Santa Fe Public Schools	Pinon Elementary	297	269	273	274
071	110	Santa Fe Public Schools	Edward Ortiz Middle	495	464	439	456
071	130	Santa Fe Public Schools	R.M. Sweeney Elementary	147	143	144	152
071	135	Santa Fe Public Schools	El Dorado Community School	296	296	296	282
071	141	Santa Fe Public Schools	Amy Biehl at Rancho Viejo Community School	199	194	193	194
071	143	Santa Fe Public Schools	Salazar Elementary	116	110	108	110
071	145	Santa Fe Public Schools	Francis X. Nava Elementary	96	90	86	85
071	146	Santa Fe Public Schools	Chaparral Elementary	125	121	120	124
071	160	Santa Fe Public Schools	Tesuque Elementary	44	40	37	39
071	170	Santa Fe Public Schools	Nina Otero	462	442	435	416
071	173	Santa Fe Public Schools	Mandela International Magnet School	123	123	122	121
071	176	Santa Fe Public Schools	Wood-Gormley Elementary	181	171	171	171
071	189	Santa Fe Public Schools	Milagro Middle	487	407	410	397
073	016	Truth Or Consequences Schools	Arrey Elementary	42	41	**	**
073	060	Truth Or Consequences Schools	Sierra Elementary	145	130	117	**
073	063	Truth Or Consequences Schools	T Or C Middle	295	292	**	**
073	162	Truth Or Consequences Schools	T Or C Elementary	87	59	50	**
074	001	Socorro Consolidated Schools	Parkview Elementary	334	174	164	176
074	079	Socorro Consolidated Schools	Midway Elementary	104	36	36	37
074	144	Socorro Consolidated Schools	San Antonio Elementary	68	37	32	31
074	155	Socorro Consolidated Schools	Raymond Sarracino Middle School	271	259	242	247
075	100	Magdalena Municipal Schools	Magdalena Middle	71	71	71	69

District Code	School Code	Parent Organization Name	Organization Name	Enrolled (N)*	BOY	MOY	EOY
075	133	Magdalena Municipal Schools	Magdalena Elementary	58	53	54	50
081	003	Moriarty-Edgewood Municipal Schools	Edgewood Middle	291	**	285	284
081	102	Moriarty-Edgewood Municipal Schools	Moriarty Middle	260	**	196	204
088	038	Grants/Cibola County Schools	Cubero Elementary	116	117	107	119
088	056	Grants/Cibola County Schools	Los Alamitos Middle	441	**	387	418
088	058	Grants/Cibola County Schools	Laguna-Acoma Middle	32	**	36	38
088	099	Grants/Cibola County Schools	Mesa View Elementary	241	231	225	228
088	104	Grants/Cibola County Schools	Milan Elementary	254	228	220	223
088	106	Grants/Cibola County Schools	Mount Taylor Elementary	258	234	231	235
088	152	Grants/Cibola County Schools	San Rafael Elementary	28	31	32	30
088	155	Grants/Cibola County Schools	Seboyeta Elementary	22	17	16	16
088	915	Grants/Cibola County Schools	Bluewater Elementary	45	42	41	45
528	001	Albuquerque Bilingual Academy	La Promesa Early Learning Center Charter School	284	229	237	243
557	001	Explore Academy Charter School	Explore Academy Charter School	513	443	414	416
579	001	ACES Technical Charter School	ACES Technical Charter School	64	**	61	**

Enrollment counts based on preliminary Pre-ID data for participating schools and districts.
*** Participation percentages cannot be calculated or no enrollment data available.*

Appendix 2

Table 2.1. Differential Validity for the Hispanic Subgroup on the 2021−22 iMSSA Administration

Subject	Grade	Window	No	Yes
Mathematics	5	EOY	544.832	537.093
	6	MOY	637.080	628.257
	6	EOY	639.444	629.318
	8	BOY	846.503	840.983
	8	MOY	839.193	832.081
	8	EOY	837.730	829.320
Reading	6	MOY	662.213	652.947
	6	EOY	662.997	654.158
	7	MOY	759.257	750.230
	8	MOY	858.460	848.854
	8	EOY	858.597	848.045
Language Usage	6	MOY	660.716	652.365
	6	EOY	667.513	659.262
	7	BOY	751.391	745.130
	8	BOY	847.906	841.900
	8	MOY	869.111	860.857
	8	EOY	866.073	857.799

Table 2.2. Differential Validity for the American Indian / Alaskan Native Subgroup on the 2021−22 iMSSA Administration

Subject	Grade	Window	Unknown	No	Yes
Mathematics	3	BOY	327.434	324.311	319.907
	3	MOY	337.238	337.124	327.515
	3	EOY	349.018	348.122	337.816
	4	BOY	432.007	429.164	421.774
	4	MOY	435.774	431.434	422.324
	4	EOY	445.091	442.796	431.946
	5	MOY	534.15	532.929	524.435
	5	EOY	543.218	541.948	532.368
	6	BOY	641.426	644.039	639.12
	6	MOY	629.752	633.11	623.979
	6	EOY	637.368	634.809	623.944
	7	MOY	738.837	734.192	726.49
	7	EOY	738.168	737.13	726.969
	8	BOY	845.255	843.712	839.367
	8	MOY	835.746	835.793	830.548
	8	EOY	837.422	833.987	825.308
Reading	3	BOY	347.636	344.876	338.864
	3	MOY	361.781	362.235	352.336
	3	EOY	369.106	365.627	356.009
	4	BOY	448.544	447.459	440.673
	4	MOY	461.778	463.015	452.032
	4	EOY	464.06	463.88	451.826
	5	BOY	552.667	552.203	546.452
	5	MOY	565.455	566.364	555.74
	5	EOY	559.022	558.329	545.902
	6	BOY	646.379	648.945	641.984
	6	MOY	655.579	658.283	647.13
	6	EOY	661.748	659.198	647.705
	7	BOY	751.259	747.992	740.389
	7	MOY	754.711	755.296	745.689
	7	EOY	762.262	759.907	747.391
	8	MOY	857.078	854.116	845.268
	8	EOY	857.881	853.394	846.766
Language Usage	3	MOY	365.407	361.03	354.622
	3	EOY	366.033	366.494	356.244
	4	BOY	447.2	446.511	440.108
	4	MOY	460.208	459.888	448.668
	4	EOY	462.672	463.816	453.144
	5	BOY	549.971	551.066	544.82
	5	MOY	558.178	558.648	548.558
	5	EOY	559.565	559.366	548.883
	6	BOY	649.388	647.374	640.659
	6	MOY	656.179	657.186	646.813
	6	EOY	665.588	663.687	655.339
	7	BOY	751.713	748.438	741.508
	7	MOY	765.302	764.146	754.905
	7	EOY	764.126	761.614	749.151
	8	BOY	848.595	844.809	840.614
	8	EOY	867.876	862.171	855.484

Table 2.3. Differential Validity for the English Learner Subgroup on the 2021–22 iMSSA Administration

Subject	Grade	Window	0**	1	2	3	4	5	6
Mathematics	4	EOY	443.586	431.374	452.375	457.077	456.875	454	*
	5	MOY	533.737	522.309	549.615	552.931	552	557.2	545
	5	EOY	542.878	530.279	555.583	564.719	562.25	559.667	548.333
	6	MOY	634.225	618.816	644.824	645.114	643.667	624.071	645
	6	EOY	635.998	620.186	645.112	645.341	646.704	620.094	645.036
	7	MOY	735.106	722.426	734.76	733.392	738.109	727.113	741.417
	7	EOY	737.865	723.733	738.11	741.645	741.984	732.344	746.054
Reading	4	BOY	448.2	438.975	457	455.714	453.833	457.2	*
	4	EOY	464.964	449.115	481.667	487.923	470.3	479.833	*
	5	BOY	552.995	544.23	569.318	567.37	561.143	555.889	559
	5	MOY	567.788	551.523	582.75	584.676	587.4	592.2	560
	5	EOY	559.897	541.675	587.467	583.806	583.4	570.333	562.333
	6	BOY	649.74	638.508	658.223	656.831	658.217	646.886	652.069
	6	MOY	659.533	641.366	669.596	670.63	669	651.643	665.143
	6	EOY	660.88	641.108	669.295	671.133	671.111	655.212	662.815
	7	BOY	749.211	734.474	752.767	751.5	752.246	741.448	757
	7	MOY	756.787	736.139	762.356	760.623	761.094	753.796	766.343
	7	EOY	761.167	740.347	766.317	767.87	770.306	755.689	772.289
	8	BOY	850.967	840.037	852.959	855.806	857.359	854.571	858.1
	8	MOY	855.368	835.392	862.545	861.553	864.474	855.981	865.957
	8	EOY	854.65	837.378	864.065	866.643	859.648	858.582	863.905
Language Usage	3	EOY	367.463	352.342	376	389.375	366.2	*	*
	4	MOY	460.8	446.512	472.5	477.786	464.5	468	*
	4	EOY	464.613	451.336	478.375	488.308	471.5	478.5	*
	5	BOY	552.16	541.258	566.091	564.889	558.333	563.5	540
	5	MOY	559.634	545.887	571	579.6	575	577.4	569.333
	5	EOY	560.691	545.113	583.533	578.75	592	567.5	569.5
	6	BOY	648.353	636.376	655.563	659.175	654.636	643.971	647.96
	6	MOY	658.348	641.261	665.416	670.949	663.286	657.333	664.652
	6	EOY	664.932	649.915	672.067	675.512	673.481	661.121	676.913
	7	BOY	749.657	735.463	753.802	750.129	755.39	742.246	756.138
	7	MOY	765.26	747.363	772.589	768.685	772.726	759.891	776.057
	7	EOY	762.676	743.135	771.884	769.703	766.817	757.475	770.946
	8	BOY	845.602	835.259	845.875	849.354	848.065	850.173	851.146
	8	MOY	866.091	851.769	871.628	870.821	869.233	869.039	872.889
	8	EOY	863.362	847.004	871.646	870.683	867.6	866.333	871.967

Results suppressed due to failure to meet minimum reporting threshold n > 20 students.
** English Learner status: Unknown, 0 = Initially Fluent English Proficient – Student never EL, 1 = Current EL Student, 2 through 6 = Reclassified Fluent English Proficient – exited Year 1 through 5, respectively.

Table 2.4. Differential Validity for the Special Education / Individualized Education Plan Subgroup on the 2021–22 iMSSA Administration

Subject	Grade	Window	Unknown / Blank	No / 0	Yes / 1
Mathematics	3	EOY	347.042	348.968	334.256
	4	MOY	432.93	431.942	419.042
	4	EOY	443.007	443.228	429.559
	5	MOY	537.759	532.975	521.55
	5	EOY	541.451	542.51	530.522
	7	EOY	734.444	738.19	727.26
Reading	3	MOY	363.003	362.572	347.535
	3	EOY	367.477	366.517	347.702
	4	BOY	449.263	447.651	436.357
	4	MOY	467.711	463.171	444.14
	4	EOY	465.133	464.812	444.684
	5	BOY	553.569	552.697	541.601
	5	MOY	568.63	566.837	549.972
	5	EOY	559.672	559.326	539.255
	6	BOY	647.144	649.845	637.82
	6	MOY	656.497	659.264	642.341
	6	EOY	657.773	660.819	641.192
	7	BOY	747.423	748.741	737.098
	7	MOY	753.136	756.463	742.22
	7	EOY	756.145	762.193	744.144
	8	BOY	848.593	852	839.826
	8	MOY	852.361	855.88	838.542
	8	EOY	851.088	856.401	838.003
Language Usage	3	EOY	367.56	367.317	348.961
	4	BOY	447.779	446.977	435.234
	4	MOY	462.492	460.515	441.961
	4	EOY	465.229	464.387	447.6
	5	BOY	552.057	551.549	540.769
	5	MOY	560.872	559.206	542.472
	5	EOY	560.969	560.177	542.536
	6	BOY	645.672	648.294	636.729
	6	MOY	655.94	658.316	640.283
	6	EOY	662.484	665.53	647.404
	7	BOY	747.945	749.139	738.015
	7	MOY	763.116	765.395	749.231
	7	EOY	759.783	763.019	745.415
	8	BOY	843.305	846.154	836.679
	8	MOY	864.554	866.882	850.479
	8	EOY	861.115	864.123	848.794

Table 2.5. Differential Validity for the Economically Disadvantaged Subgroup on the 2021–22 iMSSA Administration

Subject	Grade	Window	Unknown	No	Yes
Mathematics	3	MOY	340.441	341.074	331.051
	3	EOY	353.739	353.46	340.833
	4	MOY	415.065	434.775	435.758
	4	EOY	434.034	448.056	447.321
	5	EOY	537.176	551.214	545.861
Reading	4	EOY	467.809	468.743	455.597
	5	MOY	551.64	571.011	570.964
Language Usage	4	MOY	463.827	463.976	452.731
	4	EOY	467.312	467.902	456.744
	5	EOY	562.887	563.885	552.164

APPENDIX N—RELIABILITY

Calculations based on those students attempting 5 or more items on the given NM-MSSA & ASR assessments. Statistic values are suppressed for those Content Areas/grades with fewer than 50 students.

Table N-1. Reliability and SEM Estimates for NM-MSSA ELA 3 as a Function of Subgroup*

Grouping	Subgroup	Number of Students	Coefficient α	Classical SEM	IRT Marginal Reliability
Overall		20,846	0.904	3.071	0.793
Gender	Female	10,295	0.906	3.063	0.799
	Male	10,549	0.902	3.076	0.785
	Unknown	2	--	--	--
Ethnicity	African American or Black	571	0.899	3.080	0.764
	American Indian or Alaska Native	2,539	0.857	3.105	0.660
	Asian	376	0.914	2.911	0.842
	Caucasian	16,818	0.906	3.067	0.801
	Hawaiian Native or Other Pacific Islander	73	0.898	3.048	0.837
	Multi	463	0.909	3.048	0.791
	Unknown	6	--	--	--
Hispanic	Yes	12,706	0.894	3.091	0.768
	No	8,134	0.914	3.037	0.818
	Unknown	0	--	--	--
Bilingual	Yes	2,027	0.881	3.090	0.725
	No	11,225	0.908	3.059	0.805
	Unknown	7,594	0.900	3.081	0.784
Econ. Dis.	Yes	10,159	0.888	3.094	0.735
	No	7,932	0.911	3.023	0.830
	Unknown	2,755	0.899	3.091	0.784
English Learners	Yes	3,482	0.858	3.086	0.637
	No	17,358	0.906	3.063	0.807
	Unknown	6	--	--	--
Foster Care	Yes	5	--	--	--
	No	6,342	0.905	3.070	0.804
	Unknown	14,499	0.904	3.072	0.788
Homeless	Yes	270	0.842	3.073	0.595
	No	17,131	0.905	3.069	0.795
	Unknown	3,445	0.902	3.080	0.789
Homeschool	Yes	0	--	--	--
	No	20,846	0.904	3.071	0.793
	Unknown	0	--	--	--
Migrant	Yes	23	--	--	--
	No	11,691	0.901	3.078	0.791
	Unknown	9,132	0.908	3.062	0.795
Military	Yes	215	0.892	3.029	0.848
	No	11,088	0.901	3.078	0.791
	Unknown	9,543	0.907	3.063	0.793
Special Ed	Yes	3,063	0.869	3.036	0.589
	No	14,945	0.902	3.067	0.811
	Unknown	2,838	0.900	3.080	0.805
Plan 504	Yes	137	0.899	3.052	0.826
	No	17,120	0.905	3.070	0.793
	Unknown	3,589	0.903	3.077	0.790

Calculations based on those students attempting 5 or more items on the given NM-MSSA & ASR assessments. Statistic values are suppressed for those Content Areas/grades with fewer than 50 students.

Table N-2. Reliability and SEM Estimates for NM-MSSA ELA Grade 4 as a Function of Subgroup*

Grouping	Subgroup	Number of Students	Coefficient α	Classical SEM	IRT Marginal Reliability
Overall		21,058	0.893	3.127	0.855
Gender	Female	10,260	0.891	3.132	0.863
	Male	10,797	0.894	3.117	0.845
	Unknown	1	--	--	--
Ethnicity	African American or Black	562	0.895	3.129	0.852
	American Indian or Alaska Native	2,469	0.863	3.122	0.788
	Asian	370	0.895	3.035	0.872
	Caucasian	17,124	0.893	3.126	0.858
	Hawaiian Native or Other Pacific Islander	61	0.884	3.191	0.875
	Multi	470	0.900	3.111	0.863
	Unknown	2	--	--	--
Hispanic	Yes	12,972	0.883	3.143	0.842
	No	8,084	0.904	3.097	0.869
	Unknown	0	--	--	--
Bilingual	Yes	1,930	0.871	3.131	0.812
	No	11,315	0.899	3.113	0.860
	Unknown	7,813	0.887	3.142	0.854
Econ. Dis.	Yes	10,260	0.880	3.133	0.826
	No	7,900	0.896	3.102	0.871
	Unknown	2,898	0.887	3.143	0.853
English Learners	Yes	3,976	0.856	3.130	0.782
	No	17,080	0.894	3.122	0.862
	Unknown	2	--	--	--
Foster Care	Yes	4	--	--	--
	No	6,178	0.892	3.131	0.854
	Unknown	14,876	0.894	3.125	0.856
Homeless	Yes	291	0.879	3.069	0.781
	No	17,095	0.894	3.125	0.856
	Unknown	3,672	0.889	3.137	0.854
Homeschool	Yes	0	--	--	--
	No	21,058	0.893	3.127	0.855
	Unknown	0	--	--	--
Migrant	Yes	25	--	--	--
	No	11,651	0.889	3.139	0.852
	Unknown	9,382	0.899	3.111	0.859
Military	Yes	222	0.882	3.084	0.874
	No	10,960	0.888	3.139	0.851
	Unknown	9,876	0.898	3.113	0.858
Special Ed	Yes	3,341	0.867	3.013	0.725
	No	14,822	0.885	3.137	0.863
	Unknown	2,895	0.879	3.151	0.855
Plan 504	Yes	130	0.882	3.113	0.851
	No	17,186	0.894	3.125	0.855
	Unknown	3,742	0.891	3.133	0.855

Calculations based on those students attempting 5 or more items on the given NM-MSSA & ASR assessments. Statistic values are suppressed for those Content Areas/grades with fewer than 50 students.

Table N-3. Reliability and SEM Estimates for NM-MSSA ELA Grade 5 as a Function of Subgroup*

Grouping	Subgroup	Number of Students	Coefficient α	Classical SEM	IRT Marginal Reliability
Overall		21,995	0.860	3.192	0.805
Gender	Female	10,867	0.856	3.192	0.815
	Male	11,125	0.862	3.189	0.793
	Unknown	3	--	--	--
Ethnicity	African American or Black	607	0.859	3.187	0.785
	American Indian or Alaska Native	2,535	0.821	3.170	0.710
	Asian	355	0.882	3.096	0.862
	Caucasian	17,976	0.860	3.195	0.810
	Hawaiian Native or Other Pacific Islander	66	0.797	3.268	0.764
	Multi	454	0.861	3.194	0.819
	Unknown	2	--	--	--
Hispanic	Yes	13,669	0.846	3.198	0.781
	No	8,324	0.874	3.179	0.831
	Unknown	0	--	--	--
Bilingual	Yes	2,291	0.821	3.167	0.718
	No	11,728	0.864	3.187	0.817
	Unknown	7,976	0.856	3.203	0.798
Econ. Dis.	Yes	10,755	0.841	3.186	0.758
	No	8,224	0.864	3.187	0.837
	Unknown	3,016	0.853	3.208	0.799
English Learners	Yes	4,248	0.799	3.154	0.667
	No	17,745	0.861	3.197	0.820
	Unknown	2	--	--	--
Foster Care	Yes	4	--	--	--
	No	6,567	0.857	3.192	0.814
	Unknown	15,424	0.861	3.192	0.801
Homeless	Yes	352	0.799	3.141	0.669
	No	17,829	0.860	3.192	0.806
	Unknown	3,814	0.859	3.197	0.802
Homeschool	Yes	0	--	--	--
	No	21,995	0.860	3.192	0.805
	Unknown	0	--	--	--
Migrant	Yes	33	--	--	--
	No	12,407	0.854	3.198	0.804
	Unknown	9,555	0.867	3.184	0.806
Military	Yes	231	0.870	3.175	0.829
	No	11,566	0.854	3.196	0.803
	Unknown	10,198	0.865	3.187	0.806
Special Ed	Yes	3,614	0.819	3.073	0.589
	No	15,242	0.849	3.202	0.825
	Unknown	3,139	0.844	3.216	0.807
Plan 504	Yes	206	0.839	3.235	0.832
	No	18,094	0.860	3.192	0.805
	Unknown	3,695	0.862	3.191	0.802

Calculations based on those students attempting 5 or more items on the given NM-MSSA & ASR assessments. Statistic values are suppressed for those Content Areas/grades with fewer than 50 students.

Table N-4. Reliability and SEM Estimates for NM-MSSA ELA Grade 6 as a Function of Subgroup*

Grouping	Subgroup	Number of Students	Coefficient α	Classical SEM	IRT Marginal Reliability
Overall		22,132	0.839	3.232	0.840
Gender	Female	10,861	0.832	3.225	0.841
	Male	11,269	0.845	3.233	0.837
	Unknown	2	--	--	--
Ethnicity	African American or Black	586	0.835	3.222	0.826
	American Indian or Alaska Native	2,647	0.791	3.220	0.777
	Asian	336	0.848	3.166	0.868
	Caucasian	18,060	0.840	3.232	0.842
	Hawaiian Native or Other Pacific Islander	85	0.842	3.230	0.847
	Multi	412	0.858	3.226	0.853
	Unknown	6	--	--	--
Hispanic	Yes	13,737	0.822	3.242	0.821
	No	8,389	0.856	3.212	0.858
	Unknown	0	--	--	--
Bilingual	Yes	2,013	0.781	3.232	0.776
	No	11,637	0.845	3.228	0.845
	Unknown	8,482	0.836	3.232	0.838
Econ. Dis.	Yes	10,379	0.818	3.236	0.809
	No	8,623	0.845	3.215	0.857
	Unknown	3,130	0.833	3.239	0.831
English Learners	Yes	4,209	0.744	3.212	0.724
	No	17,917	0.841	3.230	0.847
	Unknown	6	--	--	--
Foster Care	Yes	4	--	--	--
	No	6,876	0.840	3.233	0.843
	Unknown	15,252	0.839	3.231	0.838
Homeless	Yes	276	0.794	3.221	0.783
	No	18,152	0.840	3.231	0.841
	Unknown	3,704	0.836	3.236	0.834
Homeschool	Yes	0	--	--	--
	No	22,132	0.839	3.232	0.840
	Unknown	0	--	--	--
Migrant	Yes	50	0.813	3.200	0.795
	No	13,302	0.836	3.234	0.841
	Unknown	8,780	0.844	3.228	0.838
Military	Yes	238	0.801	3.225	0.837
	No	12,456	0.837	3.234	0.841
	Unknown	9,438	0.843	3.228	0.838
Special Ed	Yes	3,411	0.810	3.136	0.729
	No	15,655	0.824	3.238	0.842
	Unknown	3,066	0.825	3.242	0.831
Plan 504	Yes	200	0.800	3.197	0.830
	No	18,215	0.840	3.231	0.841
	Unknown	3,717	0.836	3.235	0.832

Calculations based on those students attempting 5 or more items on the given NM-MSSA & ASR assessments. Statistic values are suppressed for those Content Areas/grades with fewer than 50 students.

Table N-5. Reliability and SEM Estimates for NM-MSSA ELA Grade 7 as a Function of Subgroup*

Grouping	Subgroup	Number of Students	Coefficient α	Classical SEM	IRT Marginal Reliability
Overall		23,381	0.849	3.111	0.844
Gender	Female	11,563	0.842	3.097	0.845
	Male	11,815	0.852	3.118	0.840
	Unknown	3	--	--	--
Ethnicity	African American or Black	656	0.855	3.098	0.842
	American Indian or Alaska Native	2,779	0.799	3.121	0.791
	Asian	348	0.863	3.038	0.866
	Caucasian	19,077	0.850	3.109	0.847
	Hawaiian Native or Other Pacific Islander	88	0.859	3.079	0.827
	Multi	423	0.861	3.075	0.849
	Unknown	10	--	--	--
Hispanic	Yes	14,701	0.834	3.116	0.828
	No	8,670	0.864	3.098	0.862
	Unknown	0	--	--	--
Bilingual	Yes	2,013	0.799	3.123	0.781
	No	12,413	0.855	3.104	0.850
	Unknown	8,955	0.841	3.112	0.841
Econ. Dis.	Yes	11,003	0.825	3.121	0.815
	No	9,121	0.858	3.090	0.860
	Unknown	3,257	0.836	3.112	0.836
English Learners	Yes	4,078	0.739	3.099	0.723
	No	19,293	0.848	3.106	0.849
	Unknown	10	--	--	--
Foster Care	Yes	6	--	--	--
	No	7,068	0.852	3.105	0.846
	Unknown	16,307	0.847	3.113	0.843
Homeless	Yes	322	0.799	3.122	0.779
	No	19,100	0.850	3.110	0.846
	Unknown	3,959	0.842	3.109	0.838
Homeschool	Yes	1	--	--	--
	No	23,380	0.849	3.111	0.844
	Unknown	0	--	--	--
Migrant	Yes	42	--	--	--
	No	14,121	0.846	3.111	0.843
	Unknown	9,218	0.853	3.110	0.845
Military	Yes	216	0.844	3.082	0.856
	No	13,122	0.847	3.111	0.843
	Unknown	10,043	0.851	3.110	0.845
Special Ed	Yes	3,801	0.811	3.065	0.743
	No	16,352	0.835	3.106	0.844
	Unknown	3,228	0.832	3.112	0.833
Plan 504	Yes	295	0.835	3.121	0.844
	No	19,337	0.850	3.110	0.845
	Unknown	3,749	0.841	3.111	0.836

Calculations based on those students attempting 5 or more items on the given NM-MSSA & ASR assessments. Statistic values are suppressed for those Content Areas/grades with fewer than 50 students.

Table N-6. Reliability and SEM Estimates for NM-MSSA ELA Grade 8 as a Function of Subgroup*

Grouping	Subgroup	Number of Students	Coefficient α	Classical SEM	IRT Marginal Reliability
Overall		23,853	0.861	3.234	0.850
Gender	Female	11,659	0.850	3.239	0.851
	Male	12,189	0.867	3.224	0.845
	Unknown	5	--	--	--
Ethnicity	African American or Black	630	0.861	3.216	0.838
	American Indian or Alaska Native	2,895	0.821	3.263	0.808
	Asian	348	0.885	3.101	0.875
	Caucasian	19,418	0.863	3.231	0.853
	Hawaiian Native or Other Pacific Islander	94	0.878	3.215	0.871
	Multi	463	0.858	3.221	0.857
	Unknown	5	--	--	--
Hispanic	Yes	14,918	0.849	3.250	0.836
	No	8,930	0.871	3.204	0.865
	Unknown	0	--	--	--
Bilingual	Yes	2,008	0.822	3.263	0.801
	No	12,719	0.868	3.219	0.857
	Unknown	9,126	0.854	3.246	0.846
Econ. Dis.	Yes	11,316	0.843	3.250	0.824
	No	9,230	0.869	3.200	0.866
	Unknown	3,307	0.851	3.255	0.845
English Learners	Yes	4,169	0.772	3.239	0.735
	No	19,679	0.861	3.227	0.856
	Unknown	5	--	--	--
Foster Care	Yes	3	--	--	--
	No	7,181	0.865	3.220	0.852
	Unknown	16,669	0.859	3.239	0.849
Homeless	Yes	301	0.834	3.263	0.810
	No	19,566	0.862	3.229	0.851
	Unknown	3,986	0.853	3.252	0.847
Homeschool	Yes	5	--	--	--
	No	23,848	0.861	3.234	0.850
	Unknown	0	--	--	--
Migrant	Yes	46	--	--	--
	No	14,272	0.858	3.234	0.847
	Unknown	9,535	0.865	3.232	0.854
Military	Yes	193	0.840	3.165	0.854
	No	13,380	0.859	3.233	0.847
	Unknown	10,280	0.863	3.235	0.853
Special Ed	Yes	3,815	0.831	3.162	0.757
	No	16,792	0.851	3.235	0.853
	Unknown	3,246	0.845	3.259	0.844
Plan 504	Yes	295	0.852	3.213	0.855
	No	19,749	0.862	3.231	0.850
	Unknown	3,809	0.855	3.251	0.847

Calculations based on those students attempting 5 or more items on the given NM-MSSA & ASR assessments. Statistic values are suppressed for those Content Areas/grades with fewer than 50 students.

Table N-7. Reliability and SEM Estimates for NM-MSSA Mathematics Grade 3 as a Function of Subgroup*

Grouping	Subgroup	Number of Students	Coefficient α	Classical SEM	IRT Marginal Reliability
Overall		20,872	0.898	3.192	0.723
Gender	Female	10,314	0.893	3.171	0.712
	Male	10,556	0.902	3.206	0.732
	Unknown	2	--	--	--
Ethnicity	African American or Black	573	0.888	3.159	0.699
	American Indian or Alaska Native	2,543	0.849	3.005	0.548
	Asian	385	0.918	3.327	0.867
	Caucasian	16,826	0.899	3.209	0.734
	Hawaiian Native or Other Pacific Islander	74	0.880	3.290	0.756
	Multi	464	0.904	3.177	0.723
	Unknown	7	--	--	--
Hispanic	Yes	12,701	0.883	3.162	0.683
	No	8,164	0.911	3.228	0.768
	Unknown	0	--	--	--
Bilingual	Yes	2,026	0.869	3.103	0.617
	No	11,235	0.904	3.216	0.737
	Unknown	7,611	0.891	3.172	0.721
Econ. Dis.	Yes	10,173	0.875	3.115	0.627
	No	7,954	0.907	3.268	0.803
	Unknown	2,745	0.889	3.157	0.715
English Learners	Yes	3,483	0.857	3.022	0.544
	No	17,382	0.900	3.217	0.746
	Unknown	7	--	--	--
Foster Care	Yes	5	--	--	--
	No	6,347	0.903	3.186	0.745
	Unknown	14,520	0.896	3.194	0.713
Homeless	Yes	269	0.800	2.951	0.391
	No	17,166	0.899	3.198	0.726
	Unknown	3,437	0.892	3.171	0.723
Homeschool	Yes	0	--	--	--
	No	20,872	0.898	3.192	0.723
	Unknown	0	--	--	--
Migrant	Yes	24	--	--	--
	No	11,718	0.897	3.175	0.732
	Unknown	9,130	0.899	3.211	0.712
Military	Yes	214	0.894	3.271	0.849
	No	11,117	0.898	3.174	0.732
	Unknown	9,541	0.898	3.207	0.709
Special Ed	Yes	3,060	0.874	2.940	0.452
	No	14,973	0.897	3.223	0.757
	Unknown	2,839	0.889	3.199	0.737
Plan 504	Yes	137	0.902	3.300	0.850
	No	17,152	0.899	3.195	0.722
	Unknown	3,583	0.892	3.170	0.721

Calculations based on those students attempting 5 or more items on the given NM-MSSA & ASR assessments. Statistic values are suppressed for those Content Areas/grades with fewer than 50 students.

Table N-8. Reliability and SEM Estimates for NM-MSSA Mathematics Grade 4 as a Function of Subgroup*

Grouping	Subgroup	Number of Students	Coefficient α	Classical SEM	IRT Marginal Reliability
Overall		21,080	0.886	3.085	0.784
Gender	Female	10,272	0.875	3.059	0.771
	Male	10,807	0.894	3.106	0.795
	Unknown	1	--	--	--
Ethnicity	African American or Black	563	0.877	2.994	0.738
	American Indian or Alaska Native	2,469	0.829	2.938	0.671
	Asian	381	0.918	3.256	0.893
	Caucasian	17,133	0.887	3.095	0.791
	Hawaiian Native or Other Pacific Islander	61	0.876	3.214	0.790
	Multi	471	0.896	3.186	0.818
	Unknown	2	--	--	--
Hispanic	Yes	12,976	0.864	3.035	0.750
	No	8,102	0.903	3.153	0.822
	Unknown	0	--	--	--
Bilingual	Yes	1,931	0.843	2.993	0.711
	No	11,329	0.893	3.105	0.796
	Unknown	7,820	0.879	3.072	0.779
Econ. Dis.	Yes	10,273	0.851	2.992	0.714
	No	7,914	0.900	3.175	0.838
	Unknown	2,893	0.880	3.078	0.779
English Learners	Yes	3,995	0.818	2.926	0.661
	No	17,083	0.891	3.113	0.802
	Unknown	2	--	--	--
Foster Care	Yes	4	--	--	--
	No	6,190	0.887	3.083	0.790
	Unknown	14,886	0.885	3.085	0.782
Homeless	Yes	292	0.840	2.874	0.596
	No	17,114	0.886	3.090	0.787
	Unknown	3,674	0.885	3.073	0.781
Homeschool	Yes	0	--	--	--
	No	21,080	0.886	3.085	0.784
	Unknown	0	--	--	--
Migrant	Yes	27	--	--	--
	No	11,668	0.879	3.074	0.786
	Unknown	9,385	0.893	3.094	0.782
Military	Yes	222	0.889	3.215	0.867
	No	10,983	0.879	3.070	0.784
	Unknown	9,875	0.892	3.093	0.781
Special Ed	Yes	3,345	0.857	2.832	0.588
	No	14,834	0.884	3.121	0.810
	Unknown	2,901	0.879	3.075	0.791
Plan 504	Yes	131	0.897	3.039	0.815
	No	17,205	0.886	3.087	0.785
	Unknown	3,744	0.885	3.076	0.779

Calculations based on those students attempting 5 or more items on the given NM-MSSA & ASR assessments. Statistic values are suppressed for those Content Areas/grades with fewer than 50 students.

Table N-9. Reliability and SEM Estimates for NM-MSSA Mathematics Grade 5 as a Function of Subgroup*

Grouping	Subgroup	Number of Students	Coefficient α	Classical SEM	IRT Marginal Reliability
Overall		21,995	0.872	3.400	0.677
Gender	Female	10,871	0.862	3.412	0.676
	Male	11,121	0.881	3.385	0.678
	Unknown	3	--	--	--
Ethnicity	African American or Black	609	0.862	3.356	0.655
	American Indian or Alaska Native	2,537	0.814	3.276	0.536
	Asian	361	0.920	3.451	0.852
	Caucasian	17,971	0.873	3.409	0.683
	Hawaiian Native or Other Pacific Islander	65	0.849	3.276	0.609
	Multi	449	0.879	3.466	0.715
	Unknown	3	--	--	--
Hispanic	Yes	13,648	0.853	3.358	0.622
	No	8,344	0.889	3.449	0.741
	Unknown	0	--	--	--
Bilingual	Yes	2,289	0.825	3.270	0.522
	No	11,734	0.881	3.419	0.696
	Unknown	7,972	0.863	3.399	0.679
Econ. Dis.	Yes	10,762	0.841	3.309	0.563
	No	8,221	0.885	3.466	0.766
	Unknown	3,012	0.866	3.401	0.695
English Learners	Yes	4,254	0.801	3.222	0.479
	No	17,738	0.877	3.429	0.706
	Unknown	3	--	--	--
Foster Care	Yes	4	--	--	--
	No	6,557	0.872	3.410	0.705
	Unknown	15,434	0.872	3.394	0.665
Homeless	Yes	350	0.771	3.138	0.311
	No	17,834	0.873	3.404	0.679
	Unknown	3,811	0.870	3.398	0.688
Homeschool	Yes	0	--	--	--
	No	21,995	0.872	3.400	0.677
	Unknown	0	--	--	--
Migrant	Yes	33	--	--	--
	No	12,404	0.867	3.404	0.695
	Unknown	9,558	0.878	3.387	0.654
Military	Yes	231	0.881	3.431	0.785
	No	11,561	0.866	3.404	0.694
	Unknown	10,203	0.877	3.386	0.653
Special Ed	Yes	3,606	0.838	3.105	0.315
	No	15,243	0.870	3.431	0.730
	Unknown	3,146	0.864	3.401	0.694
Plan 504	Yes	206	0.874	3.456	0.718
	No	18,093	0.872	3.402	0.677
	Unknown	3,696	0.870	3.388	0.677

Calculations based on those students attempting 5 or more items on the given NM-MSSA & ASR assessments. Statistic values are suppressed for those Content Areas/grades with fewer than 50 students.

Table N-10. Reliability and SEM Estimates for NM-MSSA Mathematics Grade 6 as a Function of Subgroup*

Grouping	Subgroup	Number of Students	Coefficient α	Classical SEM	IRT Marginal Reliability
Overall		22,145	0.880	3.297	0.607
Gender	Female	10,875	0.875	3.296	0.597
	Male	11,268	0.885	3.294	0.617
	Unknown	2	--	--	--
Ethnicity	African American or Black	589	0.871	3.230	0.552
	American Indian or Alaska Native	2,645	0.829	3.124	0.402
	Asian	342	0.923	3.458	0.793
	Caucasian	18,067	0.880	3.310	0.623
	Hawaiian Native or Other Pacific Islander	84	0.898	3.312	0.595
	Multi	411	0.891	3.382	0.660
	Unknown	7	--	--	--
Hispanic	Yes	13,742	0.861	3.251	0.553
	No	8,396	0.896	3.358	0.673
	Unknown	0	--	--	--
Bilingual	Yes	2,011	0.820	3.124	0.401
	No	11,641	0.887	3.323	0.633
	Unknown	8,493	0.874	3.291	0.604
Econ. Dis.	Yes	10,384	0.847	3.202	0.486
	No	8,633	0.895	3.389	0.712
	Unknown	3,128	0.864	3.259	0.574
English Learners	Yes	4,209	0.788	3.049	0.297
	No	17,929	0.884	3.335	0.652
	Unknown	7	--	--	--
Foster Care	Yes	4	--	--	--
	No	6,875	0.885	3.302	0.622
	Unknown	15,266	0.878	3.295	0.600
Homeless	Yes	277	0.814	3.088	0.318
	No	18,162	0.882	3.306	0.615
	Unknown	3,706	0.870	3.261	0.581
Homeschool	Yes	0	--	--	--
	No	22,145	0.880	3.297	0.607
	Unknown	0	--	--	--
Migrant	Yes	50	0.841	3.302	0.487
	No	13,312	0.880	3.305	0.620
	Unknown	8,783	0.881	3.283	0.588
Military	Yes	237	0.885	3.422	0.765
	No	12,467	0.880	3.304	0.617
	Unknown	9,441	0.879	3.283	0.588
Special Ed	Yes	3,407	0.842	2.946	0.174
	No	15,671	0.879	3.340	0.665
	Unknown	3,067	0.864	3.287	0.614
Plan 504	Yes	201	0.872	3.423	0.758
	No	18,224	0.882	3.302	0.611
	Unknown	3,720	0.869	3.261	0.575

Calculations based on those students attempting 5 or more items on the given NM-MSSA & ASR assessments. Statistic values are suppressed for those Content Areas/grades with fewer than 50 students.

Table N-11. Reliability and SEM Estimates for NM-MSSA Mathematics Grade 7 as a Function of Subgroup*

Grouping	Subgroup	Number of Students	Coefficient α	Classical SEM	IRT Marginal Reliability
Overall		23,383	0.891	3.190	0.644
Gender	Female	11,559	0.886	3.190	0.639
	Male	11,822	0.896	3.184	0.649
	Unknown	2	--	--	--
Ethnicity	African American or Black	654	0.868	3.092	0.556
	American Indian or Alaska Native	2,793	0.836	3.049	0.452
	Asian	354	0.930	3.411	0.846
	Caucasian	19,065	0.892	3.201	0.655
	Hawaiian Native or Other Pacific Islander	87	0.904	3.237	0.634
	Multi	425	0.910	3.294	0.739
	Unknown	5	--	--	--
Hispanic	Yes	14,674	0.867	3.139	0.577
	No	8,704	0.910	3.263	0.720
	Unknown	0	--	--	--
Bilingual	Yes	2,010	0.818	3.020	0.399
	No	12,408	0.899	3.224	0.678
	Unknown	8,965	0.882	3.170	0.627
Econ. Dis.	Yes	10,999	0.853	3.093	0.515
	No	9,118	0.908	3.284	0.745
	Unknown	3,266	0.879	3.177	0.615
English Learners	Yes	4,081	0.723	2.890	0.184
	No	19,297	0.895	3.236	0.689
	Unknown	5	--	--	--
Foster Care	Yes	6	--	--	--
	No	7,063	0.893	3.190	0.658
	Unknown	16,314	0.890	3.189	0.638
Homeless	Yes	319	0.780	2.936	0.310
	No	19,101	0.894	3.198	0.655
	Unknown	3,963	0.879	3.165	0.605
Homeschool	Yes	1	--	--	--
	No	23,382	0.891	3.190	0.644
	Unknown	0	--	--	--
Migrant	Yes	41	--	--	--
	No	14,123	0.889	3.188	0.649
	Unknown	9,219	0.895	3.192	0.638
Military	Yes	216	0.895	3.375	0.777
	No	13,127	0.889	3.185	0.647
	Unknown	10,040	0.894	3.190	0.637
Special Ed	Yes	3,802	0.852	2.860	0.219
	No	16,369	0.892	3.242	0.705
	Unknown	3,212	0.870	3.175	0.605
Plan 504	Yes	295	0.876	3.217	0.691
	No	19,339	0.894	3.196	0.653
	Unknown	3,749	0.875	3.152	0.587

Calculations based on those students attempting 5 or more items on the given NM-MSSA & ASR assessments. Statistic values are suppressed for those Content Areas/grades with fewer than 50 students.

Table N-12. Reliability and SEM Estimates for NM-MSSA Mathematics Grade 8 as a Function of Subgroup*

Grouping	Subgroup	Number of Students	Coefficient α	Classical SEM	IRT Marginal Reliability
Overall		18,646	0.804	3.015	0.647
Gender	Female	9,182	0.785	3.000	0.642
	Male	9,460	0.818	3.027	0.652
	Unknown	4	--	--	--
Ethnicity	African American or Black	489	0.790	2.987	0.589
	American Indian or Alaska Native	2,346	0.723	2.949	0.564
	Asian	259	0.911	3.321	0.841
	Caucasian	15,119	0.804	3.016	0.650
	Hawaiian Native or Other Pacific Islander	75	0.854	3.102	0.724
	Multi	354	0.803	3.083	0.688
	Unknown	4	--	--	--
Hispanic	Yes	11,698	0.765	2.973	0.594
	No	6,944	0.836	3.080	0.713
	Unknown	0	--	--	--
Bilingual	Yes	1,579	0.728	2.936	0.532
	No	9,829	0.823	3.036	0.668
	Unknown	7,238	0.779	3.002	0.635
Econ. Dis.	Yes	8,906	0.738	2.938	0.547
	No	7,172	0.836	3.099	0.724
	Unknown	2,568	0.782	3.015	0.650
English Learners	Yes	3,359	0.626	2.855	0.372
	No	15,283	0.811	3.043	0.679
	Unknown	4	--	--	--
Foster Care	Yes	2	--	--	--
	No	5,582	0.809	2.992	0.648
	Unknown	13,062	0.801	3.024	0.647
Homeless	Yes	240	0.659	2.925	0.525
	No	15,297	0.809	3.017	0.649
	Unknown	3,109	0.781	3.011	0.646
Homeschool	Yes	3	--	--	--
	No	18,643	0.804	3.015	0.647
	Unknown	0	--	--	--
Migrant	Yes	37	--	--	--
	No	11,151	0.794	2.998	0.643
	Unknown	7,458	0.816	3.040	0.654
Military	Yes	151	0.815	3.120	0.765
	No	10,478	0.794	2.994	0.639
	Unknown	8,017	0.813	3.038	0.654
Special Ed	Yes	3,057	0.731	2.829	0.330
	No	13,109	0.805	3.048	0.687
	Unknown	2,480	0.770	3.005	0.645
Plan 504	Yes	219	0.804	3.040	0.707
	No	15,457	0.807	3.013	0.646
	Unknown	2,970	0.781	3.019	0.647

Calculations based on those students attempting 5 or more items on the given NM-MSSA & ASR assessments. Statistic values are suppressed for those Content Areas/grades with fewer than 50 students.

Table N-13. Reliability and SEM Estimates for NM-MSSA Science Grade 5, Operational Set A, as a Function of Subgroup*

Grouping	Subgroup	Number of Students	Coefficient α	Classical SEM	IRT Marginal Reliability
Overall		11,779	0.890	3.686	0.902
Gender	Female	5,757	0.885	3.715	0.898
	Male	6,022	0.895	3.650	0.904
	Unknown	0	--	--	--
Ethnicity	African American or Black	343	0.883	3.666	0.894
	American Indian or Alaska Native	1,560	0.839	3.633	0.852
	Asian	190	0.911	3.739	0.921
	Caucasian	9,414	0.893	3.689	0.904
	Hawaiian Native or Other Pacific Islander	29	--	--	--
	Multi	243	0.894	3.717	0.907
	Unknown	0	--	--	--
Hispanic	Yes	7,282	0.875	3.679	0.888
	No	4,497	0.904	3.691	0.913
	Unknown	0	--	--	--
Bilingual	Yes	1,235	0.854	3.631	0.865
	No	6,357	0.896	3.689	0.907
	Unknown	4,187	0.885	3.691	0.897
Econ. Dis.	Yes	5,919	0.868	3.650	0.880
	No	4,019	0.900	3.711	0.911
	Unknown	1,841	0.881	3.687	0.894
English Learners	Yes	2,510	0.829	3.589	0.840
	No	9,269	0.893	3.701	0.905
	Unknown	0	--	--	--
Foster Care	Yes	3	--	--	--
	No	3,114	0.893	3.682	0.904
	Unknown	8,662	0.889	3.688	0.901
Homeless	Yes	197	0.806	3.547	0.814
	No	9,406	0.892	3.686	0.903
	Unknown	2,176	0.884	3.691	0.896
Homeschool	Yes	0	--	--	--
	No	11,779	0.890	3.686	0.902
	Unknown	0	--	--	--
Migrant	Yes	18	--	--	--
	No	5,932	0.886	3.689	0.898
	Unknown	5,829	0.894	3.683	0.904
Military	Yes	98	0.883	3.755	0.899
	No	5,558	0.886	3.688	0.898
	Unknown	6,123	0.893	3.682	0.904
Special Ed	Yes	2,622	0.850	3.476	0.848
	No	7,658	0.884	3.716	0.899
	Unknown	1,499	0.881	3.706	0.895
Plan 504	Yes	109	0.878	3.785	0.896
	No	9,534	0.892	3.684	0.903
	Unknown	2,136	0.883	3.688	0.896

Calculations based on those students attempting 5 or more items on the given NM-MSSA & ASR assessments. Statistic values are suppressed for those Content Areas/grades with fewer than 50 students.

Table N-14. Reliability and SEM Estimates for NM-MSSA Science Grade 5, Operational Set B, as a Function of Subgroup*

Grouping	Subgroup	Number of Students	Coefficient α	Classical SEM	IRT Marginal Reliability
Overall		7,480	0.888	3.710	0.901
Gender	Female	3,756	0.880	3.730	0.895
	Male	3,722	0.896	3.679	0.906
	Unknown	2	--	--	--
Ethnicity	African American or Black	188	0.882	3.753	0.898
	American Indian or Alaska Native	700	0.858	3.675	0.872
	Asian	127	0.902	3.670	0.911
	Caucasian	6,280	0.888	3.709	0.901
	Hawaiian Native or Other Pacific Islander	25	--	--	--
	Multi	160	0.900	3.741	0.915
	Unknown	0	--	--	--
Hispanic	Yes	4,665	0.873	3.702	0.887
	No	2,815	0.898	3.709	0.910
	Unknown	0	--	--	--
Bilingual	Yes	776	0.845	3.675	0.861
	No	3,952	0.891	3.709	0.904
	Unknown	2,752	0.885	3.709	0.898
Econ. Dis.	Yes	3,544	0.871	3.695	0.885
	No	3,052	0.892	3.705	0.904
	Unknown	884	0.880	3.719	0.894
English Learners	Yes	1,253	0.829	3.641	0.843
	No	6,227	0.889	3.714	0.902
	Unknown	0	--	--	--
Foster Care	Yes	1	--	--	--
	No	2,502	0.887	3.715	0.901
	Unknown	4,977	0.888	3.707	0.901
Homeless	Yes	104	0.855	3.603	0.866
	No	6,149	0.887	3.712	0.901
	Unknown	1,227	0.891	3.703	0.903
Homeschool	Yes	0	--	--	--
	No	7,480	0.888	3.710	0.901
	Unknown	0	--	--	--
Migrant	Yes	10	--	--	--
	No	4,688	0.882	3.712	0.896
	Unknown	2,782	0.897	3.705	0.909
Military	Yes	100	0.886	3.673	0.897
	No	4,354	0.882	3.711	0.896
	Unknown	3,026	0.896	3.708	0.907
Special Ed	Yes	686	0.900	3.584	0.902
	No	5,567	0.885	3.715	0.899
	Unknown	1,227	0.879	3.710	0.893
Plan 504	Yes	81	0.901	3.692	0.911
	No	6,230	0.887	3.712	0.900
	Unknown	1,169	0.892	3.699	0.903

Calculations based on those students attempting 5 or more items on the given NM-MSSA & ASR assessments. Statistic values are suppressed for those Content Areas/grades with fewer than 50 students.

Table N-15. Reliability and SEM Estimates for NM-MSSA Science Grade 8 Operational Set A, as a Function of Subgroup*

Grouping	Subgroup	Number of Students	Coefficient α	Classical SEM	IRT Marginal Reliability
Overall		12,050	0.873	3.592	0.880
Gender	Female	5,755	0.860	3.624	0.873
	Male	6,293	0.883	3.551	0.885
	Unknown	2	--	--	--
Ethnicity	African American or Black	307	0.840	3.530	0.844
	American Indian or Alaska Native	1,650	0.823	3.595	0.836
	Asian	168	0.901	3.698	0.913
	Caucasian	9,642	0.876	3.588	0.883
	Hawaiian Native or Other Pacific Islander	49	--	--	--
	Multi	234	0.879	3.637	0.891
	Unknown	0	--	--	--
Hispanic	Yes	7,502	0.855	3.565	0.861
	No	4,548	0.887	3.631	0.896
	Unknown	0	--	--	--
Bilingual	Yes	1,010	0.816	3.526	0.822
	No	6,331	0.881	3.590	0.887
	Unknown	4,709	0.866	3.607	0.875
Econ. Dis.	Yes	5,726	0.844	3.554	0.850
	No	4,389	0.890	3.620	0.899
	Unknown	1,935	0.861	3.611	0.870
English Learners	Yes	2,321	0.732	3.447	0.740
	No	9,729	0.877	3.617	0.887
	Unknown	0	--	--	--
Foster Care	Yes	1	--	--	--
	No	3,459	0.879	3.590	0.886
	Unknown	8,590	0.870	3.593	0.877
Homeless	Yes	143	0.876	3.494	0.874
	No	9,713	0.875	3.592	0.882
	Unknown	2,194	0.861	3.596	0.868
Homeschool	Yes	4	--	--	--
	No	12,046	0.873	3.592	0.880
	Unknown	0	--	--	--
Migrant	Yes	27	--	--	--
	No	6,861	0.872	3.606	0.881
	Unknown	5,162	0.873	3.574	0.878
Military	Yes	100	0.875	3.698	0.897
	No	6,449	0.872	3.602	0.881
	Unknown	5,501	0.872	3.577	0.877
Special Ed	Yes	2,701	0.820	3.395	0.807
	No	7,884	0.871	3.635	0.883
	Unknown	1,465	0.855	3.583	0.862
Plan 504	Yes	148	0.879	3.624	0.889
	No	9,772	0.875	3.589	0.882
	Unknown	2,130	0.860	3.599	0.867

Calculations based on those students attempting 5 or more items on the given NM-MSSA & ASR assessments. Statistic values are suppressed for those Content Areas/grades with fewer than 50 students.

Table N-16. Reliability and SEM Estimates for NM-MSSA Science Grade 8 Operational Set B, as a Function of Subgroup*

Grouping	Subgroup	Number of Students	Coefficient α	Classical SEM	IRT Marginal Reliability
Overall		8,555	0.884	3.588	0.892
Gender	Female	4,248	0.874	3.607	0.884
	Male	4,304	0.894	3.558	0.898
	Unknown	3	--	--	--
Ethnicity	African American or Black	217	0.873	3.538	0.878
	American Indian or Alaska Native	830	0.834	3.520	0.841
	Asian	142	0.920	3.577	0.925
	Caucasian	7,162	0.885	3.596	0.893
	Hawaiian Native or Other Pacific Islander	25	--	--	--
	Multi	179	0.890	3.537	0.896
	Unknown	0	--	--	--
Hispanic	Yes	5,406	0.861	3.575	0.869
	No	3,149	0.902	3.602	0.910
	Unknown	0	--	--	--
Bilingual	Yes	745	0.821	3.531	0.828
	No	4,742	0.890	3.594	0.898
	Unknown	3,068	0.880	3.588	0.888
Econ. Dis.	Yes	4,012	0.855	3.551	0.862
	No	3,579	0.896	3.617	0.906
	Unknown	964	0.881	3.587	0.888
English Learners	Yes	1,364	0.742	3.432	0.750
	No	7,191	0.886	3.608	0.896
	Unknown	0	--	--	--
Foster Care	Yes	1	--	--	--
	No	2,743	0.888	3.591	0.895
	Unknown	5,811	0.882	3.586	0.890
Homeless	Yes	107	0.837	3.566	0.845
	No	7,207	0.885	3.591	0.893
	Unknown	1,241	0.880	3.569	0.887
Homeschool	Yes	1	--	--	--
	No	8,554	0.884	3.588	0.892
	Unknown	0	--	--	--
Migrant	Yes	20	--	--	--
	No	5,351	0.881	3.596	0.890
	Unknown	3,184	0.889	3.575	0.895
Military	Yes	64	0.872	3.602	0.884
	No	5,013	0.882	3.596	0.890
	Unknown	3,478	0.886	3.575	0.893
Special Ed	Yes	741	0.890	3.432	0.879
	No	6,499	0.885	3.596	0.893
	Unknown	1,315	0.858	3.603	0.870
Plan 504	Yes	120	0.864	3.709	0.884
	No	7,272	0.885	3.587	0.892
	Unknown	1,163	0.879	3.579	0.887

Calculations based on those students attempting 5 or more items on the given NM-MSSA & ASR assessments. Statistic values are suppressed for those Content Areas/grades with fewer than 50 students.

Table N-17. Reliability and SEM Estimates for NM-MSSA Science Grade 11 Operational Set A, as a Function of Subgroup*

Grouping	Subgroup	Number of Students	Coefficient α	Classical SEM	IRT Marginal Reliability
Overall		9,274	0.870	3.805	0.884
Gender	Female	4,657	0.848	3.802	0.860
	Male	4,616	0.885	3.797	0.900
	Unknown	1	--	--	--
Ethnicity	African American or Black	208	0.818	3.840	0.846
	American Indian or Alaska Native	1,460	0.811	3.712	0.827
	Asian	143	0.899	3.871	0.917
	Caucasian	7,257	0.873	3.815	0.886
	Hawaiian Native or Other Pacific Islander	18	--	--	--
	Multi	188	0.888	3.822	0.903
	Unknown	0	--	--	--
Hispanic	Yes	5,408	0.846	3.774	0.858
	No	3,866	0.887	3.842	0.904
	Unknown	0	--	--	--
Bilingual	Yes	338	0.846	3.782	0.864
	No	2,977	0.880	3.834	0.898
	Unknown	5,959	0.863	3.791	0.875
Econ. Dis.	Yes	3,115	0.828	3.740	0.833
	No	4,851	0.881	3.852	0.901
	Unknown	1,308	0.832	3.728	0.847
English Learners	Yes	1,127	0.692	3.514	0.699
	No	8,147	0.869	3.829	0.885
	Unknown	0	--	--	--
Foster Care	Yes	0	--	--	--
	No	1,487	0.872	3.821	0.891
	Unknown	7,787	0.869	3.802	0.882
Homeless	Yes	125	0.838	3.625	0.843
	No	7,512	0.873	3.819	0.887
	Unknown	1,637	0.846	3.750	0.862
Homeschool	Yes	0	--	--	--
	No	9,274	0.870	3.805	0.884
	Unknown	0	--	--	--
Migrant	Yes	42	--	--	--
	No	6,055	0.868	3.812	0.881
	Unknown	3,177	0.872	3.792	0.887
Military	Yes	51	0.803	3.866	0.838
	No	5,740	0.868	3.809	0.881
	Unknown	3,483	0.871	3.796	0.887
Special Ed	Yes	1,453	0.794	3.525	0.790
	No	7,281	0.868	3.840	0.885
	Unknown	540	0.837	3.742	0.855
Plan 504	Yes	155	0.872	3.891	0.898
	No	7,681	0.872	3.814	0.885
	Unknown	1,438	0.847	3.742	0.862

Calculations based on those students attempting 5 or more items on the given NM-MSSA & ASR assessments. Statistic values are suppressed for those Content Areas/grades with fewer than 50 students.

Table N-18. Reliability and SEM Estimates for NM-MSSA Science Grade 11 Operational Set B, as a Function of Subgroup*

Grouping	Subgroup	Number of Students	Coefficient α	Classical SEM	IRT Marginal Reliability
Overall		7,757	0.873	3.813	0.889
Gender	Female	3,977	0.854	3.817	0.873
	Male	3,777	0.888	3.795	0.901
	Unknown	3	--	--	--
Ethnicity	African American or Black	191	0.843	3.776	0.862
	American Indian or Alaska Native	697	0.822	3.715	0.840
	Asian	137	0.917	3.891	0.919
	Caucasian	6,542	0.872	3.819	0.889
	Hawaiian Native or Other Pacific Islander	31	--	--	--
	Multi	159	0.905	3.853	0.922
	Unknown	0	--	--	--
Hispanic	Yes	4,860	0.850	3.778	0.867
	No	2,897	0.888	3.858	0.905
	Unknown	0	--	--	--
Bilingual	Yes	315	0.849	3.744	0.864
	No	2,779	0.878	3.836	0.894
	Unknown	4,663	0.870	3.803	0.886
Econ. Dis.	Yes	2,724	0.829	3.723	0.844
	No	4,531	0.882	3.852	0.900
	Unknown	502	0.834	3.826	0.857
English Learners	Yes	783	0.707	3.496	0.719
	No	6,974	0.871	3.835	0.890
	Unknown	0	--	--	--
Foster Care	Yes	1	--	--	--
	No	1,370	0.865	3.814	0.884
	Unknown	6,386	0.874	3.813	0.890
Homeless	Yes	97	0.842	3.727	0.854
	No	6,884	0.876	3.812	0.892
	Unknown	776	0.829	3.830	0.854
Homeschool	Yes	0	--	--	--
	No	7,757	0.873	3.813	0.889
	Unknown	0	--	--	--
Migrant	Yes	33	--	--	--
	No	5,486	0.869	3.805	0.886
	Unknown	2,238	0.881	3.835	0.895
Military	Yes	49	--	--	--
	No	5,191	0.871	3.802	0.887
	Unknown	2,517	0.876	3.833	0.892
Special Ed	Yes	743	0.832	3.536	0.822
	No	6,466	0.873	3.831	0.891
	Unknown	548	0.825	3.828	0.849
Plan 504	Yes	139	0.868	3.958	0.897
	No	6,993	0.874	3.808	0.890
	Unknown	625	0.842	3.836	0.861

Calculations based on those students attempting 5 or more items on the given NM-MSSA & ASR assessments. Statistic values are suppressed for those Content Areas/grades with fewer than 50 students.

Table N-19. Reliability and SEM Estimates for NM-MSSA SLA Grade 3 as a Function of Subgroup*

Grouping	Subgroup	Number of Students	Coefficient α	Classical SEM	IRT Marginal Reliability
Overall		693	0.845	3.102	0.668
Gender	Female	355	0.841	3.101	0.723
	Male	338	0.848	3.102	0.619
	Unknown	0	--	--	--
Ethnicity	African American or Black	4	--	--	--
	American Indian or Alaska Native	0	--	--	--
	Asian	5	--	--	--
	Caucasian	680	0.846	3.100	0.668
	Hawaiian Native or Other Pacific Islander	3	--	--	--
	Multi	1	--	--	--
	Unknown	0	--	--	--
Hispanic	Yes	685	0.843	3.103	0.665
	No	8	--	--	--
	Unknown	0	--	--	--
Bilingual	Yes	499	0.833	3.105	0.671
	No	51	0.880	3.075	0.720
	Unknown	143	0.865	3.099	0.641
Econ. Dis.	Yes	515	0.830	3.104	0.651
	No	95	0.867	3.109	0.669
	Unknown	83	0.885	3.083	0.747
English Learners	Yes	667	0.844	3.104	0.667
	No	26	--	--	--
	Unknown	0	--	--	--
Foster Care	Yes	0	--	--	--
	No	167	0.833	3.132	0.668
	Unknown	526	0.849	3.093	0.668
Homeless	Yes	12	--	--	--
	No	517	0.842	3.105	0.671
	Unknown	164	0.851	3.077	0.667
Homeschool	Yes	0	--	--	--
	No	693	0.845	3.102	0.668
	Unknown	0	--	--	--
Migrant	Yes	21	--	--	--
	No	391	0.848	3.111	0.674
	Unknown	281	0.837	3.084	0.642
Military	Yes	0	--	--	--
	No	410	0.845	3.112	0.675
	Unknown	283	0.836	3.084	0.642
Special Ed	Yes	81	0.654	3.063	0.252
	No	305	0.838	3.118	0.664
	Unknown	307	0.859	3.084	0.729
Plan 504	Yes	6	--	--	--
	No	512	0.842	3.109	0.672
	Unknown	175	0.847	3.074	0.642

Calculations based on those students attempting 5 or more items on the given NM-MSSA & ASR assessments. Statistic values are suppressed for those Content Areas/grades with fewer than 50 students.

Table N-20. Reliability and SEM Estimates for NM-MSSA SLA Grade 4 as a Function of Subgroup*

Grouping	Subgroup	Number of Students	Coefficient α	Classical SEM	IRT Marginal Reliability
Overall		561	0.850	3.085	0.756
Gender	Female	295	0.859	3.105	0.783
	Male	266	0.834	3.059	0.717
	Unknown	0	--	--	--
Ethnicity	African American or Black	2	--	--	--
	American Indian or Alaska Native	2	--	--	--
	Asian	3	--	--	--
	Caucasian	553	0.850	3.086	0.757
	Hawaiian Native or Other Pacific Islander	1	--	--	--
	Multi	0	--	--	--
	Unknown	0	--	--	--
Hispanic	Yes	555	0.851	3.085	0.757
	No	6	--	--	--
	Unknown	0	--	--	--
Bilingual	Yes	388	0.840	3.075	0.732
	No	62	0.793	3.141	0.757
	Unknown	111	0.890	3.080	0.816
Econ. Dis.	Yes	395	0.839	3.067	0.725
	No	94	0.811	3.135	0.767
	Unknown	72	0.901	3.093	0.849
English Learners	Yes	534	0.852	3.084	0.757
	No	27	--	--	--
	Unknown	0	--	--	--
Foster Care	Yes	0	--	--	--
	No	137	0.831	3.116	0.776
	Unknown	424	0.854	3.073	0.748
Homeless	Yes	13	--	--	--
	No	412	0.835	3.104	0.757
	Unknown	136	0.882	3.032	0.760
Homeschool	Yes	0	--	--	--
	No	561	0.850	3.085	0.756
	Unknown	0	--	--	--
Migrant	Yes	12	--	--	--
	No	310	0.846	3.108	0.768
	Unknown	239	0.856	3.049	0.741
Military	Yes	2	--	--	--
	No	313	0.844	3.108	0.765
	Unknown	246	0.854	3.050	0.740
Special Ed	Yes	47	--	--	--
	No	265	0.825	3.111	0.764
	Unknown	249	0.873	3.072	0.764
Plan 504	Yes	9	--	--	--
	No	406	0.836	3.102	0.755
	Unknown	146	0.878	3.027	0.751

Calculations based on those students attempting 5 or more items on the given NM-MSSA & ASR assessments. Statistic values are suppressed for those Content Areas/grades with fewer than 50 students.

Table N-21. Reliability and SEM Estimates for NM-MSSA SLA Grade 5 as a Function of Subgroup*

Grouping	Subgroup	Number of Students	Coefficient α	Classical SEM	IRT Marginal Reliability
Overall		210	0.778	3.108	0.689
Gender	Female	109	0.786	3.103	0.692
	Male	101	0.772	3.111	0.690
	Unknown	0	--	--	--
Ethnicity	African American or Black	1	--	--	--
	American Indian or Alaska Native	1	--	--	--
	Asian	2	--	--	--
	Caucasian	201	0.780	3.111	0.689
	Hawaiian Native or Other Pacific Islander	3	--	--	--
	Multi	1	--	--	--
	Unknown	1	--	--	--
Hispanic	Yes	208	0.778	3.111	0.690
	No	1	--	--	--
	Unknown	0	--	--	--
Bilingual	Yes	105	0.805	3.103	0.743
	No	44	--	--	--
	Unknown	61	0.715	3.124	0.594
Econ. Dis.	Yes	107	0.818	3.078	0.719
	No	84	0.733	3.104	0.638
	Unknown	19	--	--	--
English Learners	Yes	191	0.771	3.121	0.696
	No	18	--	--	--
	Unknown	1	--	--	--
Foster Care	Yes	0	--	--	--
	No	81	0.768	3.116	0.720
	Unknown	129	0.785	3.106	0.675
Homeless	Yes	8	--	--	--
	No	175	0.789	3.104	0.700
	Unknown	27	--	--	--
Homeschool	Yes	0	--	--	--
	No	210	0.778	3.108	0.689
	Unknown	0	--	--	--
Migrant	Yes	6	--	--	--
	No	136	0.766	3.139	0.698
	Unknown	68	0.760	3.046	0.622
Military	Yes	1	--	--	--
	No	138	0.782	3.143	0.717
	Unknown	71	0.756	3.040	0.619
Special Ed	Yes	4	--	--	--
	No	147	0.763	3.085	0.667
	Unknown	59	0.799	3.165	0.737
Plan 504	Yes	1	--	--	--
	No	171	0.792	3.102	0.701
	Unknown	38	--	--	--

*Calculations based on those students attempting 5 or more items on the given NM-MSSA & ASR assessments. Statistic values are suppressed for those Content Areas/grades with fewer than 50 students.

Table N-22. Reliability and SEM Estimates for NM-MSSA SLA Grade 6 as a Function of Subgroup*

Grouping	Subgroup	Number of Students	Coefficient α	Classical SEM	IRT Marginal Reliability
Overall		218	0.697	3.209	0.658
Gender	Female	116	0.701	3.184	0.671
	Male	102	0.693	3.236	0.646
	Unknown	0	--	--	--
Ethnicity	African American or Black	0	--	--	--
	American Indian or Alaska Native	2	--	--	--
	Asian	0	--	--	--
	Caucasian	213	0.700	3.214	0.662
	Hawaiian Native or Other Pacific Islander	1	--	--	--
	Multi	1	--	--	--
	Unknown	1	--	--	--
Hispanic	Yes	213	0.702	3.211	0.661
	No	4	--	--	--
	Unknown	0	--	--	--
Bilingual	Yes	99	0.722	3.202	0.701
	No	54	0.717	3.166	0.574
	Unknown	65	0.580	3.267	0.637
Econ. Dis.	Yes	103	0.727	3.168	0.670
	No	101	0.688	3.245	0.657
	Unknown	14	--	--	--
English Learners	Yes	196	0.705	3.196	0.661
	No	21	--	--	--
	Unknown	1	--	--	--
Foster Care	Yes	0	--	--	--
	No	81	0.731	3.174	0.647
	Unknown	137	0.674	3.230	0.668
Homeless	Yes	7	--	--	--
	No	189	0.712	3.206	0.668
	Unknown	22	--	--	--
Homeschool	Yes	0	--	--	--
	No	218	0.697	3.209	0.658
	Unknown	0	--	--	--
Migrant	Yes	8	--	--	--
	No	148	0.723	3.228	0.684
	Unknown	62	0.606	3.168	0.578
Military	Yes	0	--	--	--
	No	154	0.720	3.219	0.681
	Unknown	64	0.598	3.172	0.572
Special Ed	Yes	6	--	--	--
	No	164	0.711	3.202	0.658
	Unknown	48	--	--	--
Plan 504	Yes	1	--	--	--
	No	186	0.715	3.205	0.671
	Unknown	31	--	--	--

*Calculations based on those students attempting 5 or more items on the given NM-MSSA & ASR assessments. Statistic values are suppressed for those Content Areas/grades with fewer than 50 students.

Table N-23. Reliability and SEM Estimates for NM-MSSA SLA Grade 7 as a Function of Subgroup*

Grouping	Subgroup	Number of Students	Coefficient α	Classical SEM	IRT Marginal Reliability
Overall		225	0.760	3.078	0.721
Gender	Female	106	0.759	3.073	0.716
	Male	119	0.764	3.071	0.727
	Unknown	0	--	--	--
Ethnicity	African American or Black	0	--	--	--
	American Indian or Alaska Native	1	--	--	--
	Asian	0	--	--	--
	Caucasian	222	0.761	3.080	0.722
	Hawaiian Native or Other Pacific Islander	1	--	--	--
	Multi	1	--	--	--
	Unknown	0	--	--	--
Hispanic	Yes	223	0.760	3.079	0.721
	No	2	--	--	--
	Unknown	0	--	--	--
Bilingual	Yes	109	0.773	3.077	0.732
	No	68	0.759	3.054	0.701
	Unknown	48	--	--	--
Econ. Dis.	Yes	116	0.786	3.062	0.738
	No	87	0.722	3.122	0.709
	Unknown	22	--	--	--
English Learners	Yes	193	0.756	3.073	0.718
	No	32	--	--	--
	Unknown	0	--	--	--
Foster Care	Yes	0	--	--	--
	No	83	0.748	3.032	0.688
	Unknown	142	0.768	3.101	0.743
Homeless	Yes	6	--	--	--
	No	185	0.767	3.072	0.727
	Unknown	34	--	--	--
Homeschool	Yes	0	--	--	--
	No	225	0.760	3.078	0.721
	Unknown	0	--	--	--
Migrant	Yes	3	--	--	--
	No	145	0.741	3.091	0.713
	Unknown	77	0.775	3.042	0.714
Military	Yes	1	--	--	--
	No	144	0.746	3.093	0.722
	Unknown	80	0.779	3.037	0.709
Special Ed	Yes	2	--	--	--
	No	152	0.771	3.063	0.719
	Unknown	71	0.735	3.124	0.729
Plan 504	Yes	1	--	--	--
	No	179	0.760	3.079	0.728
	Unknown	45	--	--	--

Calculations based on those students attempting 5 or more items on the given NM-MSSA & ASR assessments. Statistic values are suppressed for those Content Areas/grades with fewer than 50 students.

Table N-24. Reliability and SEM Estimates for NM-MSSA SLA Grade 8 as a Function of Subgroup*

Grouping	Subgroup	Number of Students	Coefficient α	Classical SEM	IRT Marginal Reliability
Overall		233	0.787	3.153	0.750
Gender	Female	106	0.790	3.180	0.761
	Male	127	0.783	3.135	0.742
	Unknown	0	--	--	--
Ethnicity	African American or Black	1	--	--	--
	American Indian or Alaska Native	0	--	--	--
	Asian	1	--	--	--
	Caucasian	231	0.788	3.152	0.750
	Hawaiian Native or Other Pacific Islander	0	--	--	--
	Multi	0	--	--	--
	Unknown	0	--	--	--
Hispanic	Yes	232	0.787	3.152	0.751
	No	1	--	--	--
	Unknown	0	--	--	--
Bilingual	Yes	104	0.807	3.149	0.763
	No	69	0.794	3.141	0.769
	Unknown	60	0.708	3.173	0.693
Econ. Dis.	Yes	120	0.771	3.157	0.738
	No	94	0.794	3.164	0.763
	Unknown	19	--	--	--
English Learners	Yes	201	0.788	3.148	0.752
	No	32	--	--	--
	Unknown	0	--	--	--
Foster Care	Yes	0	--	--	--
	No	86	0.816	3.133	0.778
	Unknown	147	0.765	3.166	0.734
Homeless	Yes	8	--	--	--
	No	199	0.780	3.169	0.750
	Unknown	26	--	--	--
Homeschool	Yes	0	--	--	--
	No	233	0.787	3.153	0.750
	Unknown	0	--	--	--
Migrant	Yes	7	--	--	--
	No	150	0.771	3.189	0.748
	Unknown	76	0.800	3.075	0.738
Military	Yes	0	--	--	--
	No	153	0.782	3.185	0.756
	Unknown	80	0.793	3.093	0.738
Special Ed	Yes	4	--	--	--
	No	168	0.771	3.147	0.741
	Unknown	61	0.815	3.173	0.768
Plan 504	Yes	0	--	--	--
	No	192	0.777	3.166	0.747
	Unknown	41	--	--	--

Calculations based on those students attempting 5 or more items on the given NM-MSSA & ASR assessments. Statistic values are suppressed for those Content Areas/grades with fewer than 50 students.

Table N-25. Reliability and SEM Estimates for NM-MSSA Mathematics (Spanish Transadapted) Grade 3 as a Function of Subgroup*

Grouping	Subgroup	Number of Students	Coefficient α	Classical SEM	IRT Marginal Reliability
Overall		704	0.852	2.943	0.483
Gender	Female	360	0.831	2.871	0.441
	Male	344	0.866	3.012	0.518
	Unknown	0	--	--	--
Ethnicity	African American or Black	4	--	--	--
	American Indian or Alaska Native	0	--	--	--
	Asian	5	--	--	--
	Caucasian	691	0.854	2.940	0.483
	Hawaiian Native or Other Pacific Islander	3	--	--	--
	Multi	1	--	--	--
	Unknown	0	--	--	--
Hispanic	Yes	696	0.850	2.940	0.479
	No	8	--	--	--
	Unknown	0	--	--	--
Bilingual	Yes	507	0.837	2.967	0.490
	No	56	0.835	2.872	0.395
	Unknown	141	0.894	2.874	0.485
Econ. Dis.	Yes	524	0.841	2.951	0.463
	No	96	0.821	2.893	0.423
	Unknown	84	0.905	2.950	0.639
English Learners	Yes	671	0.852	2.948	0.493
	No	33	--	--	--
	Unknown	0	--	--	--
Foster Care	Yes	0	--	--	--
	No	172	0.817	2.917	0.421
	Unknown	532	0.860	2.951	0.500
Homeless	Yes	13	--	--	--
	No	526	0.844	2.968	0.497
	Unknown	165	0.874	2.879	0.459
Homeschool	Yes	0	--	--	--
	No	704	0.852	2.943	0.483
	Unknown	0	--	--	--
Migrant	Yes	21	--	--	--
	No	393	0.851	3.001	0.542
	Unknown	290	0.854	2.864	0.391
Military	Yes	0	--	--	--
	No	412	0.848	2.994	0.538
	Unknown	292	0.853	2.862	0.390
Special Ed	Yes	83	0.816	2.756	0.190
	No	312	0.831	2.921	0.422
	Unknown	309	0.865	3.006	0.580
Plan 504	Yes	6	--	--	--
	No	519	0.844	2.967	0.495
	Unknown	179	0.870	2.857	0.435

Calculations based on those students attempting 5 or more items on the given NM-MSSA & ASR assessments. Statistic values are suppressed for those Content Areas/grades with fewer than 50 students.

Table N-26. Reliability and SEM Estimates for NM-MSSA Mathematics (Spanish Transadapted) Grade 4 as a Function of Subgroup*

Grouping	Subgroup	Number of Students	Coefficient α	Classical SEM	IRT Marginal Reliability
Overall		565	0.844	2.952	0.692
Gender	Female	296	0.840	2.947	0.691
	Male	269	0.849	2.955	0.695
	Unknown	0	--	--	--
Ethnicity	African American or Black	2	--	--	--
	American Indian or Alaska Native	3	--	--	--
	Asian	2	--	--	--
	Caucasian	557	0.844	2.957	0.696
	Hawaiian Native or Other Pacific Islander	1	--	--	--
	Multi	0	--	--	--
	Unknown	0	--	--	--
Hispanic	Yes	559	0.845	2.955	0.693
	No	6	--	--	--
	Unknown	0	--	--	--
Bilingual	Yes	386	0.830	2.965	0.686
	No	68	0.761	2.932	0.622
	Unknown	111	0.897	2.911	0.739
Econ. Dis.	Yes	398	0.832	2.941	0.671
	No	95	0.753	2.963	0.661
	Unknown	72	0.911	2.979	0.788
English Learners	Yes	534	0.845	2.964	0.695
	No	31	--	--	--
	Unknown	0	--	--	--
Foster Care	Yes	0	--	--	--
	No	141	0.798	2.985	0.676
	Unknown	424	0.856	2.941	0.697
Homeless	Yes	13	--	--	--
	No	422	0.826	2.982	0.699
	Unknown	130	0.890	2.864	0.684
Homeschool	Yes	0	--	--	--
	No	565	0.844	2.952	0.692
	Unknown	0	--	--	--
Migrant	Yes	13	--	--	--
	No	313	0.838	2.994	0.721
	Unknown	239	0.854	2.891	0.654
Military	Yes	2	--	--	--
	No	317	0.835	2.998	0.720
	Unknown	246	0.853	2.884	0.650
Special Ed	Yes	48	--	--	--
	No	275	0.791	2.976	0.675
	Unknown	242	0.883	2.958	0.745
Plan 504	Yes	8	--	--	--
	No	416	0.822	2.974	0.690
	Unknown	141	0.883	2.865	0.678

Calculations based on those students attempting 5 or more items on the given NM-MSSA & ASR assessments. Statistic values are suppressed for those Content Areas/grades with fewer than 50 students.

Table N-27. Reliability and SEM Estimates for NM-MSSA Mathematics (Spanish Transadapted) Grade 5 as a Function of Subgroup*

Grouping	Subgroup	Number of Students	Coefficient α	Classical SEM	IRT Marginal Reliability
Overall		216	0.801	3.143	0.383
Gender	Female	111	0.776	3.133	0.320
	Male	105	0.822	3.153	0.454
	Unknown	0	--	--	--
Ethnicity	African American or Black	1	--	--	--
	American Indian or Alaska Native	1	--	--	--
	Asian	2	--	--	--
	Caucasian	208	0.805	3.147	0.381
	Hawaiian Native or Other Pacific Islander	3	--	--	--
	Multi	1	--	--	--
	Unknown	0	--	--	--
Hispanic	Yes	215	0.802	3.142	0.382
	No	1	--	--	--
	Unknown	0	--	--	--
Bilingual	Yes	108	0.819	3.257	0.468
	No	47	--	--	--
	Unknown	61	0.674	3.057	0.300
Econ. Dis.	Yes	112	0.840	3.205	0.429
	No	86	0.732	3.068	0.302
	Unknown	18	--	--	--
English Learners	Yes	197	0.793	3.143	0.374
	No	19	--	--	--
	Unknown	0	--	--	--
Foster Care	Yes	0	--	--	--
	No	83	0.823	3.094	0.430
	Unknown	133	0.786	3.177	0.357
Homeless	Yes	9	--	--	--
	No	181	0.812	3.171	0.395
	Unknown	26	--	--	--
Homeschool	Yes	0	--	--	--
	No	216	0.801	3.143	0.383
	Unknown	0	--	--	--
Migrant	Yes	6	--	--	--
	No	139	0.813	3.184	0.447
	Unknown	71	0.748	3.017	0.194
Military	Yes	1	--	--	--
	No	141	0.816	3.201	0.466
	Unknown	74	0.744	3.014	0.183
Special Ed	Yes	4	--	--	--
	No	154	0.804	3.073	0.337
	Unknown	58	0.791	3.326	0.523
Plan 504	Yes	1	--	--	--
	No	178	0.817	3.169	0.409
	Unknown	37	--	--	--

Calculations based on those students attempting 5 or more items on the given NM-MSSA & ASR assessments. Statistic values are suppressed for those Content Areas/grades with fewer than 50 students.

Table N-28. Reliability and SEM Estimates for NM-MSSA Mathematics (Spanish Transadapted) Grade 6 as a Function of Subgroup*

Grouping	Subgroup	Number of Students	Coefficient α	Classical SEM	IRT Marginal Reliability
Overall		226	0.757	2.946	0.166
Gender	Female	121	0.762	2.941	0.203
	Male	105	0.754	2.947	0.137
	Unknown	0	--	--	--
Ethnicity	African American or Black	0	--	--	--
	American Indian or Alaska Native	2	--	--	--
	Asian	0	--	--	--
	Caucasian	222	0.758	2.950	0.176
	Hawaiian Native or Other Pacific Islander	1	--	--	--
	Multi	1	--	--	--
	Unknown	0	--	--	--
Hispanic	Yes	222	0.759	2.948	0.171
	No	4	--	--	--
	Unknown	0	--	--	--
Bilingual	Yes	103	0.780	2.957	0.231
	No	62	0.587	2.926	-0.018
	Unknown	61	0.801	2.954	0.223
Econ. Dis.	Yes	105	0.763	2.936	0.162
	No	108	0.769	2.972	0.197
	Unknown	13	--	--	--
English Learners	Yes	204	0.769	2.958	0.190
	No	22	--	--	--
	Unknown	0	--	--	--
Foster Care	Yes	0	--	--	--
	No	91	0.662	2.932	0.076
	Unknown	135	0.794	2.959	0.221
Homeless	Yes	7	--	--	--
	No	199	0.769	2.970	0.197
	Unknown	20	--	--	--
Homeschool	Yes	0	--	--	--
	No	226	0.757	2.946	0.166
	Unknown	0	--	--	--
Migrant	Yes	9	--	--	--
	No	155	0.788	3.004	0.256
	Unknown	62	0.592	2.835	-0.125
Military	Yes	0	--	--	--
	No	161	0.784	2.991	0.244
	Unknown	65	0.579	2.836	-0.114
Special Ed	Yes	6	--	--	--
	No	174	0.743	2.949	0.133
	Unknown	46	--	--	--
Plan 504	Yes	0	--	--	--
	No	196	0.770	2.974	0.200
	Unknown	30	--	--	--

Calculations based on those students attempting 5 or more items on the given NM-MSSA & ASR assessments. Statistic values are suppressed for those Content Areas/grades with fewer than 50 students.

Table N-29. Reliability and SEM Estimates for NM-MSSA Mathematics (Spanish Transadapted) Grade 7 as a Function of Subgroup*

Grouping	Subgroup	Number of Students	Coefficient α	Classical SEM	IRT Marginal Reliability
Overall		239	0.721	2.908	0.122
Gender	Female	112	0.789	2.874	0.140
	Male	127	0.623	2.939	0.108
	Unknown	0	--	--	--
Ethnicity	African American or Black	0	--	--	--
	American Indian or Alaska Native	1	--	--	--
	Asian	1	--	--	--
	Caucasian	233	0.722	2.918	0.142
	Hawaiian Native or Other Pacific Islander	2	--	--	--
	Multi	1	--	--	--
	Unknown	1	--	--	--
Hispanic	Yes	236	0.722	2.913	0.130
	No	2	--	--	--
	Unknown	0	--	--	--
Bilingual	Yes	116	0.739	2.931	0.144
	No	69	0.683	2.844	0.022
	Unknown	54	0.728	2.923	0.206
Econ. Dis.	Yes	125	0.764	2.930	0.163
	No	91	0.654	2.879	0.042
	Unknown	23	--	--	--
English Learners	Yes	202	0.731	2.910	0.114
	No	36	--	--	--
	Unknown	1	--	--	--
Foster Care	Yes	0	--	--	--
	No	86	0.650	2.850	-0.047
	Unknown	153	0.746	2.940	0.195
Homeless	Yes	10	--	--	--
	No	190	0.724	2.918	0.138
	Unknown	39	--	--	--
Homeschool	Yes	0	--	--	--
	No	239	0.721	2.908	0.122
	Unknown	0	--	--	--
Migrant	Yes	3	--	--	--
	No	146	0.663	2.914	0.100
	Unknown	90	0.782	2.894	0.158
Military	Yes	1	--	--	--
	No	144	0.665	2.919	0.104
	Unknown	94	0.783	2.888	0.156
Special Ed	Yes	4	--	--	--
	No	157	0.748	2.906	0.123
	Unknown	78	0.654	2.930	0.158
Plan 504	Yes	1	--	--	--
	No	183	0.719	2.922	0.143
	Unknown	55	0.733	2.864	0.090

Calculations based on those students attempting 5 or more items on the given NM-MSSA & ASR assessments. Statistic values are suppressed for those Content Areas/grades with fewer than 50 students.

Table N-30. Reliability and SEM Estimates for NM-MSSA Mathematics (Spanish Transadapted) Grade 8 as a Function of Subgroup*

Grouping	Subgroup	Number of Students	Coefficient α	Classical SEM	IRT Marginal Reliability
Overall		194	0.588	2.818	0.250
Gender	Female	95	0.502	2.769	0.135
	Male	99	0.635	2.862	0.337
	Unknown	0	--	--	--
Ethnicity	African American or Black	2	--	--	--
	American Indian or Alaska Native	0	--	--	--
	Asian	0	--	--	--
	Caucasian	192	0.589	2.820	0.253
	Hawaiian Native or Other Pacific Islander	0	--	--	--
	Multi	0	--	--	--
	Unknown	0	--	--	--
Hispanic	Yes	193	0.588	2.818	0.246
	No	1	--	--	--
	Unknown	0	--	--	--
Bilingual	Yes	85	0.630	2.823	0.224
	No	63	0.538	2.789	0.196
	Unknown	46	--	--	--
Econ. Dis.	Yes	102	0.596	2.812	0.200
	No	75	0.554	2.803	0.310
	Unknown	17	--	--	--
English Learners	Yes	166	0.593	2.818	0.212
	No	28	--	--	--
	Unknown	0	--	--	--
Foster Care	Yes	0	--	--	--
	No	78	0.467	2.790	0.169
	Unknown	116	0.639	2.837	0.296
Homeless	Yes	8	--	--	--
	No	160	0.590	2.825	0.282
	Unknown	26	--	--	--
Homeschool	Yes	0	--	--	--
	No	194	0.588	2.818	0.250
	Unknown	0	--	--	--
Migrant	Yes	7	--	--	--
	No	122	0.617	2.822	0.266
	Unknown	65	0.573	2.799	0.243
Military	Yes	0	--	--	--
	No	124	0.588	2.838	0.295
	Unknown	70	0.593	2.779	0.185
Special Ed	Yes	5	--	--	--
	No	134	0.543	2.780	0.166
	Unknown	55	0.652	2.922	0.420
Plan 504	Yes	0	--	--	--
	No	152	0.594	2.817	0.227
	Unknown	42	--	--	--

Calculations based on those students attempting 5 or more items on the given NM-MSSA & ASR assessments. Statistic values are suppressed for those Content Areas/grades with fewer than 50 students.

Table N-31. Reliability and SEM Estimates for NM-MSSA Science (Spanish Transadapted) Grade 5 Operational Set A, as a Function of Subgroup*

Grouping	Subgroup	Number of Students	Coefficient α	Classical SEM	IRT Marginal Reliability
Overall		11,779	0.890	3.686	0.902
Gender	Female	5,757	0.885	3.715	0.898
	Male	6,022	0.895	3.650	0.904
	Unknown	0	--	--	--
Ethnicity	African American or Black	343	0.883	3.666	0.894
	American Indian or Alaska Native	1,560	0.839	3.633	0.852
	Asian	190	0.911	3.739	0.921
	Caucasian	9,414	0.893	3.689	0.904
	Hawaiian Native or Other Pacific Islander	29	--	--	--
	Multi	243	0.894	3.717	0.907
	Unknown	0	--	--	--
Hispanic	Yes	7,282	0.875	3.679	0.888
	No	4,497	0.904	3.691	0.913
	Unknown	0	--	--	--
Bilingual	Yes	1,235	0.854	3.631	0.865
	No	6,357	0.896	3.689	0.907
	Unknown	4,187	0.885	3.691	0.897
Econ. Dis.	Yes	5,919	0.868	3.650	0.880
	No	4,019	0.900	3.711	0.911
	Unknown	1,841	0.881	3.687	0.894
English Learners	Yes	2,510	0.829	3.589	0.840
	No	9,269	0.893	3.701	0.905
	Unknown	0	--	--	--
Foster Care	Yes	3	--	--	--
	No	3,114	0.893	3.682	0.904
	Unknown	8,662	0.889	3.688	0.901
Homeless	Yes	197	0.806	3.547	0.814
	No	9,406	0.892	3.686	0.903
	Unknown	2,176	0.884	3.691	0.896
Homeschool	Yes	0	--	--	--
	No	11,779	0.890	3.686	0.902
	Unknown	0	--	--	--
Migrant	Yes	18	--	--	--
	No	5,932	0.886	3.689	0.898
	Unknown	5,829	0.894	3.683	0.904
Military	Yes	98	0.883	3.755	0.899
	No	5,558	0.886	3.688	0.898
	Unknown	6,123	0.893	3.682	0.904
Special Ed	Yes	2,622	0.850	3.476	0.848
	No	7,658	0.884	3.716	0.899
	Unknown	1,499	0.881	3.706	0.895
Plan 504	Yes	109	0.878	3.785	0.896
	No	9,534	0.892	3.684	0.903
	Unknown	2,136	0.883	3.688	0.896

Calculations based on those students attempting 5 or more items on the given NM-MSSA & ASR assessments. Statistic values are suppressed for those Content Areas/grades with fewer than 50 students.

Table N-32. Reliability and SEM Estimates for NM-MSSA Science (Spanish Transadapted) Grade 5 Operational Set B, as a Function of Subgroup*

Grouping	Subgroup	Number of Students	Coefficient α	Classical SEM	IRT Marginal Reliability
Overall		7,480	0.888	3.710	0.901
Gender	Female	3,756	0.880	3.730	0.895
	Male	3,722	0.896	3.679	0.906
	Unknown	2	--	--	--
Ethnicity	African American or Black	188	0.882	3.753	0.898
	American Indian or Alaska Native	700	0.858	3.675	0.872
	Asian	127	0.902	3.670	0.911
	Caucasian	6,280	0.888	3.709	0.901
	Hawaiian Native or Other Pacific Islander	25	--	--	--
	Multi	160	0.900	3.741	0.915
	Unknown	0	--	--	--
Hispanic	Yes	4,665	0.873	3.702	0.887
	No	2,815	0.898	3.709	0.910
	Unknown	0	--	--	--
Bilingual	Yes	776	0.845	3.675	0.861
	No	3,952	0.891	3.709	0.904
	Unknown	2,752	0.885	3.709	0.898
Econ. Dis.	Yes	3,544	0.871	3.695	0.885
	No	3,052	0.892	3.705	0.904
	Unknown	884	0.880	3.719	0.894
English Learners	Yes	1,253	0.829	3.641	0.843
	No	6,227	0.889	3.714	0.902
	Unknown	0	--	--	--
Foster Care	Yes	1	--	--	--
	No	2,502	0.887	3.715	0.901
	Unknown	4,977	0.888	3.707	0.901
Homeless	Yes	104	0.855	3.603	0.866
	No	6,149	0.887	3.712	0.901
	Unknown	1,227	0.891	3.703	0.903
Homeschool	Yes	0	--	--	--
	No	7,480	0.888	3.710	0.901
	Unknown	0	--	--	--
Migrant	Yes	10	--	--	--
	No	4,688	0.882	3.712	0.896
	Unknown	2,782	0.897	3.705	0.909
Military	Yes	100	0.886	3.673	0.897
	No	4,354	0.882	3.711	0.896
	Unknown	3,026	0.896	3.708	0.907
Special Ed	Yes	686	0.900	3.584	0.902
	No	5,567	0.885	3.715	0.899
	Unknown	1,227	0.879	3.710	0.893
Plan 504	Yes	81	0.901	3.692	0.911
	No	6,230	0.887	3.712	0.900
	Unknown	1,169	0.892	3.699	0.903

Calculations based on those students attempting 5 or more items on the given NM-MSSA & ASR assessments. Statistic values are suppressed for those Content Areas/grades with fewer than 50 students.

Table N-33. Reliability and SEM Estimates for NM-MSSA Science (Spanish Transadapted) Grade 8 Operational Set A, as a Function of Subgroup*

Grouping	Subgroup	Number of Students	Coefficient α	Classical SEM	IRT Marginal Reliability
Overall		12,050	0.873	3.592	0.880
Gender	Female	5,755	0.860	3.624	0.873
	Male	6,293	0.883	3.551	0.885
	Unknown	2	--	--	--
Ethnicity	African American or Black	307	0.840	3.530	0.844
	American Indian or Alaska Native	1,650	0.823	3.595	0.836
	Asian	168	0.901	3.698	0.913
	Caucasian	9,642	0.876	3.588	0.883
	Hawaiian Native or Other Pacific Islander	49	--	--	--
	Multi	234	0.879	3.637	0.891
	Unknown	0	--	--	--
Hispanic	Yes	7,502	0.855	3.565	0.861
	No	4,548	0.887	3.631	0.896
	Unknown	0	--	--	--
Bilingual	Yes	1,010	0.816	3.526	0.822
	No	6,331	0.881	3.590	0.887
	Unknown	4,709	0.866	3.607	0.875
Econ. Dis.	Yes	5,726	0.844	3.554	0.850
	No	4,389	0.890	3.620	0.899
	Unknown	1,935	0.861	3.611	0.870
English Learners	Yes	2,321	0.732	3.447	0.740
	No	9,729	0.877	3.617	0.887
	Unknown	0	--	--	--
Foster Care	Yes	1	--	--	--
	No	3,459	0.879	3.590	0.886
	Unknown	8,590	0.870	3.593	0.877
Homeless	Yes	143	0.876	3.494	0.874
	No	9,713	0.875	3.592	0.882
	Unknown	2,194	0.861	3.596	0.868
Homeschool	Yes	4	--	--	--
	No	12,046	0.873	3.592	0.880
	Unknown	0	--	--	--
Migrant	Yes	27	--	--	--
	No	6,861	0.872	3.606	0.881
	Unknown	5,162	0.873	3.574	0.878
Military	Yes	100	0.875	3.698	0.897
	No	6,449	0.872	3.602	0.881
	Unknown	5,501	0.872	3.577	0.877
Special Ed	Yes	2,701	0.820	3.395	0.807
	No	7,884	0.871	3.635	0.883
	Unknown	1,465	0.855	3.583	0.862
Plan 504	Yes	148	0.879	3.624	0.889
	No	9,772	0.875	3.589	0.882
	Unknown	2,130	0.860	3.599	0.867

Calculations based on those students attempting 5 or more items on the given NM-MSSA & ASR assessments. Statistic values are suppressed for those Content Areas/grades with fewer than 50 students.

Table N-34. Reliability and SEM Estimates for NM-MSSA Science (Spanish Transadapted) Grade 8 Operational Set B, as a Function of Subgroup*

Grouping	Subgroup	Number of Students	Coefficient α	Classical SEM	IRT Marginal Reliability
Overall		8,555	0.884	3.588	0.892
Gender	Female	4,248	0.874	3.607	0.884
	Male	4,304	0.894	3.558	0.898
	Unknown	3	--	--	--
Ethnicity	African American or Black	217	0.873	3.538	0.878
	American Indian or Alaska Native	830	0.834	3.520	0.841
	Asian	142	0.920	3.577	0.925
	Caucasian	7,162	0.885	3.596	0.893
	Hawaiian Native or Other Pacific Islander	25	--	--	--
	Multi	179	0.890	3.537	0.896
	Unknown	0	--	--	--
Hispanic	Yes	5,406	0.861	3.575	0.869
	No	3,149	0.902	3.602	0.910
	Unknown	0	--	--	--
Bilingual	Yes	745	0.821	3.531	0.828
	No	4,742	0.890	3.594	0.898
	Unknown	3,068	0.880	3.588	0.888
Econ. Dis.	Yes	4,012	0.855	3.551	0.862
	No	3,579	0.896	3.617	0.906
	Unknown	964	0.881	3.587	0.888
English Learners	Yes	1,364	0.742	3.432	0.750
	No	7,191	0.886	3.608	0.896
	Unknown	0	--	--	--
Foster Care	Yes	1	--	--	--
	No	2,743	0.888	3.591	0.895
	Unknown	5,811	0.882	3.586	0.890
Homeless	Yes	107	0.837	3.566	0.845
	No	7,207	0.885	3.591	0.893
	Unknown	1,241	0.880	3.569	0.887
Homeschool	Yes	1	--	--	--
	No	8,554	0.884	3.588	0.892
	Unknown	0	--	--	--
Migrant	Yes	20	--	--	--
	No	5,351	0.881	3.596	0.890
	Unknown	3,184	0.889	3.575	0.895
Military	Yes	64	0.872	3.602	0.884
	No	5,013	0.882	3.596	0.890
	Unknown	3,478	0.886	3.575	0.893
Special Ed	Yes	741	0.890	3.432	0.879
	No	6,499	0.885	3.596	0.893
	Unknown	1,315	0.858	3.603	0.870
Plan 504	Yes	120	0.864	3.709	0.884
	No	7,272	0.885	3.587	0.892
	Unknown	1,163	0.879	3.579	0.887

Calculations based on those students attempting 5 or more items on the given NM-MSSA & ASR assessments. Statistic values are suppressed for those Content Areas/grades with fewer than 50 students.

Table N-35. Reliability and SEM Estimates for NM-MSSA Science (Spanish Transadapted) Grade 11 Operational Set A, as a Function of Subgroup*

Grouping	Subgroup	Number of Students	Coefficient α	Classical SEM	IRT Marginal Reliability
Overall		9,274	0.870	3.805	0.884
Gender	Female	4,657	0.848	3.802	0.860
	Male	4,616	0.885	3.797	0.900
	Unknown	1	--	--	--
Ethnicity	African American or Black	208	0.818	3.840	0.846
	American Indian or Alaska Native	1,460	0.811	3.712	0.827
	Asian	143	0.899	3.871	0.917
	Caucasian	7,257	0.873	3.815	0.886
	Hawaiian Native or Other Pacific Islander	18	--	--	--
	Multi	188	0.888	3.822	0.903
	Unknown	0	--	--	--
Hispanic	Yes	5,408	0.846	3.774	0.858
	No	3,866	0.887	3.842	0.904
	Unknown	0	--	--	--
Bilingual	Yes	338	0.846	3.782	0.864
	No	2,977	0.880	3.834	0.898
	Unknown	5,959	0.863	3.791	0.875
Econ. Dis.	Yes	3,115	0.828	3.740	0.833
	No	4,851	0.881	3.852	0.901
	Unknown	1,308	0.832	3.728	0.847
English Learners	Yes	1,127	0.692	3.514	0.699
	No	8,147	0.869	3.829	0.885
	Unknown	0	--	--	--
Foster Care	Yes	0	--	--	--
	No	1,487	0.872	3.821	0.891
	Unknown	7,787	0.869	3.802	0.882
Homeless	Yes	125	0.838	3.625	0.843
	No	7,512	0.873	3.819	0.887
	Unknown	1,637	0.846	3.750	0.862
Homeschool	Yes	0	--	--	--
	No	9,274	0.870	3.805	0.884
	Unknown	0	--	--	--
Migrant	Yes	42	--	--	--
	No	6,055	0.868	3.812	0.881
	Unknown	3,177	0.872	3.792	0.887
Military	Yes	51	0.803	3.866	0.838
	No	5,740	0.868	3.809	0.881
	Unknown	3,483	0.871	3.796	0.887
Special Ed	Yes	1,453	0.794	3.525	0.790
	No	7,281	0.868	3.840	0.885
	Unknown	540	0.837	3.742	0.855
Plan 504	Yes	155	0.872	3.891	0.898
	No	7,681	0.872	3.814	0.885
	Unknown	1,438	0.847	3.742	0.862

Calculations based on those students attempting 5 or more items on the given NM-MSSA & ASR assessments. Statistic values are suppressed for those Content Areas/grades with fewer than 50 students.

Table N-36. Reliability and SEM Estimates for NM-MSSA Science (Spanish Transadapted) Grade 11 Operational Set B, as a Function of Subgroup*

Grouping	Subgroup	Number of Students	Coefficient α	Classical SEM	IRT Marginal Reliability
Overall		7,757	0.873	3.813	0.889
Gender	Female	3,977	0.854	3.817	0.873
	Male	3,777	0.888	3.795	0.901
	Unknown	3	--	--	--
Ethnicity	African American or Black	191	0.843	3.776	0.862
	American Indian or Alaska Native	697	0.822	3.715	0.840
	Asian	137	0.917	3.891	0.919
	Caucasian	6,542	0.872	3.819	0.889
	Hawaiian Native or Other Pacific Islander	31	--	--	--
	Multi	159	0.905	3.853	0.922
	Unknown	0	--	--	--
Hispanic	Yes	4,860	0.850	3.778	0.867
	No	2,897	0.888	3.858	0.905
	Unknown	0	--	--	--
Bilingual	Yes	315	0.849	3.744	0.864
	No	2,779	0.878	3.836	0.894
	Unknown	4,663	0.870	3.803	0.886
Econ. Dis.	Yes	2,724	0.829	3.723	0.844
	No	4,531	0.882	3.852	0.900
	Unknown	502	0.834	3.826	0.857
English Learners	Yes	783	0.707	3.496	0.719
	No	6,974	0.871	3.835	0.890
	Unknown	0	--	--	--
Foster Care	Yes	1	--	--	--
	No	1,370	0.865	3.814	0.884
	Unknown	6,386	0.874	3.813	0.890
Homeless	Yes	97	0.842	3.727	0.854
	No	6,884	0.876	3.812	0.892
	Unknown	776	0.829	3.830	0.854
Homeschool	Yes	0	--	--	--
	No	7,757	0.873	3.813	0.889
	Unknown	0	--	--	--
Migrant	Yes	33	--	--	--
	No	5,486	0.869	3.805	0.886
	Unknown	2,238	0.881	3.835	0.895
Military	Yes	49	--	--	--
	No	5,191	0.871	3.802	0.887
	Unknown	2,517	0.876	3.833	0.892
Special Ed	Yes	743	0.832	3.536	0.822
	No	6,466	0.873	3.831	0.891
	Unknown	548	0.825	3.828	0.849
Plan 504	Yes	139	0.868	3.958	0.897
	No	6,993	0.874	3.808	0.890
	Unknown	625	0.842	3.836	0.861

Calculations based on those students attempting 5 or more items on the given NM-MSSA & ASR assessments. Statistic values are suppressed for those Content Areas/grades with fewer than 50 students.

APPENDIX O
DECISION ACCURACY AND CONSISTENCY RESULTS

Calculations based on those students attempting 5 or more items on the given NM-MSSA assessment. Statistic values are suppressed for those content areas/grades with fewer than 50 students.

Table O-1. Decision Accuracy for NM-MSSA English Forms, as a Function of Content Area, Grade, Performance Level, and Cut Score*

Grade	Number of Students	Overall	PL 1	PL 2	PL 3	PL 4	Cut 1	Cut 2	Cut 3
ELA									
3	20,846	0.759	0.855	0.781	0.518	0.793	0.921	0.903	0.929
4	21,058	0.736	0.857	0.713	0.594	0.752	0.912	0.894	0.926
5	21,995	0.694	0.845	0.622	0.554	0.707	0.893	0.877	0.916
6	22,132	0.711	0.816	0.745	0.525	0.730	0.907	0.877	0.920
7	23,381	0.718	0.811	0.772	0.528	0.761	0.916	0.884	0.915
8	23,853	0.701	0.847	0.672	0.442	0.749	0.896	0.883	0.909
Mathematics									
3	20,872	0.780	0.909	0.714	0.616	0.000	0.910	0.913	0.956
4	21,080	0.764	0.897	0.658	0.627	0.000	0.897	0.910	0.955
5	21,995	0.685	0.886	0.575	0.497	0.000	0.896	0.875	0.904
6	22,145	0.715	0.882	0.618	0.587	0.000	0.903	0.879	0.927
7	23,383	0.738	0.885	0.627	0.475	0.731	0.892	0.902	0.936
8	18,646	0.711	0.859	0.683	0.484	0.000	0.881	0.843	0.982
Science (Operational Set A)									
5	11,779	0.788	0.822	0.754	0.793	0.823	0.885	0.929	0.974
8	12,050	0.799	0.755	0.792	0.850	0.847	0.881	0.923	0.994
11	9,274	0.770	0.793	0.617	0.871	0.843	0.872	0.901	0.995
Science (Operational Set B)									
5	7,480	0.779	0.801	0.755	0.789	0.809	0.901	0.912	0.965
8	8,555	0.805	0.635	0.824	0.856	0.845	0.892	0.921	0.992
11	7,757	0.778	0.798	0.624	0.872	0.861	0.885	0.896	0.995

* Calculations based on those students attempting 5 or more items on the given NM-MSSA assessment. Statistical values are suppressed for those content areas/grades with fewer than 50 students.

Table O-2. Decision Consistency for NM-MSSA English Forms, as a Function of Content Area, Grade, Performance Level, and Cut Score*

Grade	Number of Students	Overall	PL 1	PL 2	PL 3	PL 4	Cut 1	Cut 2	Cut 3
ELA									
3	20,846	0.674	0.779	0.707	0.402	0.675	0.887	0.865	0.898
4	21,058	0.641	0.786	0.619	0.479	0.615	0.876	0.853	0.893
5	21,995	0.598	0.772	0.518	0.444	0.547	0.850	0.830	0.878
6	22,132	0.611	0.701	0.672	0.416	0.554	0.869	0.829	0.885
7	23,381	0.619	0.691	0.700	0.422	0.591	0.880	0.835	0.882
8	23,853	0.608	0.771	0.571	0.339	0.608	0.853	0.837	0.868
Mathematics									
3	20,872	0.705	0.866	0.610	0.541	0.312	0.874	0.875	0.947
4	21,080	0.691	0.852	0.547	0.552	0.372	0.857	0.871	0.949
5	21,995	0.611	0.832	0.453	0.437	0.353	0.855	0.826	0.879
6	22,145	0.637	0.828	0.490	0.529	0.282	0.865	0.831	0.910
7	23,383	0.658	0.839	0.517	0.365	0.566	0.850	0.861	0.908
8	18,646	0.622	0.777	0.600	0.380	0.073	0.831	0.791	0.977
Science (Operational Set A)									
5	11,779	0.702	0.755	0.664	0.697	0.698	0.839	0.901	0.962
8	12,050	0.720	0.646	0.728	0.770	0.659	0.836	0.891	0.992
11	9,274	0.690	0.718	0.505	0.802	0.672	0.821	0.860	0.994
Science (Operational Set B)									
5	7,480	0.689	0.711	0.675	0.696	0.676	0.861	0.877	0.949
8	8,555	0.729	0.499	0.771	0.783	0.686	0.852	0.887	0.989
11	7,757	0.701	0.719	0.516	0.809	0.686	0.839	0.854	0.993

Calculations based on those students attempting 5 or more items on the given NM-MSSA assessment. Statistical values are suppressed for those content areas/grades with fewer than 50 students.

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Table O-3. Decision Accuracy for NM-MSSA Spanish Transadapted Forms, as a Function of Content Area, Grade, Performance Level, and Cut Score*

Grade	Number of Students	Overall	PL 1	PL 2	PL 3	PL 4	Cut 1	Cut 2	Cut 3
				SLA					
3	693	0.774	0.861	0.777	0.452	0.624	0.883	0.920	0.966
4	561	0.773	0.882	0.706	0.490	0.675	0.877	0.924	0.969
5	210	0.702	0.831	0.673	0.375	0.000	0.849	0.885	0.957
6	218	0.779	0.853	0.724	0.000	0.000	0.834	0.945	0.982
7	225	0.764	0.842	0.746	0.358	0.000	0.877	0.892	0.982
8	233	0.730	0.882	0.641	0.317	0.000	0.865	0.880	0.961
			Mathematics (Spanish Transadapted)						
3	704	0.800	0.949	0.514	0.000	0.000	0.894	0.905	0.994
4	565	0.784	0.912	0.605	0.539	0.000	0.880	0.921	0.981
5	216	0.722	0.909	0.445	0.000	0.000	0.822	0.894	0.977
6	226	0.716	0.929	0.305	0.000	0.000	0.786	0.920	0.987
7	239	0.785	0.899	0.401	0.000	0.000	0.824	0.950	0.996
8	194	0.655	0.655	0.000	0.000	0.000	0.655	0.974	1.000
			Science (Spanish Transadapted)						
5	216	0.800	0.832	0.764	0.766	0.774	0.838	0.965	0.997
8	222	0.779	0.795	0.773	0.768	0.000	0.834	0.945	1.000
11	192	0.743	0.865	0.546	0.774	0.000	0.825	0.915	1.000

* Calculations based on those students attempting 5 or more items on the given NM-MSSA assessment. Statistical values are suppressed for those content areas/grades with fewer than 50 students.

Table O-4. Decision Consistency for NM-MSSA Spanish Transadapted Forms, as a Function of Content Area, Grade, Performance Level, and Cut Score*

Grade	Number of Students	Overall	PL 1	PL 2	PL 3	PL 4	Cut 1	Cut 2	Cut 3
SLA									
3	693	0.691	0.794	0.709	0.335	0.337	0.836	0.885	0.950
4	561	0.773	0.882	0.706	0.490	0.675	0.877	0.924	0.969
5	210	0.702	0.831	0.673	0.375	0.000	0.849	0.885	0.957
6	218	0.779	0.853	0.724	0.000	0.000	0.834	0.945	0.982
7	225	0.764	0.842	0.746	0.358	0.000	0.877	0.892	0.982
8	233	0.730	0.882	0.641	0.317	0.000	0.865	0.880	0.961
Mathematics (Spanish Transadapted)									
3	704	0.755	0.916	0.462	0.385	0.040	0.852	0.893	0.993
4	565	0.715	0.875	0.494	0.421	0.219	0.833	0.883	0.979
5	216	0.649	0.834	0.396	0.195	0.068	0.761	0.831	0.967
6	226	0.686	0.866	0.265	0.157	0.035	0.745	0.875	0.985
7	239	0.726	0.868	0.319	0.136	0.016	0.769	0.911	0.989
8	194	0.606	0.721	0.435	0.035	0.000	0.634	0.938	0.999
Science (Spanish Transadapted)									
5	216	0.716	0.783	0.660	0.606	0.520	0.771	0.950	0.996
8	222	0.696	0.688	0.721	0.563	0.000	0.775	0.921	1.000
11	192	0.657	0.812	0.444	0.574	0.000	0.758	0.879	1.000

* Calculations based on those students attempting 5 or more items on the given NM-MSSA assessment. Statistical values are suppressed for those content areas/grades with fewer than 50 students

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Table O-5. Overall Kappa, Cut Score False Positive Rates, and Cut Score False Negative Rates for NM-MSSA English Forms, as a Function of Content Area, Grade*

Grade	Number of Students	Kappa	False Positive			False Negative		
			Cut 1	Cut 2	Cut 3	Cut 1	Cut 2	Cut 3
			ELA					
3	20,846	0.542	0.039	0.049	0.038	0.040	0.048	0.033
4	21,058	0.509	0.043	0.053	0.040	0.044	0.053	0.034
5	21,995	0.446	0.053	0.062	0.047	0.053	0.061	0.037
6	22,132	0.442	0.038	0.065	0.050	0.055	0.058	0.030
7	23,381	0.455	0.035	0.055	0.058	0.050	0.061	0.027
8	23,853	0.459	0.051	0.056	0.051	0.054	0.061	0.040
			Mathematics					
3	20,872	0.549	0.041	0.038	0.044	0.049	0.049	0.000
4	21,080	0.525	0.049	0.040	0.045	0.054	0.050	0.000
5	21,995	0.433	0.050	0.046	0.096	0.054	0.079	0.000
6	22,145	0.470	0.049	0.040	0.073	0.049	0.081	0.000
7	23,383	0.484	0.057	0.043	0.038	0.051	0.055	0.026
8	18,646	0.413	0.053	0.072	0.018	0.066	0.085	0.000
			Science (Operational Set A)					
5	11,779	0.568	0.057	0.042	0.015	0.058	0.028	0.011
8	12,050	0.555	0.053	0.043	0.005	0.066	0.034	0.001
11	9,274	0.536	0.068	0.055	0.004	0.060	0.044	0.001
			Science (Operational Set B)					
5	7,480	0.555	0.046	0.051	0.020	0.053	0.036	0.015
8	8,555	0.552	0.054	0.043	0.006	0.054	0.036	0.002
11	7,757	0.549	0.061	0.057	0.004	0.055	0.048	0.001

* Calculations based on those students attempting 5 or more items on the given NM-MSSA assessment. Statistical values are suppressed for those content areas/grades with fewer than 50 students.

Table O-6. Overall Kappa, Cut Score False Positive Rates, and Cut Score False Negative Rates for NM-MSSA Spanish Transadapted Forms, as a Function of Content Area, Grade*

Grade	Number of Students	Kappa	False Positive			False Negative		
			Cut 1	Cut 2	Cut 3	Cut 1	Cut 2	Cut 3
SLA								
3	693	0.498	0.056	0.046	0.029	0.060	0.034	0.005
4	561	0.488	0.062	0.041	0.027	0.060	0.035	0.004
5	210	0.380	0.078	0.058	0.043	0.073	0.058	0.000
6	218	0.421	0.063	0.055	0.018	0.103	0.000	0.000
7	225	0.422	0.053	0.089	0.018	0.071	0.019	0.000
8	233	0.410	0.056	0.083	0.039	0.080	0.037	0.000
Mathematics (Spanish Transadapted)								
3	704	0.489	0.034	0.095	0.006	0.072	0.000	0.000
4	565	0.476	0.054	0.041	0.019	0.067	0.038	0.000
5	216	0.313	0.055	0.106	0.023	0.123	0.000	0.000
6	226	0.233	0.047	0.080	0.013	0.167	0.000	0.000
7	239	0.253	0.078	0.050	0.004	0.098	0.000	0.000
8	194	0.168	0.345	0.026	0.000	0.000	0.000	0.000
5	216	0.497	0.088	0.024	0.002	0.074	0.011	0.001
Science (Spanish Transadapted)								
8	222	0.447	0.063	0.039	0.000	0.103	0.015	0.000
11	192	0.410	0.074	0.062	0.000	0.101	0.023	0.000

* Calculations based on those students attempting 5 or more items on the given NM-MSSA assessment. Statistical values are suppressed for those content areas/grades with fewer than 50 students.

APPENDIX P
PROCESSING & REPORTING BUSINESS REQUIREMENTS

New Mexico Measures of Student Success and Achievement Summative Assessment in ELA/SLA and Mathematics (NM MSSA) and Assessment in Science Readiness (ASR)

New Mexico Public Education Department			
120250: NM MSSA Spring 2022 **130650: NM ASR Spring 2022**			
Version Number	**Date**	**Updated Content Description**	**Updated By Name**
0.1		Initial update to content	W. Bogle
0.11			
0.12			
0.13			
0.14			
1.0			
1.1			
2.0			

Glossary	
PM	Program Management
CBT	Computer Based Test
PBT	Paper Based Test
PED	Public Education Department
MC	Multiple Choice
SRB	Student Response Booklet
EL	English Learner
OE	Open Ended also called Open Response items
FT	Field Test

Approval			
Version	**Printed Name**	**Title**	**Date Approved**

I.   Overview

Testing for New Mexico assessments were done on paper and online. The iTester testing platform was used for online testing. Standard Setting is being done this year for all subjects. The Spanish Language Arts (SLA) assessment is a transadapted version of the ELA test. Testing is done in grades 3-8 in ELA/SLA and Mathematics. Grade 11 students take the Assessment for Science Readiness (ASR).

A.   Points of Contact

Title	Name	Contact Email
Client Services Program Manager	Larry Ehret	Larry.Ehret@cognia.org
Client Services Program Manager	Sarah Owens	Sarah.Owens@cognia.org
Client Services Program Manager	Mara Allaire	Mara.Allaire@cognia.org

B.   Assessments

1) All NM assessments were administered to students beginning March 28, 2022 and ending May 6, 2022.
2) Students were tested online (CBT) and on Paper (PBT).
3) Tests were administered in grades 03-08 for ELA/SLA and grade 11 for Science.
4) A student should take either ELA or SLA, not both.

C.   Reporting Deliverables

1) Prior to test administration
   - Outbound Roster
     o Produced prior to the beginning of the test administration
     o Printed and Shipped with the labels for the student answer documents for paper testers
     o There is a roster for each subject
     o The source of data on the roster is a list of students scheduled for interim MOY iMSSA testing, amended by state or districts pre-id with the rest of students for summative testing
2) Preliminary Reporting (prior to standard setting)
   - Participation File and Item level file to PED
     o Participation data file containing demographics, accommodations
     o Item level data file containing information on all items on the test
     o Files follow NM2122StudentLevelDatafilelayout_Final.xlsx and NM2122ItemlevelDataFileLayout.xlsx
     o The "Included in Participation File" column indicates which fields will be populated
     o Any fields with "N" in the "Included in Participation File" column will be blank but will exist in the data file
     o Files are posted to the ftp site
3) Final Reporting (post standard setting)
   - Student Results Labels
     o *See Student Results Labels Specifications for more information*
     o Student Results Labels are only produced in English

- o   One label per student is produced
- Student Report
    - o   Contains the student performance on the test
    - o   There is one report per student. The report includes all assessments tested at the student's grade.
    - o   The printed Student Report is produced in Spanish only if the student has HomeLanguage="Spanish"
    - o   Cognia will provide Student Report PDFs to eMetric for the Download Hub. This will give schools access to download and print copies of the student report. Only Student Reports in English will be available to download.
    - o   *See Student Report Specifications for more information*
- Student Results data file and Item level file to PED
    - o   Student Results data file containing demographics, accommodations, overall and reporting category performance
    - o   Item level data file containing information on all items on the test
    - o   Files follow NM2122StudentLevelDatafilelayout_Final.xlsx and NM2122ItemlevelDataFileLayout.xlsx
    - o   Files are posted to the ftp site
- eMetric will receive the student results file that PED will receive.
    - o   File follows the NM2122StudentLevelDatafilelayout_Final.xlsx
    - o   Contains student and test level information needed for reporting in eMetric
    - o   The file is posted to the ftp site for eMetric to access
- eMetric will receive from Cognia a summary file containing data summaries to aid in quality assurance of Data Interaction calculations. This data does not get loaded to DI.

- eMetric will receive from Cognia a data file containing all data necessary to produce a summative Item Analysis Report in Data Interaction

    - o   Data included is defined in the ItemAnalysisReportFileLayout.xlsx

D.   Delivery of Reports

- 1 copy of the Student Report is printed and shipped
- 1 set of Student Results Labels is printed and shipped
- Online reports are available to the school and district, in eMetric's Download Hub, where the student tested. Students who test at different schools are reported to the last school where they tested
- Online reports are run by grade and school
- Paper reports are shipped to the district associated with their tested school. The report is shipped to the district associated with the last school the student tested if the student tests at different schools.

II.   Pre-Test Administration Processes

This section describes the data preparation for student records pre-test administration:

1)   The Pre-ID data file is used to provide answer booklet labels for students in the Pre-ID data file.
    i)   A total record count will be provided with the final label data to iCore Distribution
    ii)   Each student label has a unique Barcode associated with a Student ID
    iii)   One student label is printed for each booklet being administered

2) The Pre-ID data is used to produce the Outbound Rosters that accompany the answer booklet labels.

A.   ELA Test Design

Each MSSA test is administered in 2 sessions. The form contains core operational items and matrix field test items. The core operational items are seen by all students and count toward the student's score.

ELAGrades 3-8 (Spring 2022)	Passage-Based Items				Total Items	Total Points	
	Passage Sets	MS-1	MS-2	WP		Min	Max
Core Operational Items	6	32	6	0	38	44	44
Matrix Operational Items	0	0	0	0	0	0	0
Matrix Field Test Items	2	5	1	1	7	14	14
Total Student Experience	8	37	7	1	45	58	58

ELA Item Types

Type	Description	Points
MS-1	Machine Scored-Multiple Choice or Multi-Select	1
MS-2	Machine Scored-Evidence based Selected Response (EBSR)	2
WP*	Writing Prompt	7

*In Spring 2022, Writing Prompts will not count toward the student's score.
EBSRs are 2-part items. Students can earn a score of 0, 1, or 2 on EBSR items.

B.   Math Test Design

Each MSSA test is administered in 2 sessions. The form contains core operational items and matrix field test items. The core operational items are seen by all students and count toward the student's score.

Mathematics Grade 3.4.5	Discrete Items			Total Items	Total Points	
	MS-1	CR-3	CR-6		Min	Max
Core Operational	33	2	2	37	51	51
Matrix Operational	0	0	0	0	0	0
Matrix Field Test Items	5	1		6	8	11
Total Student	38	5		43	59	62

Mathematics Grade 6.7	Discrete Items			Total Items	Total Points	
	MS-1	CR-3	CR-6		Min	Max
Core Operational Items	36	2	2	40	54	54
Matrix Operational	0	0	0	0	0	0
Matrix Field Test Items	5	1		6	8	11
Total Student	41	5		46	62	65

Mathematics Grade 8	Discrete Items			Total Items	Total Points	
	MS-1	CR-3	CR-6		Min	Max
Core Operational Items	37	2	2	41	55	55
Matrix Operational	0	0	0	0	0	0
Matrix Field Test Items	5	1		6	8	11
Total Student	42	5		47	63	66

Math Item Types

Type	Description	Points
MS-1	Machine Scored -Multiple Choice or Multi-Select	1
CR-3	Hand scored-Constructed Response-may be a single prompt or multi-part item	3
CR-6	Hand scored-Constructed Response-may be a single prompt or multi-part item	6

Partial credit allowed for multi-part items.

C.   Flawed Item

During the key verification process an item may be identified for various reasons to be "flawed". If an item is identified as flawed it will be listed here. A decision may be made to not count the item in the student's overall score for the subject. If it should not count in the student's score, the item will be marked flawed, and the students will not be disadvantaged for their response on the item. An 'X' will be placed in the item attempt column for the item for all students.

An issue with question 5 (item#747529) Grade 8 Science was experienced by some students at a school during testing. There was a setting on the school's Chromebooks that didn't allow the response box to show. 214 students submitted tests without responding to this question. The item is a 4-point item. The solution is that for the 214 students the item will be treated as a flawed item as described above. An "X" will be placed in the item attempt column of their test. The students will be on a separate scaleform.

D.   Item Attemptedness

Item Type	Value to meet Attemptedness
MS-1	Non-blank response to the item, *=paper only for single select items
MS-2	Non-blank response to the item
CR	Non-blank response (numerical score given)
WP (not scored in 2022)	N/A

E.   Forms
- There is a Spanish version of the Math test.
- There is a Spanish version of the Math breach test.
- The accommodated form is form 1 for each subject and grade.
- SLA forms are the transadapted version of ELA form 1 English.
- A breach form is available for each grade and subject. No breach forms were administered in 2022.

III. Post-Test Assessment Administration

The Test Assessment Administration window was defined and closed prior to processing and reporting for Student Assessment Reporting. The commencement of the testing window-initiated activity to complete all Results and Reporting to the Client.

A.   Student Data Processing

1. Student Names will have all periods, commas and apostrophes removed
   a) Middle Name is the First Initial of the Middle Name or blank if not available
   b) Special characters (any non-letter characters) shall be set to blank
2. Records are suppressed from processing if all Name fields, Student ID and Test Items are blank.

B.   Scan Paper Delivery and Data Denotation

1. Each Paper test is scanned and delivered immediately to the Reporting Data Processing team. At the time of receipt, Data Processing will perform procedures to accurately identify inaccuracies in the data. The data will be formatted as specified in the Scan Delivery Layout Format.
2. All discrepancies with the Scan File will be resolved accordingly
3. Any Student Response Booklet where VOID is bubbled and there is at least one item that is attempted shall be researched via Webdesk system. See Data Processing Specifications for resolution of Void bubbles.

C.   Discrepancy Processing

1. Duplicates may exist where there is more than one data record with the same Student ID, be the record online or paper.
2. Duplicate Test records with the same Student ID/Grade/Language will be combined or otherwise suppressed. See *Data Processing Specifications* for resolution of duplicate tests.
a) If there is a duplicate where the student takes one session in one test instance and another session in another test instance, the 2 sessions will be combined/merged to created one complete test.
   - If the schools differ between session 1 and session 2, the school from where the last session taken will be used for reporting (if it can be determined by the session updated dates for online tests). This school is the transfer school.
   - The record will be flagged in the data file as being a merged record.
   - If an online session is merged with a paper session, test mode flag is set to "both".
b) Duplicate Test Cross Language: a student has taken both a Spanish and an English form of the same test. If the forms have at least 1 item attempted, send a report to

PED for research and resolution. PED will resolve by indicating which form/test will be invalidated.

3. Duplicate Cross Grade tests are identified as more than one test taken with two different grades from the same student.

a) Should the Student have no work in the off-grade book or the book is void and there is work in the matching grade test, suppress the off-grade test.

b) If both books have responses, send a report to Program Management for research and resolution.

4. Braille Validation-Paper tests only

c) Send PM a report for confirmation of booklets with Student with the Braille Accommodation bubbled for any subject

d) Should PM determine student is not Braille, clear the Braille Accommodation bubbled

e) Program Management will provide a list of any items that could not be Brailled. There are no such items in 2022.

5. If a test has sessions split between paper and online, the sessions will be merged to create one test.

D. Scoring Data

Scoring division provides Reporting Data Processing with the open response scores for all tests.

1. Every score record will contain valid scores for all items
    a) A validation of score values will be performed against the scoring specifications
    b) If a score value is found to be invalid, resolution will be done by the Scoring Division
2) Each score record is associated with a Booklet ID or a Test ID
    a) If a score record is received without an associated Test or Booklet ID, resolution will be done with the Scoring Division
3) All unresolved scoring records will be included in a report to the Scoring Division, for research and resolution
4) The following values will be received from Scoring (iScore system):
   B=Blank
   U=Unreadable with code number 51
   F=Non-English with code number 53
   W=Wrong Location with code number 52
   O=Off Topic with code number 54
5) Score values of U and W will be blanked out and reported with a null/blank value
6) Score values of B, F and O will be given a score of 0 for analysis purposes.

E. Scaling and Equating

1. In 2022, a standard setting meeting will be conducted to set standards for ELA, Math and Science
2. After standard setting scale score lookups will be available from Psychometrics
3. The scale score range begins with the grade as follows:
     Grade 3 - 300-390
     Grade 4 - 400-490
     Grade 5 - 500-590
     Grade 6 - 600-690
     Grade 7 - 700-790

Grade 8 - 800-890

Grade 11 - 1100-1190

4. The scale score lookups are applied and used to assign scale scores based on the student's overall raw score and assign achievement levels.

F. Score calculations

1. Hand scored items scored on multiple dimensions will have the dimension scores summed for the final reported score for the item.
2. Only Core Operational items are included in a student's overall raw score.
3. The overall raw score is used to determine the student's scaled score.
4. The scaled score determines the achievement level the student has attained.
5. Flawed items will not count toward a student's overall score.

G. Reporting Categories

1. The PassageType column in NTS provides the Reporting Categories for the Reading items.

Grade(s)	Subject	Reporting Category	Reporting Order
All	ELA	Text Type-Literary Text	1
		Text Type-Informational Text	2
		Reading Strategy-Comprehension	3
		Reading Strategy-Analysis & Interpretation	4
3-5	Math	Operations & Algebraic Thinking	1
		Number & Operations in Base Ten/Number & Operations-Fractions	2
		Measurement & Data/Geometry	3
		Problem Solving/Reasoning & Argument	4
		Modeling/Structure & Repeated Reasoning	5
6-7		Ratios & Proportional Relationships	1
		The Number System/Expressions & Equations	2
		Geometry/Statistics & Probability	3
		Problem Solving/Reasoning & Argument	4
		Modeling/Structure & Repeated Reasoning	5
8		Functions	1
		The Number System/Expressions & Equations	2
		Geometry/Statistics & Probability	3
		Problem Solving/Reasoning & Argument	4
		Modeling/Structure & Repeated Reasoning	5
5,8,11	Science	Physical Sciences	1
		Life Sciences	2
		Earth and Space Sciences	3

2. Writing has no reporting categories in 2022.
3. Subdomain indicators provided by Psychometrics are reported for the reporting categories. Values:1=Below Standard, 2=At/Near Standard, 3=Above Standard

4. A Reading scale score, provided by Psychometrics, is reported on the overall ELA scale
5. A Writing scale score, provided by Psychometrics, is reported on the overall ELA scale

H. Test Attemptedness

Attemptedness is based on attempts to core operational items only. See item attempt rules above.

1) If a session is voided, any items attempted in that session will be blanked out and will not count toward test attemptedness.

2) Students with Parental Refusal will have their items blanked out and no item will count toward test attemptedness.

3) Blanking of items as referenced in #1 and #2 above is done prior to determining test attemptedness. Therefore, no students with Parental Refusal marked will meet test attemptedness. Students with all sessions voided will also not meet test attemptedness

4) Only field test items can have a null score meaning that the item was not scored

5) Field test items do not count toward attemptedness

6) A student is classified into 2 possible attempt groups of Attempt Status:

a) Attempt Status 0 is assigned to the test if the student did not provide a valid response to at least 5 operational items

b) Attempt Status 1 is assigned to the test if the student provided a valid response to at least 5 operational items on the test

I. Not Tested Reasons

The following not tested reasons are applicable:

Subject	Code	Not Tested Reason
ELA/SLA	01	Withdrew Before Test Completion
	02	Non-Allowed Modification
	03	Language Exempt for Reading Only
	04	Medical Emergency
	05	Parental Refusal
	06	Other Non-Completion
	07	Test Irregularities
	08	Absent
	09	COVID exemption
Math and Science	01	Withdrew Before Test Completion
	02	Non-Allowed Modification
	04	Medical Emergency
	05	Parental Refusal
	06	Other Non-Completion
	07	Test Irregularities
	08	Absent
	09	COVID exemption

1. Not tested reasons can be marked by the test administrator in iTester during the testing window or marked on the scannable for paper testers.
2. Currently a not tested reason can be assigned by an LEA for a student only at a subject-level, not a session-level.

3. The following hierarchy is applied if more than one not tested reason is marked. Priority is listed from highest to lowest.

ELA/SLA:
> Invalidated test
> Void test
> Language Exempt
> COVID exemption
> Medical Emergency
> Parent Refusal
> Absent
> Withdrew
> Test Irregularities
> Non-Allowed Modification
> Other Non-Completion

Math and Science:
> Invalidated test
> Void test
> COVID exemption
> Medical Emergency
> Parent Refusal
> Absent
> Withdrew
> Test Irregularities
> Non-Allowed Modification
> Other Non-Completion

4. Not tested reasons are applied if a test does not meet the test attemptedness rule above. If the test meets attemptedness the not tested reason is ignored and the test receives a score. See section G above to see how Parental Refusal and all sessions Voided are dealt with.
5. If a test does not meet attemptedness and no Not Tested Reason is marked, the student is classified as "Did Not Reach Minimum Attempt".
6. Not tested reasons are applied per subject.
7. Void Tests
   - Paper tests can be voided by filling in the void bubble
   - Online tests can be voided by test administrator in the testing platform
   - Voids online are applied by session. While Voids for paper test are applied to a whole subject.
   - Void sessions will have any attempted items blanked out
8. Test Invalidations:
   PED's decision to invalidate a test or session is determined by the testing irregularity that is reported by the LEA. The invalidations are classified as impactful or non-impactful. Impactful irregularities will be invalidated.
   - PED may choose to submit Invalidations during data discrepancy period.
   - Due to testing irregularities such as cheating, a test can be invalidated.

- Before a test can be invalidated by the district, the invalidation must be approved by the state.

J. Participation Status

Based on the above rules a student is assigned a participation status for each subject.

1) Participation status is determined using both the test "Attempt Status" value and the "Not Tested Reason"

a) If Attempt Status is 0 (the test has no operational items with valid attempts or less than 5 items with valid attempts), and

the test has a "Not Tested Reason", then the Not Tested Reason is reported, otherwise, the test is reported as "Did Not Reach Minimum Attempt".

b) If Attempt Status is 1 (the test has at least 5 operational items with valid attempts),

i) The student is classified as Tested and will receive a scaled score for a test based on non-blanked items as described in section G above and in the table below.

ii) If the student has a Not Tested Reason, the Not Tested Reason is ignored. Exception is parental refusal.

2) Regardless of the test attempt status, if a student is on the test invalidation list from PED, their test will be marked as Invalidated.

3) Only "Tested" students, that is, students who meet attemptedness will be included in analyses.

4) The following table summarizes participation

*In DI, if a student meets attemptedness and also has a test report code, both the score and

Participation Status	Code	Assigned a Scaled Score and Achievement Level	Included in the State Results Data File	Reported in DI*	Included in Aggregations
Tested	Z	Yes	Yes	Yes	Yes
Absent	J	No	Yes	Yes	No
Medical Emergency	F	No	Yes	Yes	No
Parent Refusal	G	No	Yes	Yes	No
Withdrew	C	No	Yes	Yes	No
Test Irregularities	I	No	Yes	Yes	No
Non-Allowed Modification	D	No	Yes	Yes	No
Other Non-Completion	H	No	Yes	Yes	No
Language Exempt	E	No	Yes	Yes	No
Test Invalidation	L	No	Yes	Yes	No
Did Not Reach Minimum Attempt	B	No	Yes	Yes	No
Void test	K	No	Yes	Yes	No
COVID exemption	A	No	Yes	Yes	No

the test report code will be displayed. If the student does not meet attemptedness the participation status will be displayed.

IV. Rules pertaining to Calculating Classical Stats

A. Ethnicity:

Race and Ethnicity will stay the same as entered by state or overwritten by district during pre-id window.

In order to perform DIF stats, the following process will be followed to collapse the Hispanic and Race fields into one variable:

- If a student has a Yes for Hispanic, the Ethnic value for the student will be
    H=Hispanic
- Otherwise, the Ethnic value will be equal to the Race value
    B=Black
    P= Native Hawaiian/Other Pacific Islander
    A=Asian
    I=American Indian/Alaskan Native
    C=Caucasian/White
    M=Multirace
- For the purposes of DIF stats the Asian and Native Hawaiian/Other Pacific Islander categories are combined

B. DIF Stats Definition table:

DifVariable	DemoVariable	RefValue	FocValue	RefText	FocText
MF	Gender	M	F	Male	Female
WB	Ethnic	C	B	White	Black
WH	Ethnic	C	H	White	Hispanic
1	Ethnic	C	I	White	Native American
2	Ethnic	C	A	White	Asian/Native Hawaiian/Other Pacific Islander
6	Ethnic	C	M	White	Multirace
3	SpecialEd	N	Y	Non Sped	Sped
4	EconDis	N	Y	Non EconDis	EconDis
5	EL	*0,2,3,4,5,6	1	Non EL	EL

*EL values to be combined to create the non-EL Reference group

V. Data Deliverables Specific Rules

A. Student Results data file delivered to the PED and eMetric

a. The data file contains tests with a Tested status and tests with a Not Tested reason.

b. Naming convention of the data files: NM2122StudentResults.csv and NM2122ItemLevelResults.csv

c. If a student's test was merged to create one test, then the *mergedtest* flag is set to 1, otherwise it is set to 0.

d. If the *mergedtest* flag is set to 1 and the student tested at 2 different locations, the last school (where the last session was attempted) is reported

as *Discode, Schcode*. The first school (different from the last) is reported as *TransferDiscode, TransferSchcode*.

 e. If the *mergedtest* flag is not 1 then *TransferDiscode* and *TransferSchcode* are blank.

 f. The files are stacked by subject so that a student appears as many times as they have tests in the student results file.

 g. Students with Homeschool flag set will be reported back to the district where they tested.

 h. The file contains all grades.

 i. NumAttempted is the number of operational items in the test that met the item attemptedness rules described above. NumAttempted does not include Field Test items.

 j. Students with a not tested reason and meet attemptedness will be reported in the file with their assigned scaled score and achievement level. In DI, they will be reported with both their score and their not tested reason.

 k. All items are included in the item level data file.

 l. SpecialEd and Plan504 cannot both be marked for test record.

B.   Participation File to PED

 a. This file follows the same layout as the Student Results data file

 b. This file is produced prior to standard setting and therefore does not have the overall scale score, and achievement level populated. It also does not have the reporting category performance indicators populated.

 c. Column "Included in Participation File" indicates which fields will be blank and which will be populated. If the field has "N" the field will be blank.

C.   Item Analysis Report data to eMetric

 a. The file contains all data needed for eMetric to produce the Item Analysis report in DI.

 b. The file follows the layout NM2122ItemAnalysis.xlsx

 c. The file is posted to the sftp site for eMetric to access.

 d. The file is produced as a csv file.

 e. The file contains the relevant data for all subjects: ELA, Math and Science.

 f. For the calculation of the item mean scores, if the number of included items is less than 50 the mean score is suppressed and not reported.

 g. Psychometrics provides the values for Difficulty Order and the Achievement Level for the data file.

 h. School, district and state mean scores are rounded to 2 decimal places.

VI.   Report Specific Rules

A.   Student Report

 a. A student receives a student report if at least one subject has partstatus='Z'. That is, the student is classified as Tested for at least one subject.

 b. Student Reports are sent back to where the student tested last across all subjects.

    c. The report combines the results for all subjects, ELA/SLA, Math and Science.
    d. Students with HomeLanguage="Spanish" will receive their student report in Spanish.
    e. School, district and state scale score averages rounded to the nearest whole number.
    f. Aggregations are reported only if the entity has at least 10 included students. Only students with participation status='Z' are included in aggregations.
    g. If a student is receiving a report and has 1 or 2 subjects with a not tested reason, the not tested subject(s) is reported in the following manner:
        i. On the front page "Student did not test in this area" appears under the subject title
        ii. The rest of the subject section on the front page is left blank
        iii. On the inside pages (ELA or Math) or the back (Science) if applicable, the reporting category names are printed. The rest of the table is left blank
        iv. The comparison school, district and state bars are printed unless the bars are suppressed due to N-size suppression rules
        v. There is no student score vertical bar printed
    h. See *Student Report Specifications* document for further details on the Student report.

B.   Student Results Labels

    a. A Student receives a student results label if at least one subject has partstsatus='Z'. That is, the student is classified as Tested for at least one subject.
    b. Student Labels are sent back to where the student tested last across all subjects.
    c. The label combines the results for all subjects: ELA/SLA, Math and Science according to the student's tested grade.
    d. See *Student Results Label Specifications* document for further details on the Student labels.

VII. Cognia Use Only

A.   Reporting Products

Contract Code	Description	Report Type	Report For	Grade(s)	Report Subtype	Content Code	Qty
120250	Student Labels	07	1	03-08,11	03	00	1
120250	Student Report -Parent copy	07	1	03-08,11	02	00	

B.   Details for Item Analysis Report data file

    1. Values of 2 and 7 in Process field in NTS indicate Math Practices
    2. Only English items are included

C.   eMetric Metadata file for Student Report PDFs

    i. The column headings for the file are:
       ProgramName,ReportName,Year,Grade, Org_Num, PDF_name
    ii. The file is a csv file
    iii. The naming convention for the file is NM2122_PDFmetadata.csv
    iv. The file is posted to the ftp site for eMetric to access
    v. Org_Num=Districtcode-Schoolcode

      vi.   Year=2022

     vii.   ProgramName=MSSA and ASR

    viii.   ReportName=Individual Student Report

     ix.   Web file naming convention:
NM2122StudentReport_Gr[GG]_<districtcode||schoolcode>.pdf

D.   Pinned Item

Administration: MSSA
Year: AY2122
Grade: 8
Subject: Math
Impacted form(s): All English/Spanish (CBT/PBT)
Asset ID (item number)
  540951 (English)
  NM105074 (Spanish)
Item position: 29 (all forms)
Item: Operational
Issue: CD found a better answer among possible answers, neither of which were in line with "best fit"
Action required: DO NOT SCORE

VIII.   Appendix

A.   Addenda

- (6/17/22) Per Psychometrics: <u>All</u> aggregations for Spanish tests will only include Spanish tests and <u>all</u> aggregations for English tests will only include English tests.
- 2 Grade 8 Math Items Flawed-English item 540951 and the Spanish item 105074
- Cognia sets TestReportCode=99 for PED approved void tests

APPENDIX Q
CUMULATIVE SCALED-SCORE DISTRIBUTIONS

Figure Q-1. Cumulative Scaled-Score Distribution for ELA—Grade 3
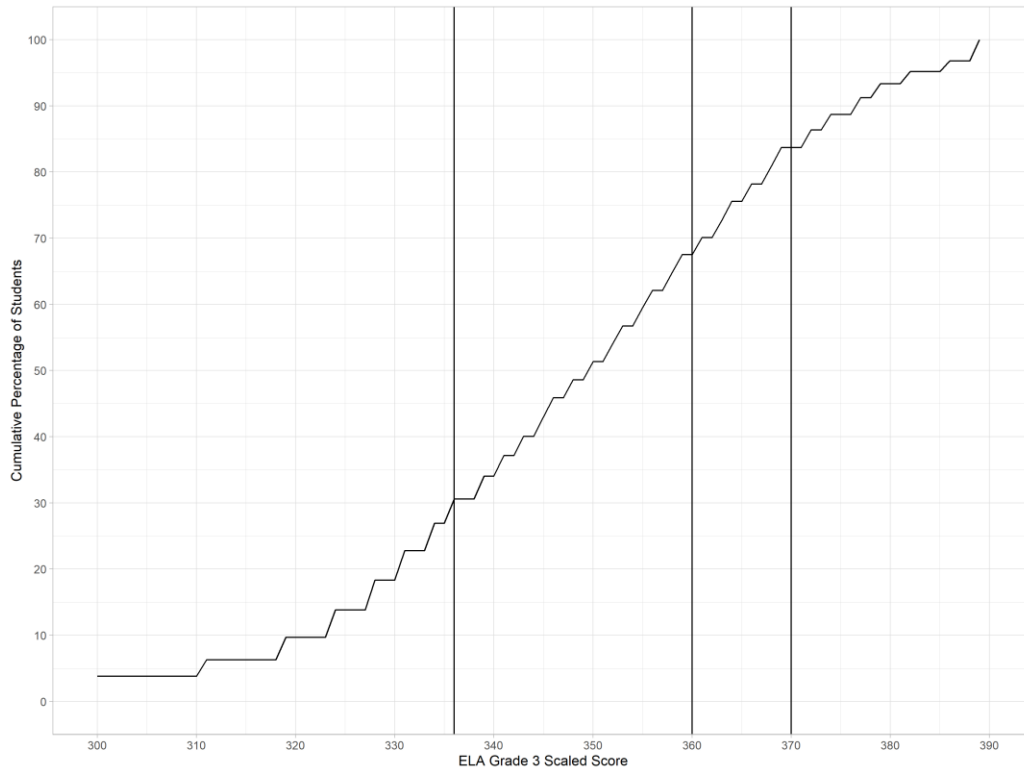
Figure Q-2. Cumulative Scaled-Score Distribution for ELA—Grade 4
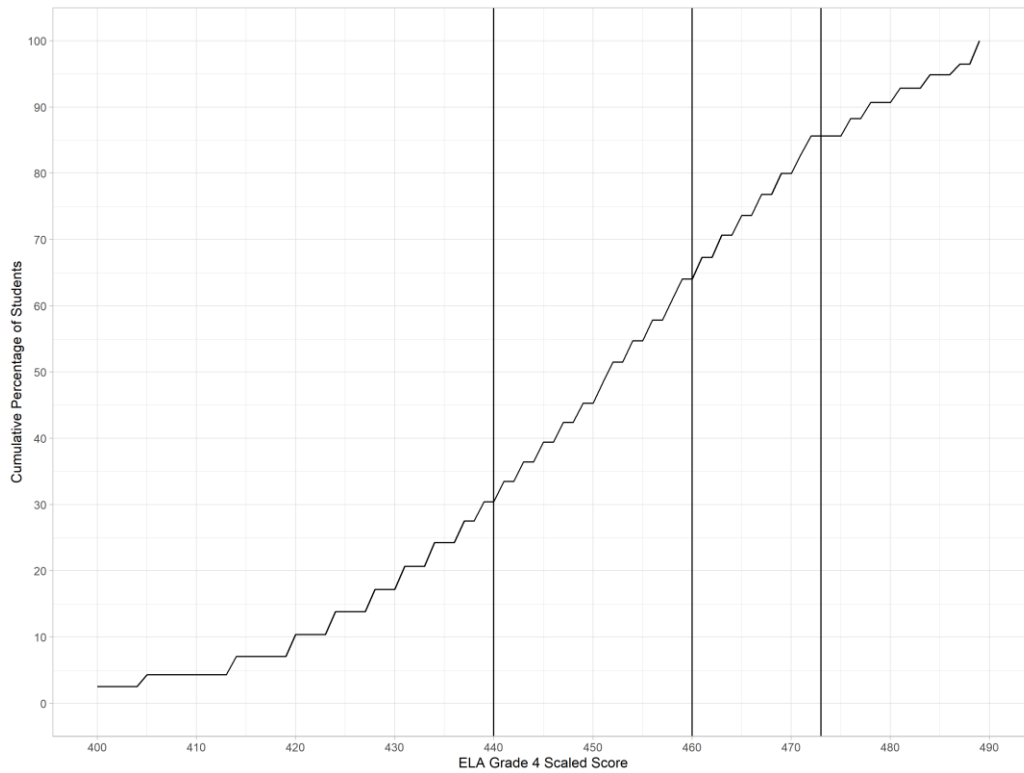
Figure Q-3. Cumulative Scaled-Score Distribution for ELA—Grade 5
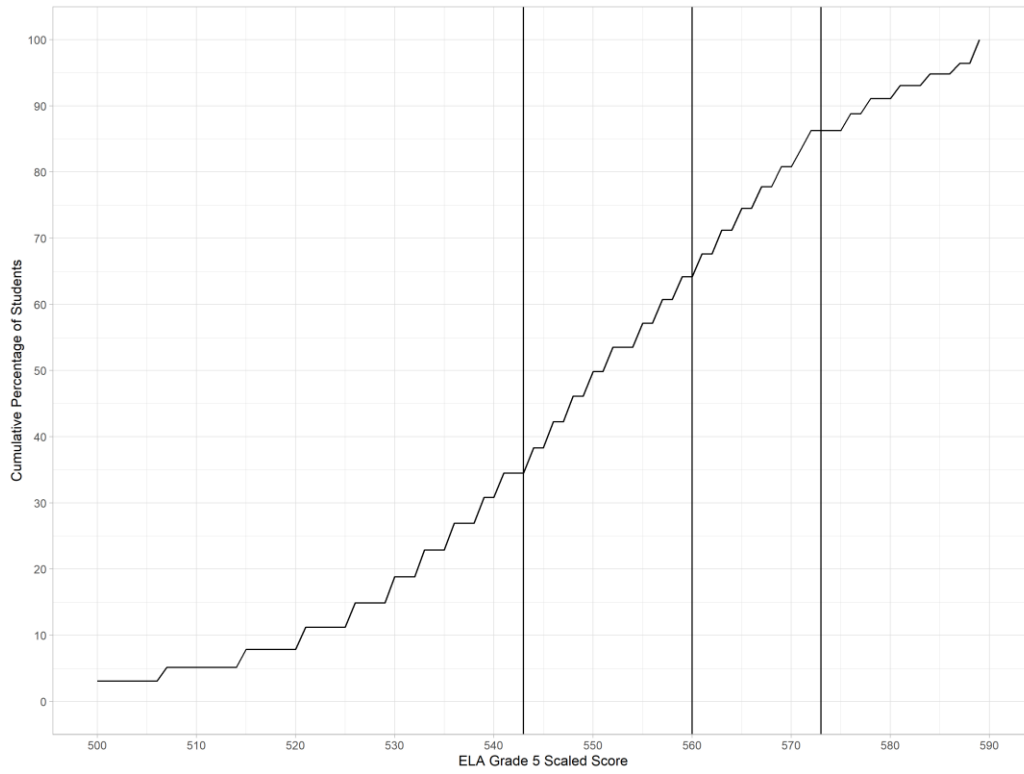
Figure Q-4. Cumulative Scaled-Score Distribution for ELA—Grade 6
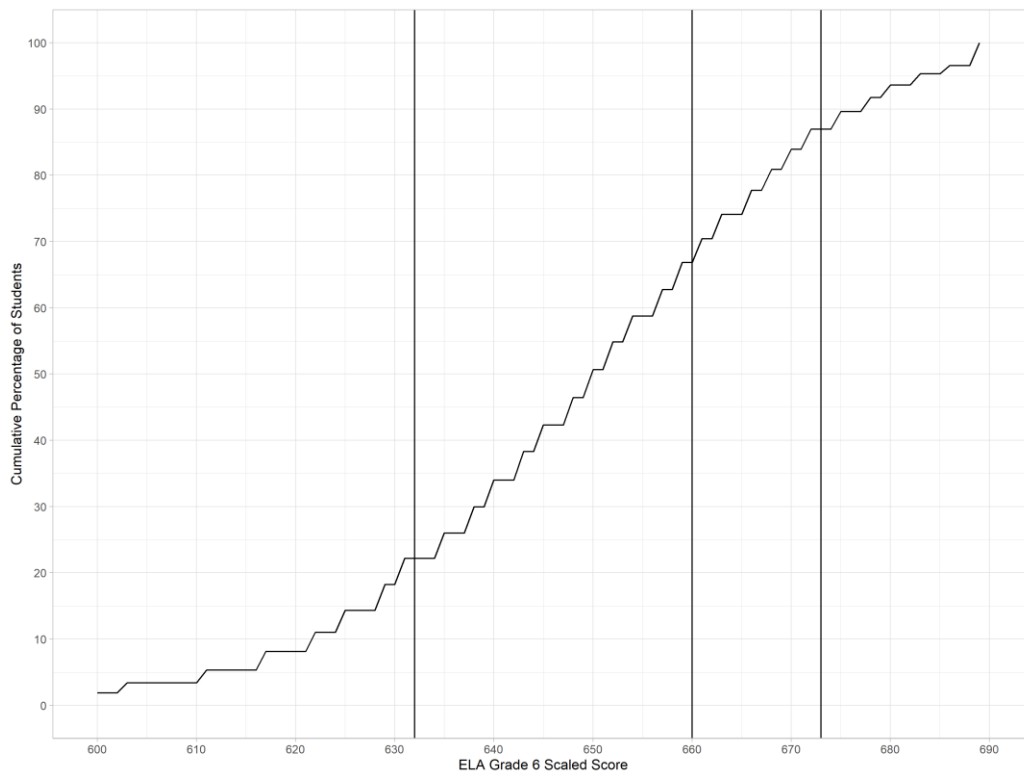
Figure Q-5. Cumulative Scaled-Score Distribution for ELA—Grade 7
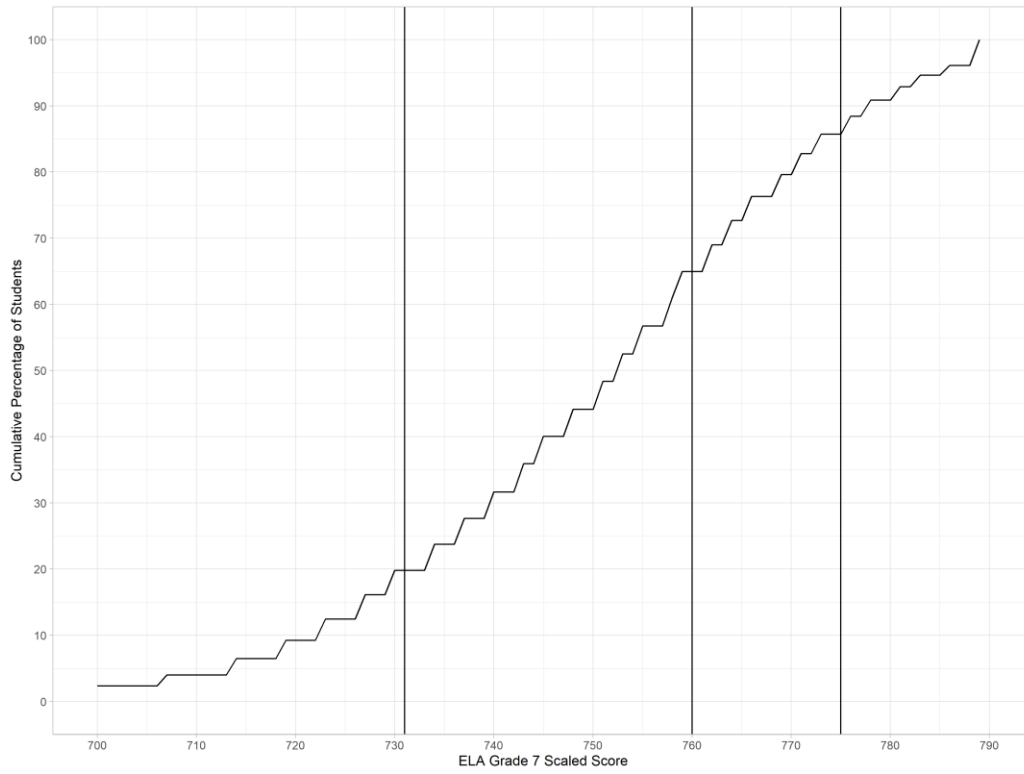
Figure Q-6. Cumulative Scaled-Score Distribution for ELA—Grade 8
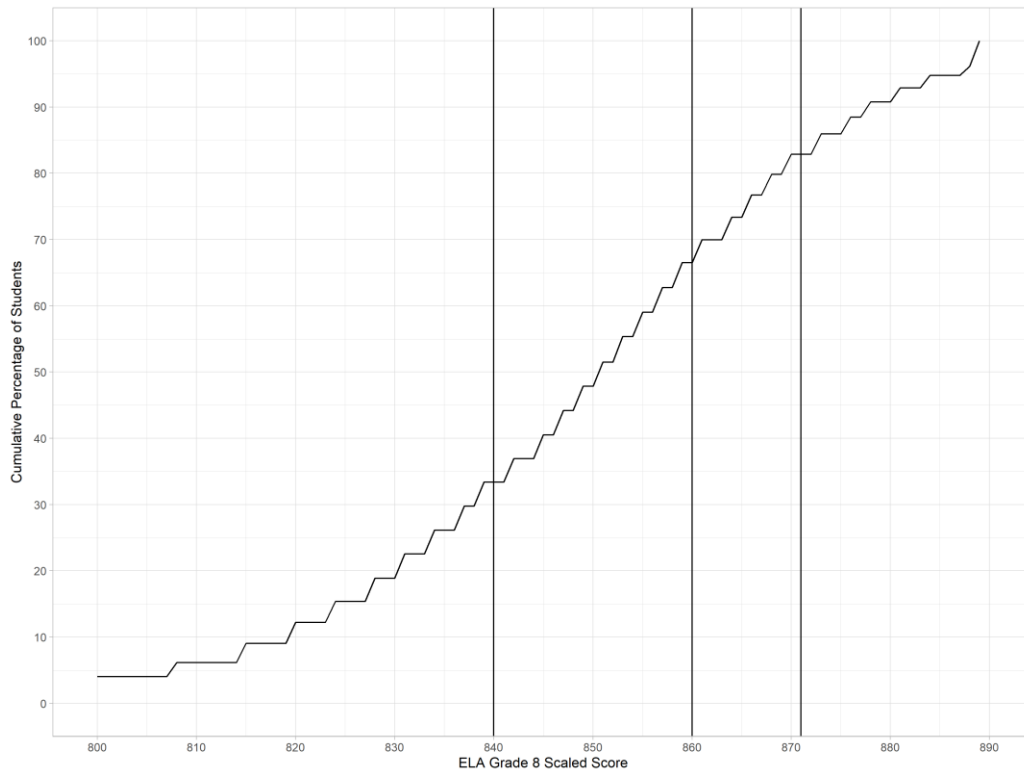
Figure Q-7. Cumulative Scaled-Score Distribution for Mathematics—Grade 3
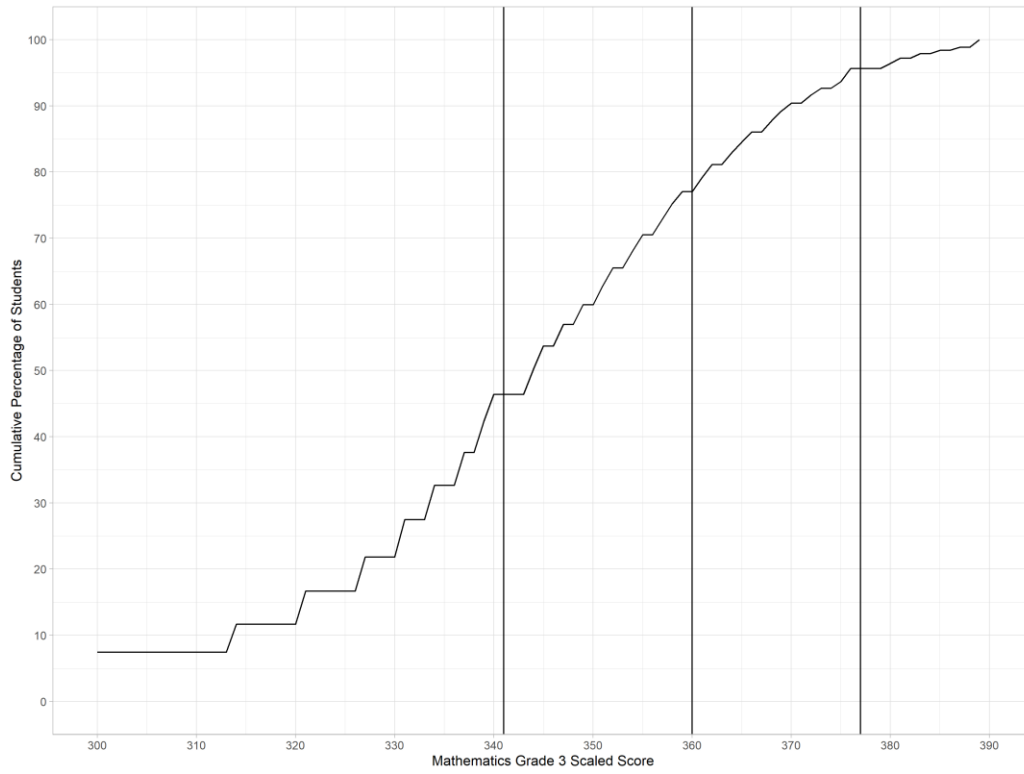
Figure Q-8. Cumulative Scaled-Score Distribution for Mathematics—Grade 4
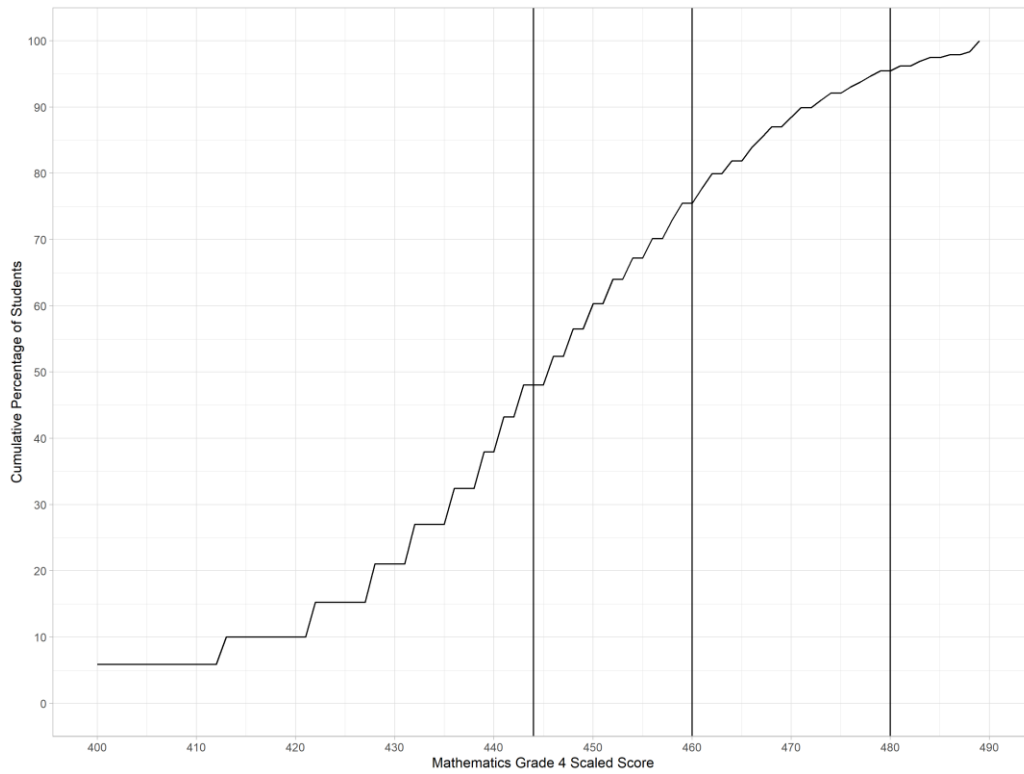
Figure Q-9. Cumulative Scaled-Score Distribution for Mathematics—Grade 5
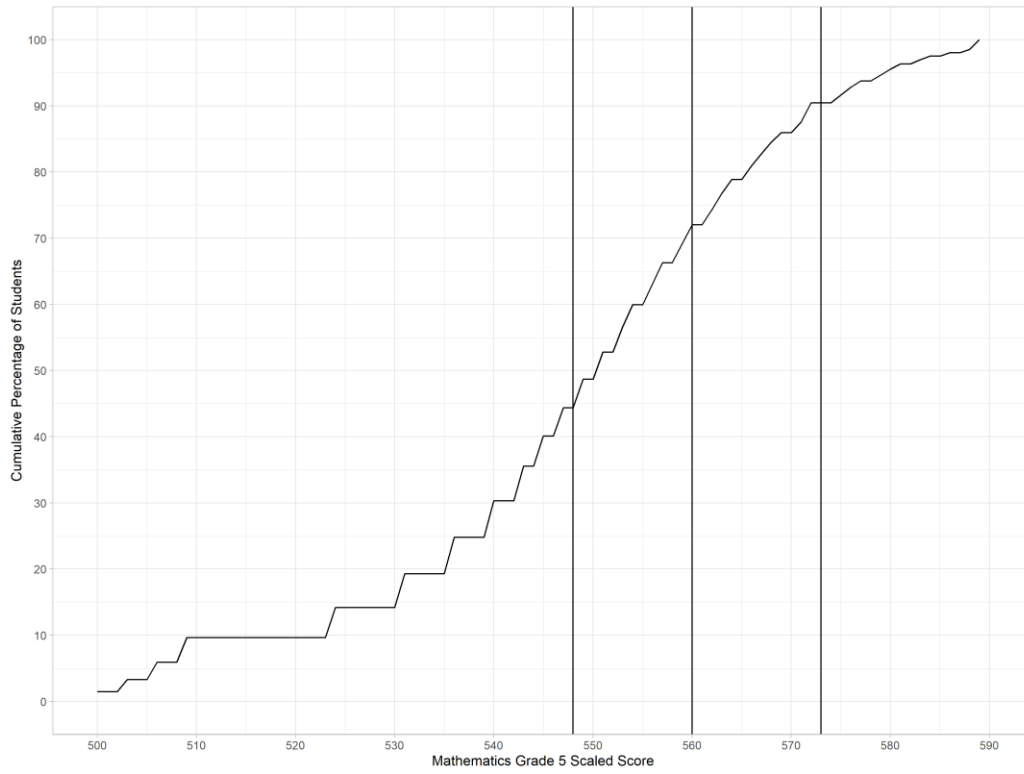
Figure Q-10. Cumulative Scaled-Score Distribution for Mathematics—Grade 6
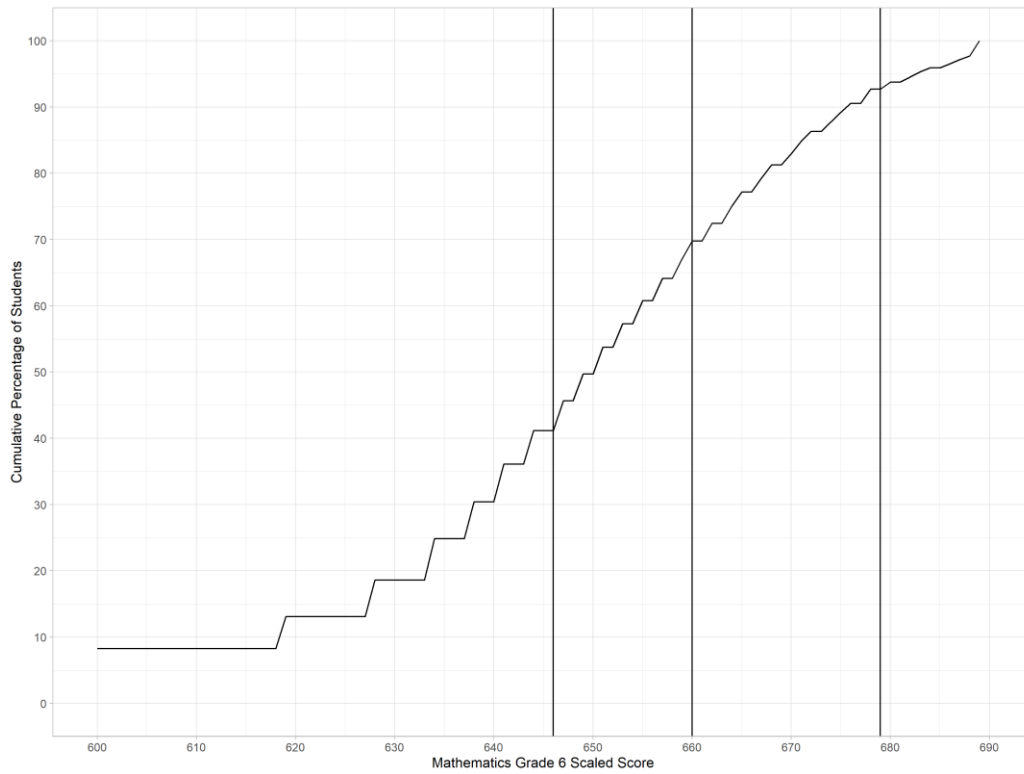
Figure Q-11. Cumulative Scaled-Score Distribution for Mathematics—Grade 7
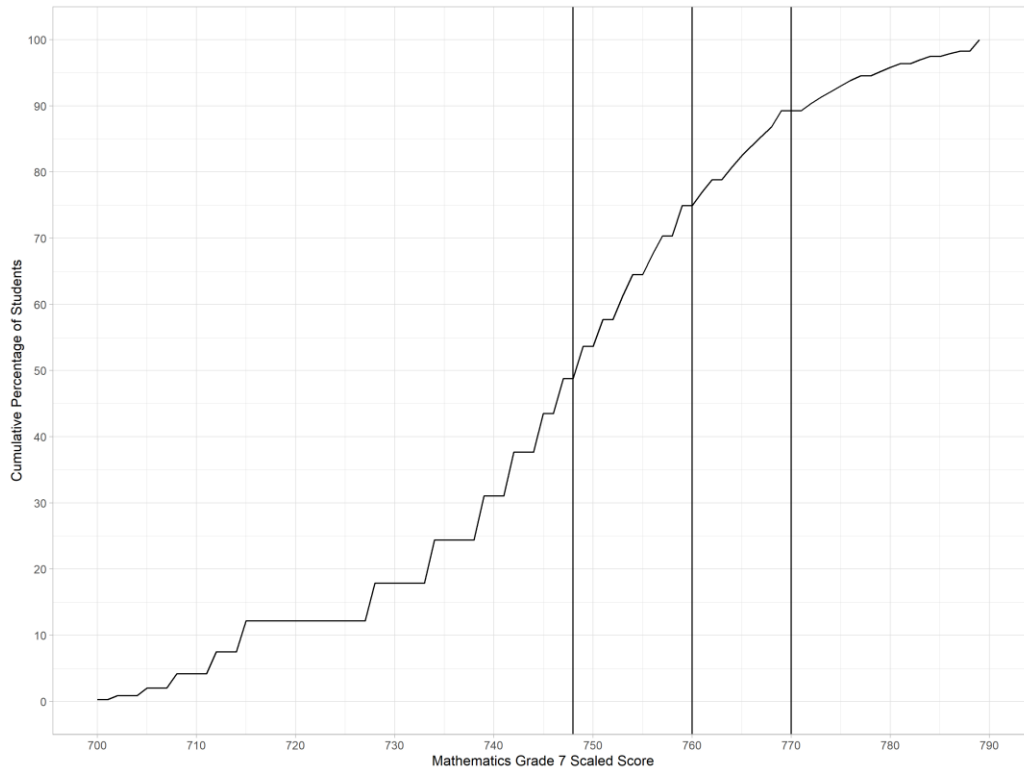
Figure Q-12. Cumulative Scaled-Score Distribution for Mathematics—Grade 8
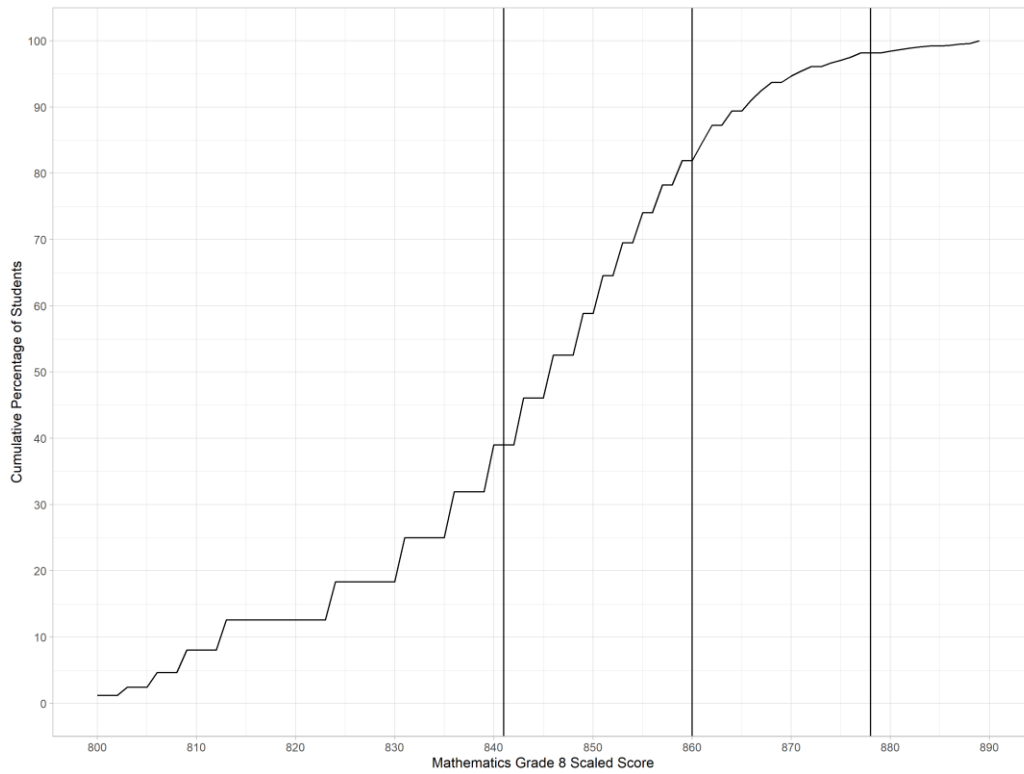
Figure Q-13. Cumulative Scaled-Score Distribution for Science—Grade 5
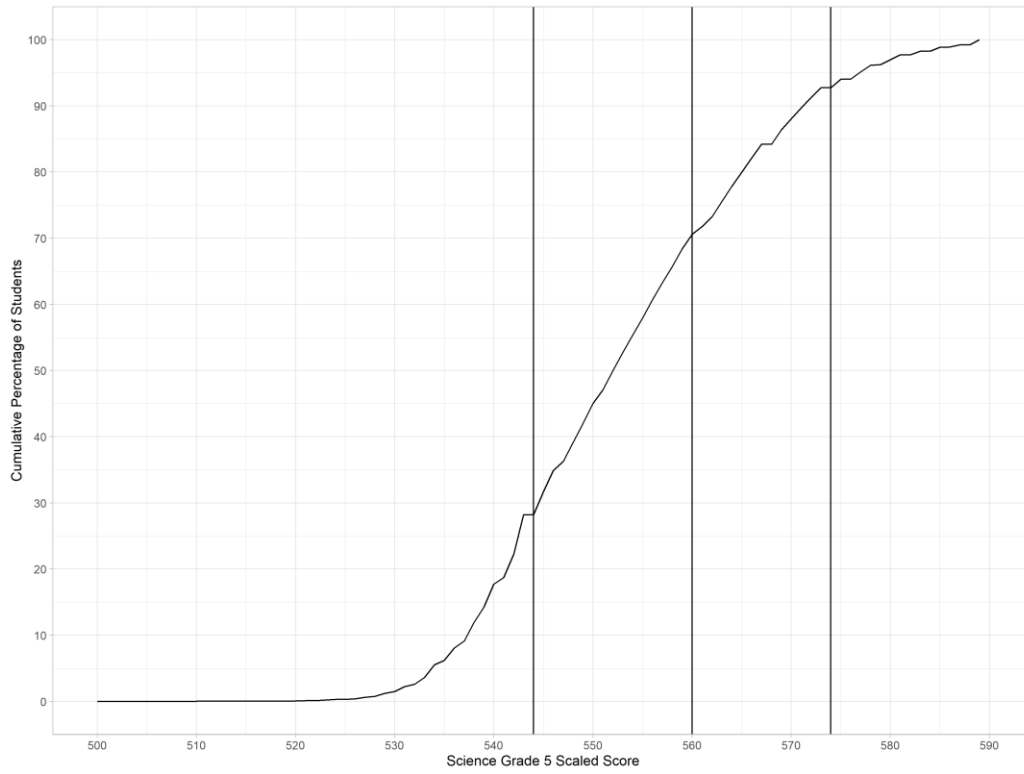
Figure Q-14. Cumulative Scaled-Score Distribution for Science—Grade 8
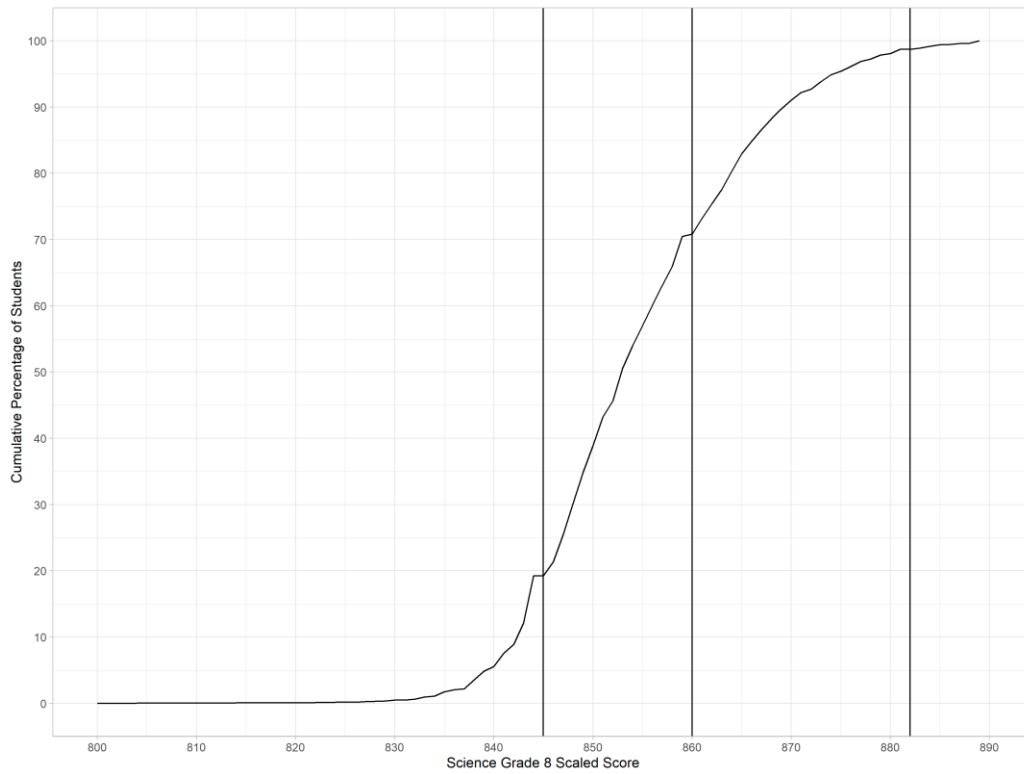
Figure Q-15. Cumulative Scaled-Score Distribution for Science—Grade 11
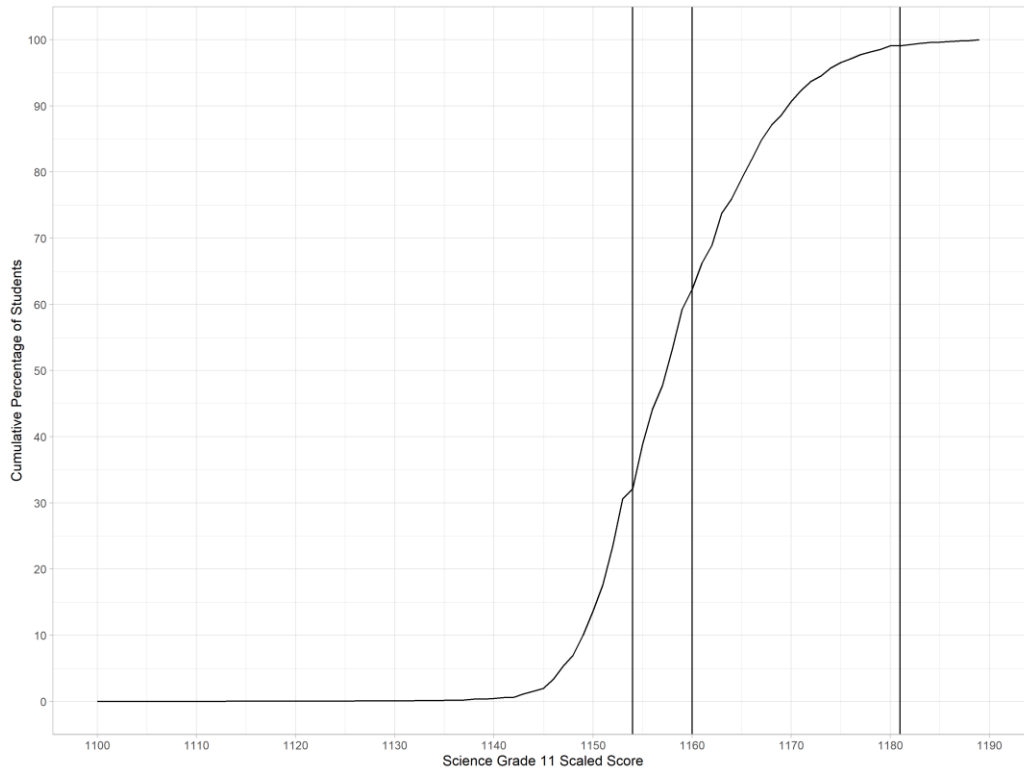
Figure Q-16. Cumulative Scaled-Score Distribution for SLA—Grade 3
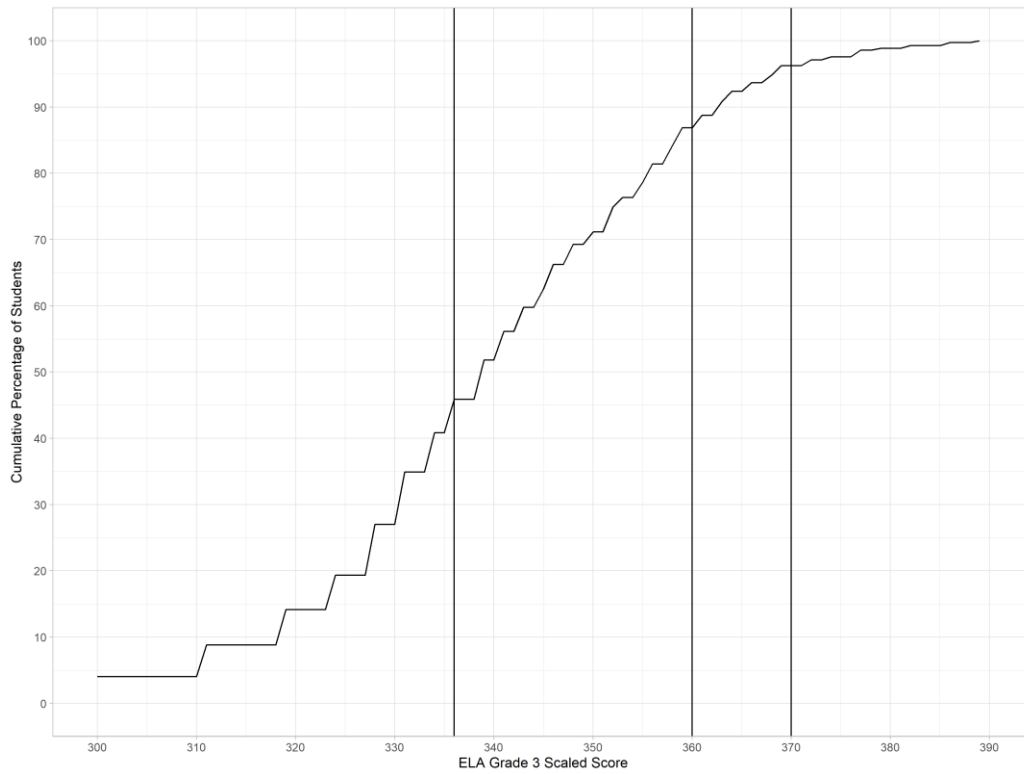
Figure Q-17. Cumulative Scaled-Score Distribution for SLA—Grade 4
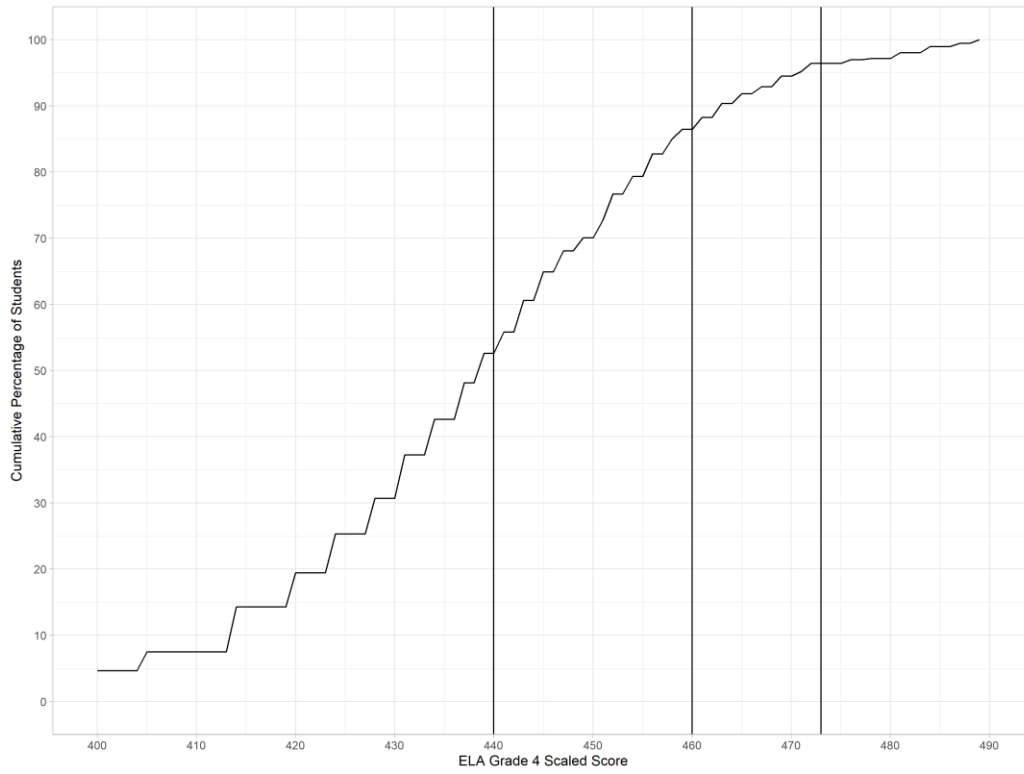
Figure Q-18. Cumulative Scaled-Score Distribution for SLA—Grade 5
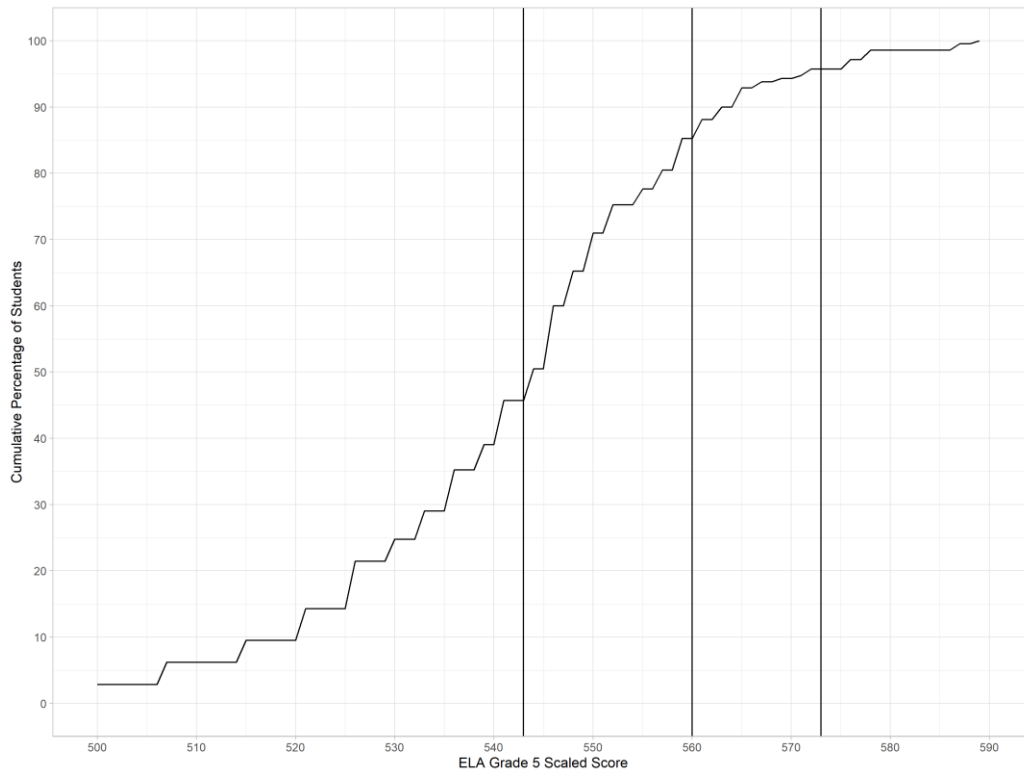
Figure Q-19. Cumulative Scaled-Score Distribution for SLA—Grade 6
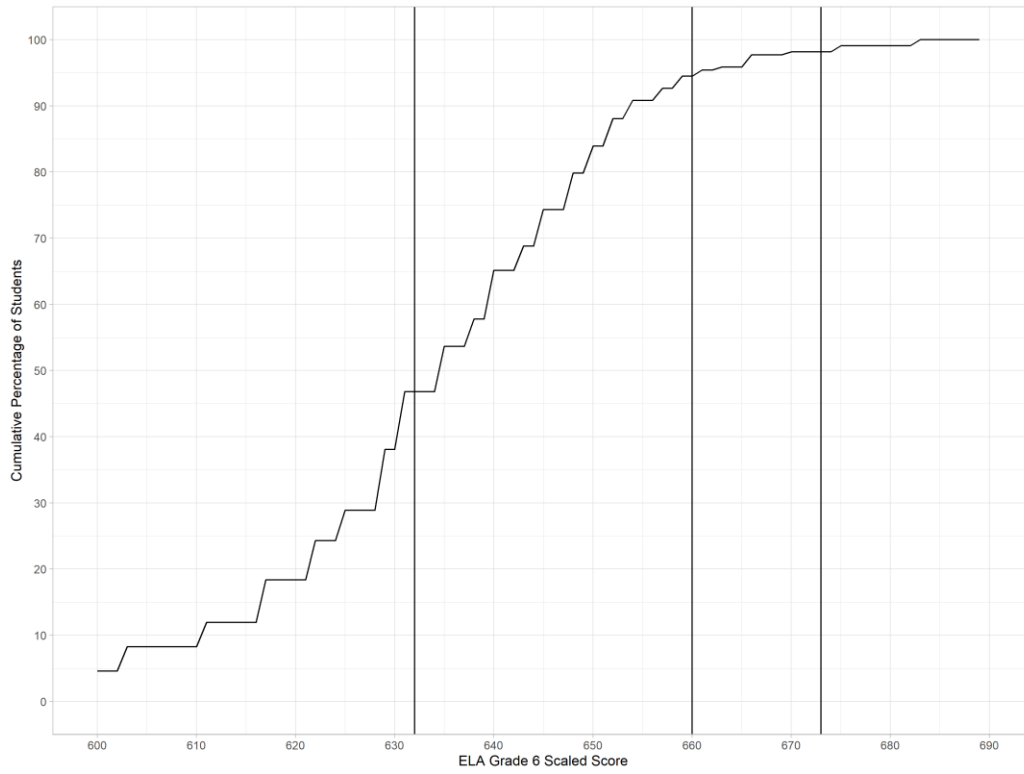
Figure Q-20. Cumulative Scaled-Score Distribution for SLA—Grade 7
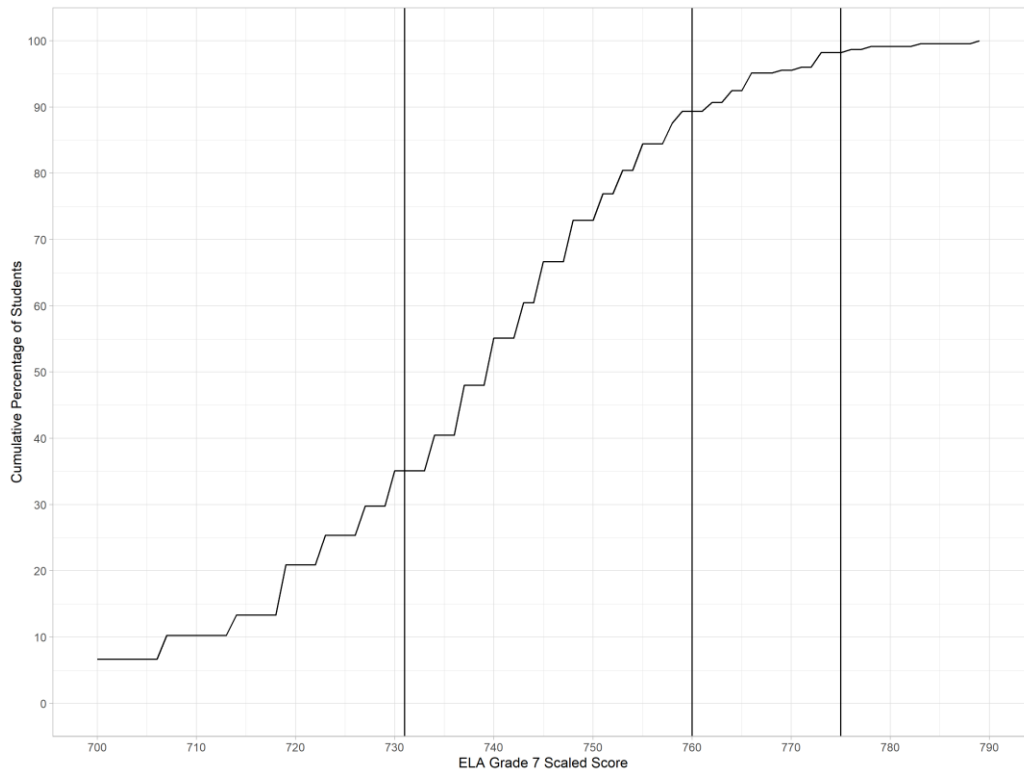
Figure Q-21. Cumulative Scaled-Score Distribution for SLA—Grade 8
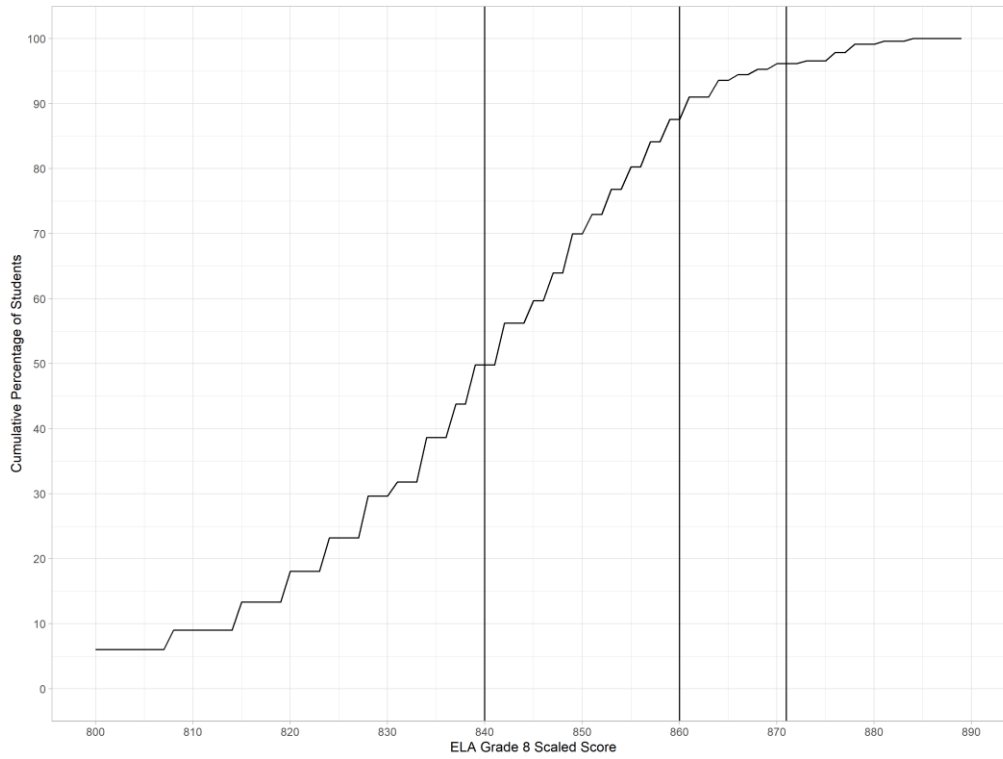
Figure Q-22. Cumulative Scaled-Score Distribution for Mathematics (Spanish Transadapted) Grade 3
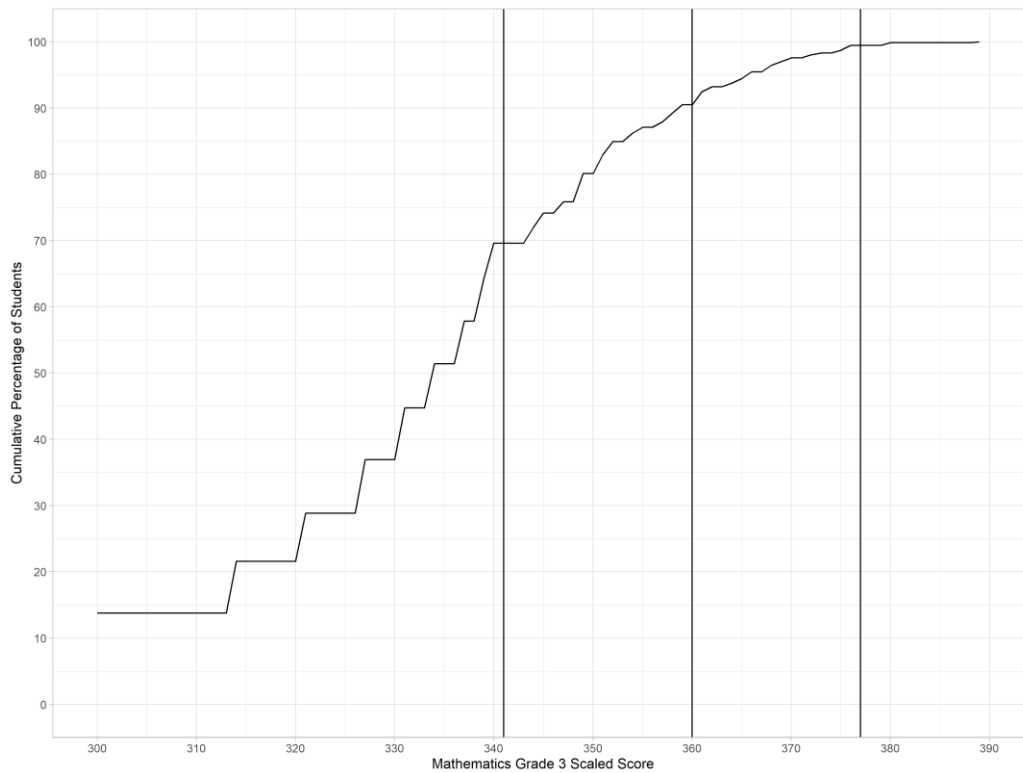
Figure Q-23. Cumulative Scaled-Score Distribution for Mathematics (Spanish Transadapted) Grade 4
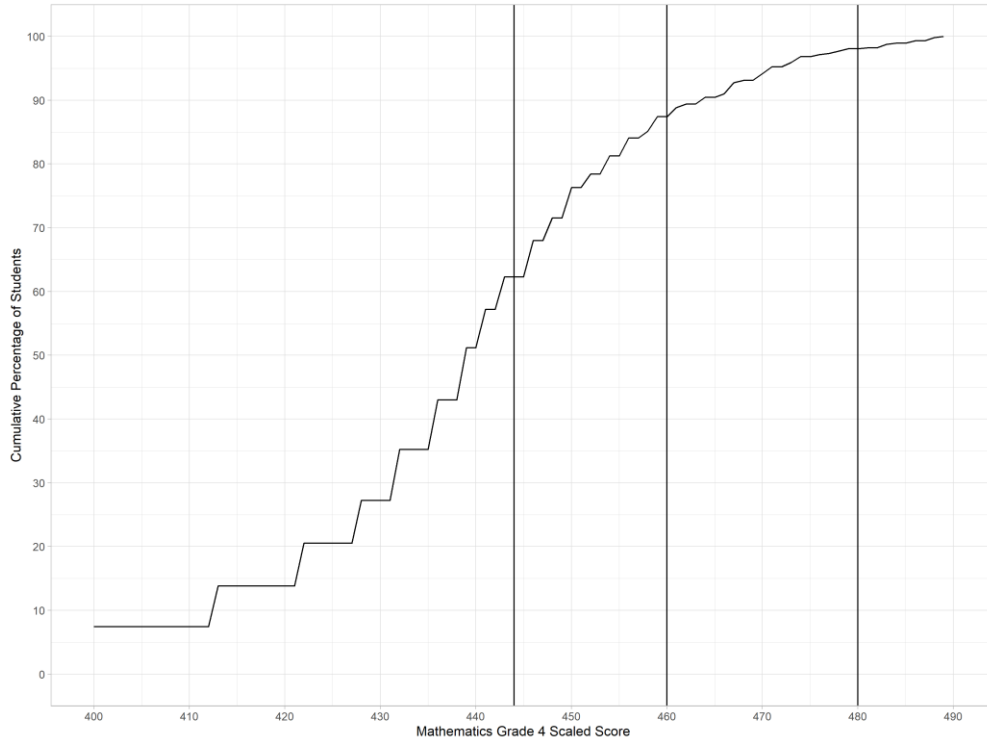
Figure Q-24. Cumulative Scaled-Score Distribution for Mathematics (Spanish Transadapted) Grade 5
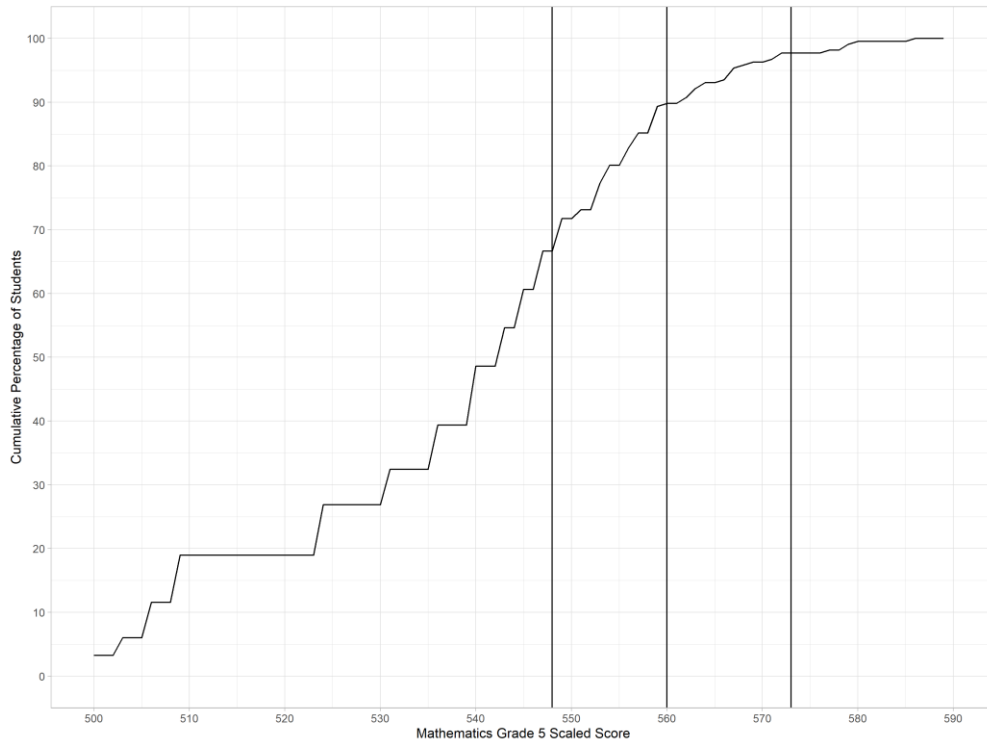
Figure Q-25. Cumulative Scaled-Score Distribution for Mathematics (Spanish Transadapted) Grade 6
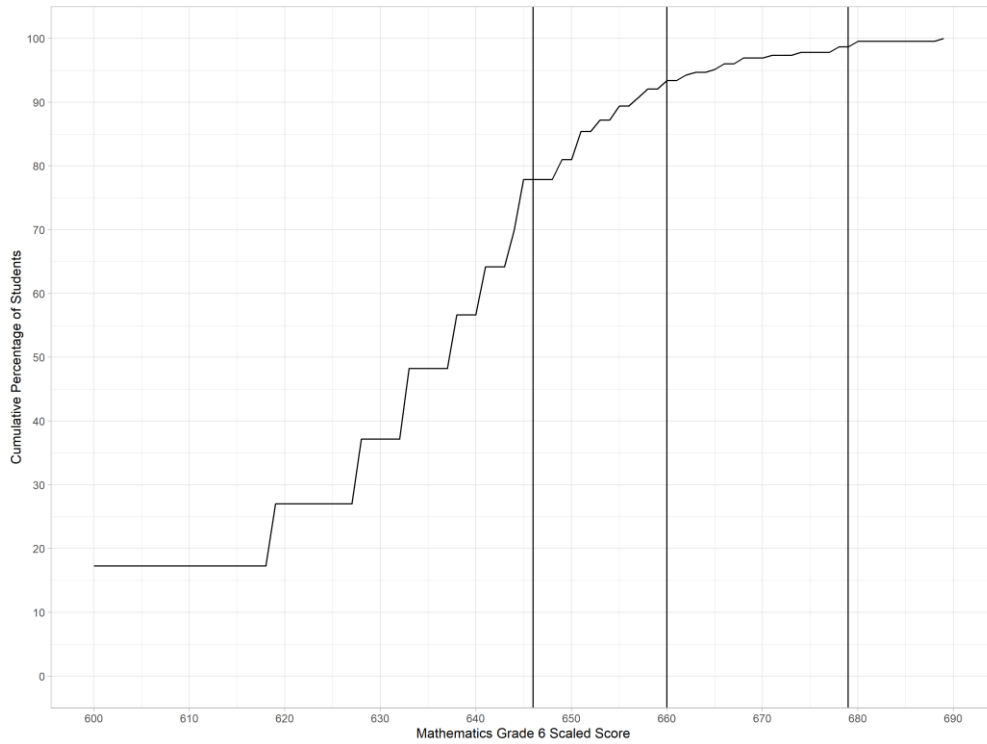
Figure Q-26. Cumulative Scaled-Score Distribution for Mathematics (Spanish Transadapted) Grade 7
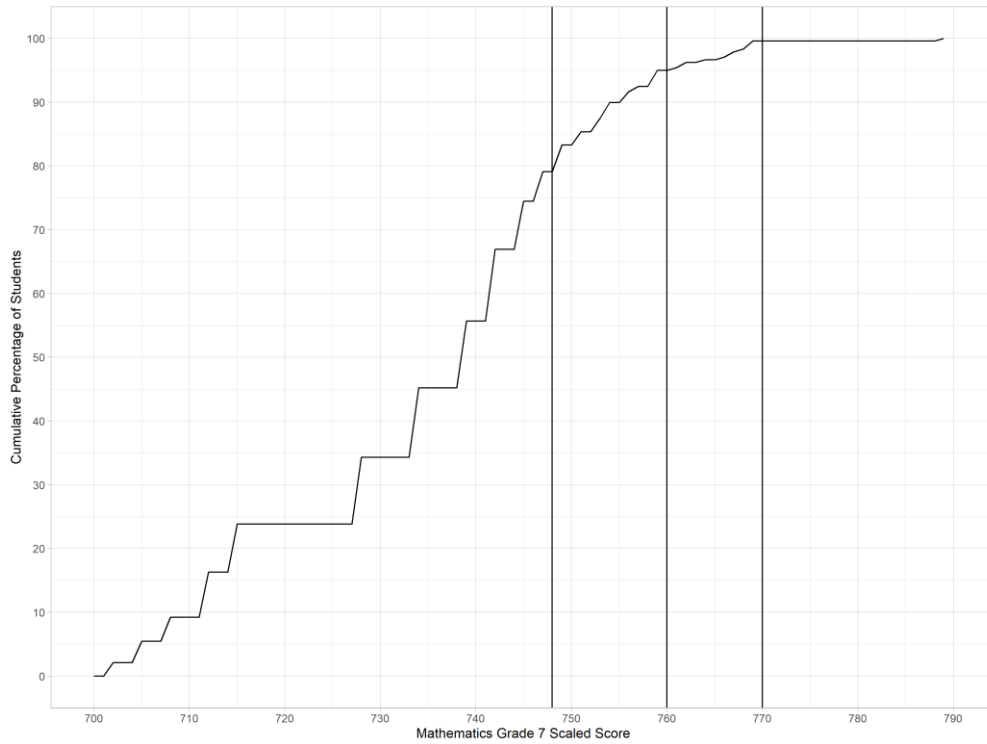
Figure Q-27. Cumulative Scaled-Score Distribution for Mathematics (Spanish Transadapted) Grade 8
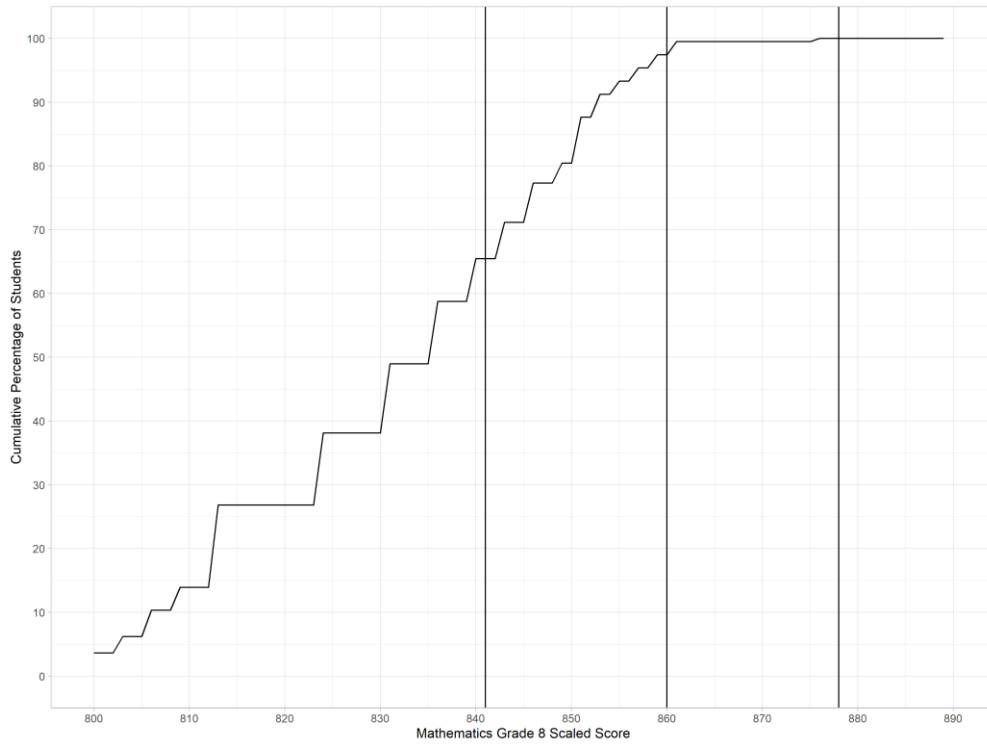
Figure Q-28. Cumulative Scaled-Score Distribution for Science (Spanish Transadapted) Grade 5
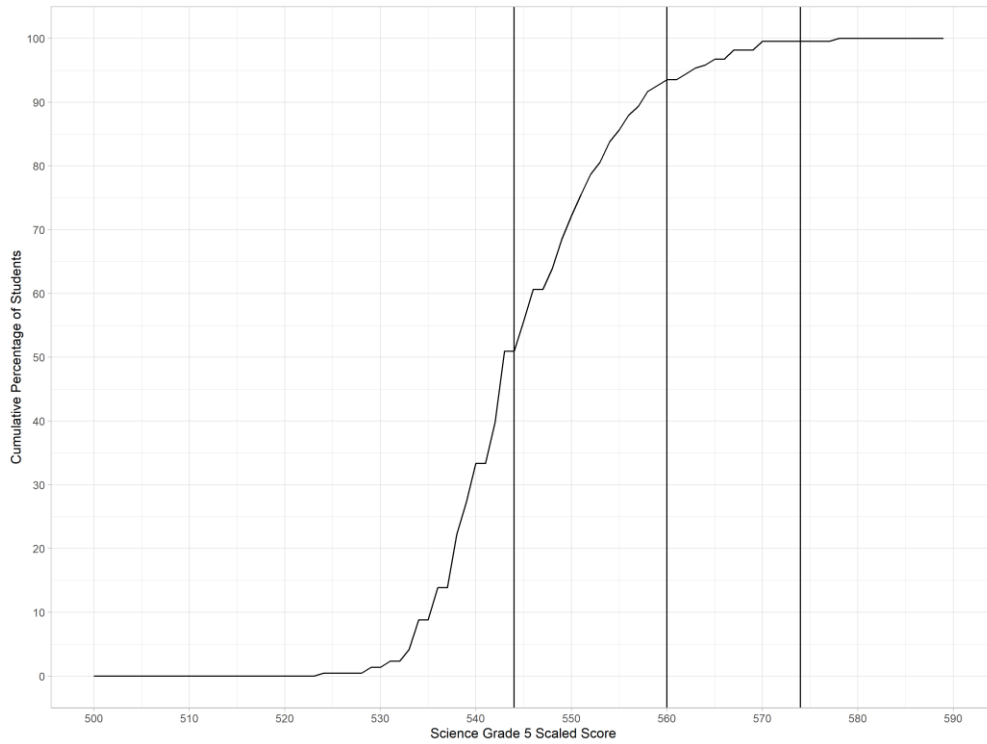
Figure Q-29. Cumulative Scaled-Score Distribution for Science (Spanish Transadapted) Grade 8
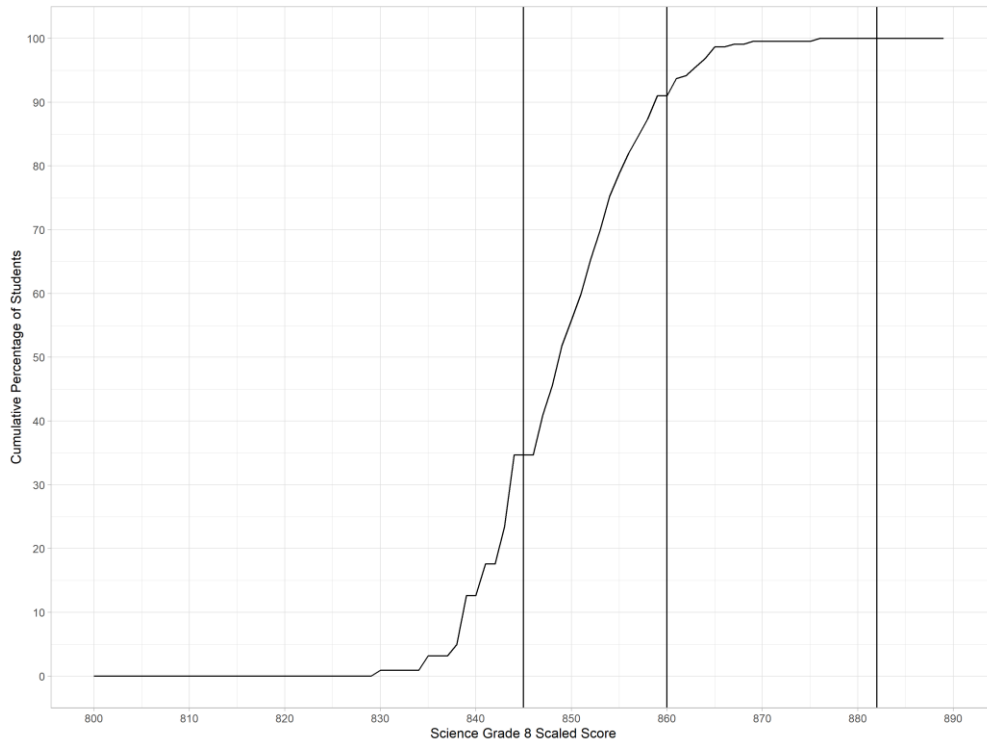
Figure Q-30. Cumulative Scaled-Score Distribution for Science (Spanish Transadapted) Grade 11
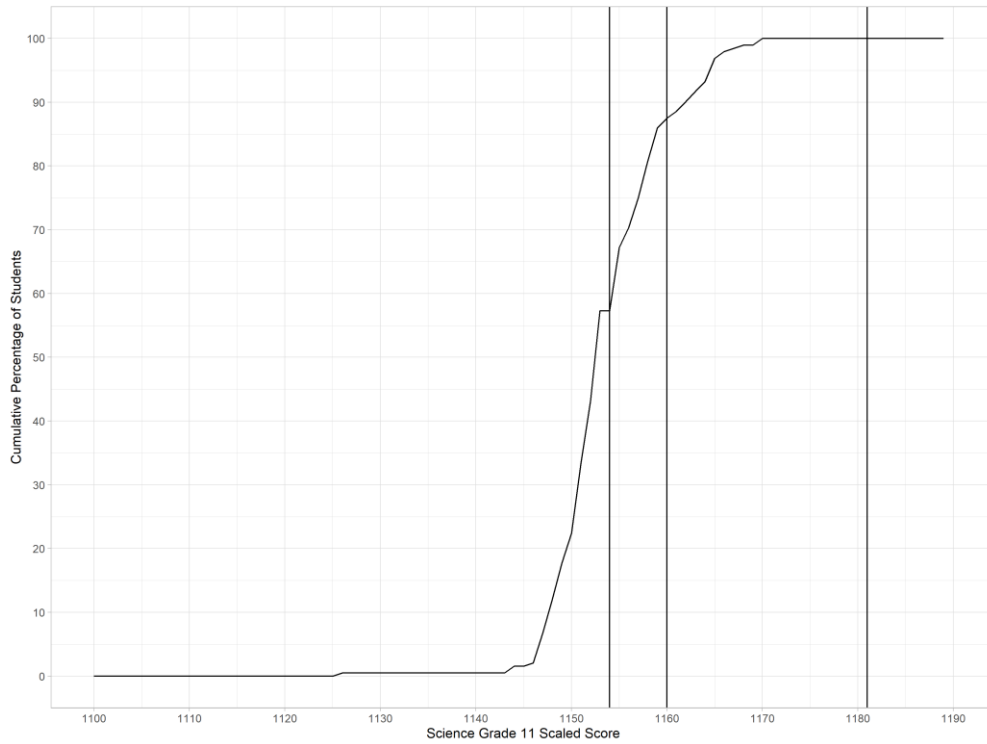
APPENDIX R
SCALED SCORE DESCRIPTIVE STATISTICS

Calculations based on those students attempting 5 or more items on the given NM-MSSA & ASR assessments. Statistical values are suppressed for those content areas/grades with fewer than 50 students.

Table R-1. Scaled Score Descriptive Statistics for NM-MSSA ELA Grade 3, as a Function of Subgroup*

Group	Subgroup	Number of Students	Mean	Median	SD	Skewness	Kurtosis
Overall		20,846	349.0	350.0	21.3	-0.229	-0.423
Gender	Female	10,295	350.2	352.0	21.4	-0.281	-0.382
	Male	10,549	347.9	348.0	21.2	-0.181	-0.446
	Unknown	2	--	--	--	--	--
Ethnicity	African American or Black	571	349.1	352.0	20.9	-0.401	-0.273
	American Indian or Alaska Native	2,539	341.0	341.0	18.8	-0.155	-0.169
	Asian	376	361.7	364.0	20.5	-0.620	0.045
	Caucasian	16,818	349.9	352.0	21.3	-0.262	-0.427
	Hawaiian Native or Other Pacific Islander	73	350.0	353.0	19.8	-0.194	-0.500
	Multi	463	350.2	352.0	21.9	-0.361	-0.410
	Unknown	6	--	--	--	--	--
Hispanic	Yes	12,706	347.0	348.0	20.6	-0.223	-0.363
	No	8,134	352.2	353.0	22.0	-0.303	-0.481
	Unknown	0	--	--	--	--	--
Bilingual	Yes	2,027	342.9	343.0	20.0	-0.086	-0.343
	No	11,225	350.2	352.0	21.5	-0.255	-0.463
	Unknown	7,594	348.9	350.0	21.0	-0.258	-0.335
Econ. Dis.	Yes	10,159	344.5	345.0	20.4	-0.150	-0.383
	No	7,932	355.1	358.0	21.1	-0.454	-0.256
	Unknown	2,755	348.2	348.0	20.9	-0.184	-0.316
English Learners	Yes	3,482	339.2	339.0	19.1	-0.052	-0.216
	No	17,358	351.0	353.0	21.2	-0.304	-0.375
	Unknown	6	--	--	--	--	--
Foster Care	Yes	5	--	--	--	--	--
	No	6,342	349.7	350.0	21.2	-0.220	-0.430
	Unknown	14,499	348.7	350.0	21.3	-0.232	-0.422
Homeless	Yes	270	336.7	334.0	18.3	0.059	-0.275
	No	17,131	349.3	350.0	21.3	-0.245	-0.425
	Unknown	3,445	348.6	350.0	21.3	-0.191	-0.367
Homeschool	Yes	0	--	--	--	--	--
	No	20,846	349.0	350.0	21.3	-0.229	-0.423
	Unknown	0	--	--	--	--	--
Migrant	Yes	23	--	--	--	--	--
	No	11,691	349.2	350.0	21.0	-0.257	-0.376
	Unknown	9,132	348.8	350.0	21.7	-0.196	-0.479
Military	Yes	215	357.8	359.0	18.9	-0.674	0.370
	No	11,088	349.1	350.0	21.0	-0.251	-0.380
	Unknown	9,543	348.7	350.0	21.7	-0.194	-0.475
Special Ed	Yes	3,063	335.4	334.0	20.2	0.338	0.019
	No	14,945	351.6	353.0	20.6	-0.325	-0.278
	Unknown	2,838	350.4	352.0	20.6	-0.275	-0.272
Plan 504	Yes	137	353.1	353.0	20.3	-0.463	-0.029
	No	17,120	349.1	350.0	21.3	-0.235	-0.432
	Unknown	3,589	348.6	350.0	21.3	-0.190	-0.383

Calculations based on those students attempting 5 or more items on the given NM-MSSA & ASR assessments.
Statistical values are suppressed for those content areas/grades with fewer than 50 students.

Table R-2. Scaled Score Descriptive Statistics for NM-MSSA ELA Grade 4, as a Function of Subgroup*

Group	Subgroup	Number of Students	Mean	Median	SD	Skewness	Kurtosis
Overall		21,058	450.8	452.0	21.6	-0.304	-0.449
Gender	Female	10,260	453.0	454.0	21.1	-0.350	-0.355
	Male	10,797	448.7	451.0	21.9	-0.253	-0.525
	Unknown	1	--	--	--	--	--
Ethnicity	African American or Black	562	450.3	452.0	22.0	-0.304	-0.504
	American Indian or Alaska Native	2,469	442.0	443.0	20.1	-0.083	-0.320
	Asian	370	462.5	465.0	20.3	-0.795	0.335
	Caucasian	17,124	451.8	454.0	21.4	-0.349	-0.412
	Hawaiian Native or Other Pacific Islander	61	452.4	456.0	19.8	-0.097	-1.113
	Multi	470	452.0	452.0	21.9	-0.294	-0.446
	Unknown	2	--	--	--	--	--
Hispanic	Yes	12,972	449.1	451.0	20.9	-0.308	-0.384
	No	8,084	453.6	456.0	22.3	-0.358	-0.526
	Unknown	0	--	--	--	--	--
Bilingual	Yes	1,930	444.8	445.0	20.4	-0.203	-0.356
	No	11,315	451.7	454.0	22.1	-0.335	-0.496
	Unknown	7,813	451.0	452.0	20.9	-0.312	-0.367
Econ. Dis.	Yes	10,260	446.1	447.0	20.9	-0.196	-0.473
	No	7,900	456.9	459.0	21.1	-0.528	-0.191
	Unknown	2,898	450.9	452.0	21.0	-0.316	-0.345
English Learners	Yes	3,976	441.7	443.0	19.7	-0.121	-0.401
	No	17,080	452.9	454.0	21.5	-0.391	-0.368
	Unknown	2	--	--	--	--	--
Foster Care	Yes	4	--	--	--	--	--
	No	6,178	450.7	452.0	21.5	-0.305	-0.428
	Unknown	14,876	450.9	452.0	21.6	-0.304	-0.458
Homeless	Yes	291	438.7	437.0	21.5	0.203	-0.428
	No	17,095	451.0	452.0	21.6	-0.315	-0.452
	Unknown	3,672	450.9	452.0	21.2	-0.293	-0.369
Homeschool	Yes	0	--	--	--	--	--
	No	21,058	450.8	452.0	21.6	-0.304	-0.449
	Unknown	0	--	--	--	--	--
Migrant	Yes	25	--	--	--	--	--
	No	11,651	450.7	452.0	21.2	-0.329	-0.381
	Unknown	9,382	451.0	452.0	22.0	-0.279	-0.526
Military	Yes	222	462.3	465.0	19.1	-0.614	-0.030
	No	10,960	450.4	452.0	21.2	-0.321	-0.390
	Unknown	9,876	451.0	452.0	22.0	-0.284	-0.514
Special Ed	Yes	3,341	434.6	434.0	20.8	0.406	-0.148
	No	14,822	454.0	456.0	20.3	-0.397	-0.220
	Unknown	2,895	453.0	454.0	20.2	-0.429	-0.092
Plan 504	Yes	130	454.4	458.0	20.4	-0.647	0.129
	No	17,186	450.8	452.0	21.6	-0.307	-0.461
	Unknown	3,742	450.8	452.0	21.3	-0.281	-0.405

*Calculations based on those students attempting 5 or more items on the given NM-MSSA & ASR assessments.
Statistical values are suppressed for those content areas/grades with fewer than 50 students.*

Table R-3. Scaled Score Descriptive Statistics for NM-MSSA ELA Grade 5, as a Function of Subgroup*

Group	Subgroup	Number of Students	Mean	Median	SD	Skewness	Kurtosis
Overall		21,995	550.5	552.0	21.5	-0.299	-0.388
Gender	Female	10,867	552.2	552.0	20.9	-0.346	-0.288
	Male	11,125	548.8	550.0	21.9	-0.244	-0.470
	Unknown	3	--	--	--	--	--
Ethnicity	African American or Black	607	549.1	550.0	22.0	-0.361	-0.380
	American Indian or Alaska Native	2,535	542.5	544.0	20.2	-0.130	-0.335
	Asian	355	561.3	565.0	21.0	-0.641	-0.056
	Caucasian	17,976	551.4	552.0	21.4	-0.332	-0.360
	Hawaiian Native or Other Pacific Islander	66	549.0	550.0	18.2	-0.376	0.078
	Multi	454	553.2	555.0	21.2	-0.353	-0.331
	Unknown	2	--	--	--	--	--
Hispanic	Yes	13,669	548.5	550.0	20.9	-0.283	-0.339
	No	8,324	553.8	555.0	22.1	-0.387	-0.412
	Unknown	0	--	--	--	--	--
Bilingual	Yes	2,291	543.0	544.0	20.0	-0.124	-0.345
	No	11,728	552.1	552.0	21.6	-0.353	-0.366
	Unknown	7,976	550.2	550.0	21.4	-0.311	-0.347
Econ. Dis.	Yes	10,755	545.9	546.0	20.8	-0.188	-0.386
	No	8,224	556.4	559.0	21.1	-0.518	-0.143
	Unknown	3,016	550.6	552.0	21.1	-0.337	-0.295
English Learners	Yes	4,248	540.4	541.0	19.5	-0.153	-0.354
	No	17,745	552.9	555.0	21.3	-0.386	-0.298
	Unknown	2	--	--	--	--	--
Foster Care	Yes	4	--	--	--	--	--
	No	6,567	551.9	552.0	21.0	-0.334	-0.330
	Unknown	15,424	549.9	550.0	21.7	-0.281	-0.411
Homeless	Yes	352	539.6	541.0	19.2	0.017	-0.233
	No	17,829	550.7	552.0	21.5	-0.310	-0.378
	Unknown	3,814	550.2	550.0	21.5	-0.296	-0.386
Homeschool	Yes	0	--	--	--	--	--
	No	21,995	550.5	552.0	21.5	-0.299	-0.388
	Unknown	0	--	--	--	--	--
Migrant	Yes	33	--	--	--	--	--
	No	12,407	550.8	552.0	21.0	-0.321	-0.321
	Unknown	9,555	550.1	550.0	22.1	-0.270	-0.472
Military	Yes	231	557.0	559.0	21.6	-0.667	0.016
	No	11,566	550.6	552.0	21.1	-0.314	-0.329
	Unknown	10,198	550.1	550.0	22.0	-0.275	-0.452
Special Ed	Yes	3,614	533.9	533.0	20.8	0.354	-0.171
	No	15,242	554.1	555.0	20.0	-0.379	-0.130
	Unknown	3,139	551.8	552.0	20.3	-0.361	-0.228
Plan 504	Yes	206	555.2	556.0	19.3	-0.326	-0.211
	No	18,094	550.5	552.0	21.5	-0.302	-0.383
	Unknown	3,695	550.0	550.0	21.7	-0.277	-0.419

*Calculations based on those students attempting 5 or more items on the given NM-MSSA & ASR assessments.
Statistical values are suppressed for those content areas/grades with fewer than 50 students.*

Table R-4. Scaled Score Descriptive Statistics for NM-MSSA ELA Grade 6, as a Function of Subgroup*

Group	Subgroup	Number of Students	Mean	Median	SD	Skewness	Kurtosis
Overall		22,132	649.8	650.0	20.9	-0.234	-0.414
Gender	Female	10,861	651.4	652.0	20.1	-0.253	-0.303
	Male	11,269	648.2	650.0	21.5	-0.195	-0.521
	Unknown	2	--	--	--	--	--
Ethnicity	African American or Black	586	648.3	650.0	21.0	-0.287	-0.381
	American Indian or Alaska Native	2,647	641.8	643.0	19.3	-0.055	-0.344
	Asian	336	661.4	663.0	19.4	-0.474	-0.299
	Caucasian	18,060	650.8	652.0	20.8	-0.275	-0.379
	Hawaiian Native or Other Pacific Islander	85	649.3	650.0	21.1	-0.249	-0.338
	Multi	412	650.7	652.0	22.1	-0.256	-0.548
	Unknown	6	--	--	--	--	--
Hispanic	Yes	13,737	647.8	648.0	20.2	-0.221	-0.366
	No	8,389	653.1	654.0	21.6	-0.323	-0.447
	Unknown	0	--	--	--	--	--
Bilingual	Yes	2,013	642.5	643.0	18.7	-0.044	-0.268
	No	11,637	651.1	652.0	21.1	-0.297	-0.405
	Unknown	8,482	649.7	650.0	20.7	-0.235	-0.379
Econ. Dis.	Yes	10,379	645.6	645.0	20.2	-0.153	-0.373
	No	8,623	655.4	657.0	20.5	-0.412	-0.281
	Unknown	3,130	648.4	650.0	20.7	-0.213	-0.395
English Learners	Yes	4,209	638.9	640.0	18.0	-0.149	-0.284
	No	17,917	652.3	654.0	20.7	-0.334	-0.339
	Unknown	6	--	--	--	--	--
Foster Care	Yes	4	--	--	--	--	--
	No	6,876	650.4	652.0	20.8	-0.249	-0.424
	Unknown	15,252	649.5	650.0	20.9	-0.228	-0.409
Homeless	Yes	276	641.4	640.0	19.6	0.006	-0.327
	No	18,152	650.2	652.0	20.9	-0.248	-0.411
	Unknown	3,704	648.6	650.0	20.8	-0.195	-0.399
Homeschool	Yes	0	--	--	--	--	--
	No	22,132	649.8	650.0	20.9	-0.234	-0.414
	Unknown	0	--	--	--	--	--
Migrant	Yes	50	643.6	645.0	20.6	-0.211	-0.329
	No	13,302	650.3	652.0	20.6	-0.241	-0.399
	Unknown	8,780	649.0	650.0	21.3	-0.219	-0.442
Military	Yes	238	657.8	659.0	18.2	-0.584	0.189
	No	12,456	650.1	652.0	20.7	-0.238	-0.402
	Unknown	9,438	649.1	650.0	21.2	-0.217	-0.437
Special Ed	Yes	3,411	633.7	631.0	20.5	0.466	-0.031
	No	15,655	653.2	654.0	19.5	-0.297	-0.212
	Unknown	3,066	650.0	650.0	20.0	-0.260	-0.281
Plan 504	Yes	200	657.5	659.0	17.7	-0.487	0.296
	No	18,215	650.0	650.0	20.9	-0.238	-0.420
	Unknown	3,717	648.5	650.0	20.8	-0.199	-0.398

Calculations based on those students attempting 5 or more items on the given NM-MSSA & ASR assessments.
Statistical values are suppressed for those content areas/grades with fewer than 50 students.

Table R-5. Scaled Score Descriptive Statistics for NM-MSSA ELA Grade 7, as a Function of Subgroup*

Group	Subgroup	Number of Students	Mean	Median	SD	Skewness	Kurtosis
Overall		23,381	751.1	753.0	21.3	-0.295	-0.463
Gender	Female	11,563	753.3	755.0	20.3	-0.351	-0.308
	Male	11,815	748.8	751.0	22.0	-0.217	-0.591
	Unknown	3	--	--	--	--	--
Ethnicity	African American or Black	656	750.3	753.0	21.8	-0.283	-0.424
	American Indian or Alaska Native	2,779	744.4	745.0	19.5	-0.136	-0.359
	Asian	348	763.2	766.0	20.4	-0.900	0.512
	Caucasian	19,077	751.7	753.0	21.3	-0.326	-0.450
	Hawaiian Native or Other Pacific Islander	88	753.6	758.0	22.3	-0.588	0.055
	Multi	423	754.9	758.0	21.6	-0.502	-0.266
	Unknown	10	--	--	--	--	--
Hispanic	Yes	14,701	749.1	751.0	20.7	-0.277	-0.424
	No	8,670	754.4	755.0	21.8	-0.385	-0.480
	Unknown	0	--	--	--	--	--
Bilingual	Yes	2,013	742.4	743.0	20.0	-0.138	-0.499
	No	12,413	752.4	755.0	21.5	-0.342	-0.468
	Unknown	8,955	751.2	753.0	20.8	-0.299	-0.392
Econ. Dis.	Yes	11,003	746.6	748.0	20.6	-0.223	-0.473
	No	9,121	756.6	758.0	21.0	-0.461	-0.326
	Unknown	3,257	750.5	753.0	20.6	-0.318	-0.382
English Learners	Yes	4,078	738.1	740.0	18.4	-0.126	-0.496
	No	19,293	753.8	755.0	20.9	-0.403	-0.326
	Unknown	10	--	--	--	--	--
Foster Care	Yes	6	--	--	--	--	--
	No	7,068	751.5	753.0	21.5	-0.315	-0.474
	Unknown	16,307	750.9	753.0	21.2	-0.288	-0.456
Homeless	Yes	322	742.0	743.0	19.9	-0.020	-0.354
	No	19,100	751.4	753.0	21.3	-0.304	-0.464
	Unknown	3,959	750.0	753.0	21.1	-0.291	-0.427
Homeschool	Yes	1	--	--	--	--	--
	No	23,380	751.1	753.0	21.3	-0.295	-0.462
	Unknown	0	--	--	--	--	--
Migrant	Yes	42	--	--	--	--	--
	No	14,121	751.4	753.0	21.0	-0.294	-0.428
	Unknown	9,218	750.5	753.0	21.7	-0.293	-0.519
Military	Yes	216	759.5	762.0	20.1	-0.793	0.390
	No	13,122	751.3	753.0	21.1	-0.295	-0.437
	Unknown	10,043	750.6	753.0	21.5	-0.286	-0.499
Special Ed	Yes	3,801	734.7	734.0	20.8	0.453	-0.131
	No	16,352	755.0	758.0	19.7	-0.393	-0.191
	Unknown	3,228	750.6	753.0	20.3	-0.330	-0.310
Plan 504	Yes	295	755.1	758.0	19.9	-0.431	-0.350
	No	19,337	751.3	753.0	21.3	-0.300	-0.463
	Unknown	3,749	749.4	751.0	21.1	-0.267	-0.462

Calculations based on those students attempting 5 or more items on the given NM-MSSA & ASR assessments. Statistical values are suppressed for those content areas/grades with fewer than 50 students.

Table R-6. Scaled Score Descriptive Statistics for NM-MSSA ELA Grade 8, as a Function of Subgroup*

Group	Subgroup	Number of Students	Mean	Median	SD	Skewness	Kurtosis
Overall		23,853	849.6	851.0	22.3	-0.281	-0.475
Gender	Female	11,659	852.3	853.0	21.1	-0.356	-0.251
	Male	12,189	847.0	849.0	23.1	-0.181	-0.639
	Unknown	5	--	--	--	--	--
Ethnicity	African American or Black	630	846.8	849.0	22.9	-0.300	-0.507
	American Indian or Alaska Native	2,895	844.9	847.0	20.3	-0.198	-0.303
	Asian	348	859.6	864.0	22.8	-0.773	-0.021
	Caucasian	19,418	850.1	851.0	22.4	-0.298	-0.485
	Hawaiian Native or Other Pacific Islander	94	851.8	851.0	23.2	-0.255	-0.472
	Multi	463	853.9	855.0	21.7	-0.487	-0.208
	Unknown	5	--	--	--	--	--
Hispanic	Yes	14,918	847.3	849.0	21.8	-0.244	-0.468
	No	8,930	853.4	855.0	22.5	-0.393	-0.420
	Unknown	0	--	--	--	--	--
Bilingual	Yes	2,008	843.2	845.0	20.7	-0.196	-0.451
	No	12,719	850.8	853.0	22.7	-0.333	-0.482
	Unknown	9,126	849.4	851.0	21.8	-0.260	-0.440
Econ. Dis.	Yes	11,316	845.4	847.0	21.7	-0.214	-0.480
	No	9,230	854.8	857.0	22.2	-0.448	-0.337
	Unknown	3,307	849.5	851.0	21.5	-0.247	-0.462
English Learners	Yes	4,169	837.1	837.0	19.1	-0.096	-0.415
	No	19,679	852.3	855.0	22.0	-0.392	-0.354
	Unknown	5	--	--	--	--	--
Foster Care	Yes	3	--	--	--	--	--
	No	7,181	849.6	851.0	22.5	-0.290	-0.499
	Unknown	16,669	849.6	851.0	22.2	-0.278	-0.465
Homeless	Yes	301	843.1	845.0	21.6	-0.172	-0.437
	No	19,566	849.7	851.0	22.4	-0.295	-0.476
	Unknown	3,986	849.5	851.0	21.7	-0.223	-0.474
Homeschool	Yes	5	--	--	--	--	--
	No	23,848	849.6	851.0	22.3	-0.281	-0.475
	Unknown	0	--	--	--	--	--
Migrant	Yes	46	--	--	--	--	--
	No	14,272	849.5	851.0	22.1	-0.293	-0.441
	Unknown	9,535	849.8	851.0	22.6	-0.266	-0.525
Military	Yes	193	860.8	864.0	19.8	-0.802	0.669
	No	13,380	849.2	851.0	22.2	-0.279	-0.462
	Unknown	10,280	849.9	851.0	22.4	-0.277	-0.496
Special Ed	Yes	3,815	834.0	834.0	21.6	0.405	-0.200
	No	16,792	853.1	855.0	21.1	-0.405	-0.210
	Unknown	3,246	850.2	851.0	21.0	-0.275	-0.337
Plan 504	Yes	295	855.2	857.0	20.6	-0.437	-0.062
	No	19,749	849.6	851.0	22.4	-0.290	-0.474
	Unknown	3,809	849.4	851.0	21.8	-0.220	-0.510

Calculations based on those students attempting 5 or more items on the given NM-MSSA & ASR assessments.
Statistical values are suppressed for those content areas/grades with fewer than 50 students.

Table R-7. Scaled Score Descriptive Statistics for NM-MSSA Mathematics Grade 3, as a Function of Subgroup*

Group	Subgroup	Number of Students	Mean	Median	SD	Skewness	Kurtosis
Overall		20,872	343.7	344.0	21.1	-0.233	-0.328
Gender	Female	10,314	343.1	344.0	20.7	-0.229	-0.273
	Male	10,556	344.3	345.0	21.5	-0.243	-0.376
	Unknown	2	--	--	--	--	--
Ethnicity	African American or Black	573	342.3	344.0	20.5	-0.216	-0.265
	American Indian or Alaska Native	2,543	335.9	337.0	19.1	-0.153	-0.277
	Asian	385	358.1	361.0	20.7	-0.637	0.211
	Caucasian	16,826	344.6	345.0	21.1	-0.269	-0.304
	Hawaiian Native or Other Pacific Islander	74	347.9	351.0	20.1	-0.602	0.476
	Multi	464	344.3	345.0	21.7	-0.313	-0.469
	Unknown	7	--	--	--	--	--
Hispanic	Yes	12,701	341.7	344.0	20.4	-0.244	-0.292
	No	8,164	346.9	347.0	21.8	-0.287	-0.370
	Unknown	0	--	--	--	--	--
Bilingual	Yes	2,026	338.2	339.0	20.1	-0.143	-0.348
	No	11,235	344.7	345.0	21.7	-0.246	-0.384
	Unknown	7,611	343.9	345.0	20.3	-0.268	-0.212
Econ. Dis.	Yes	10,173	338.8	339.0	20.4	-0.165	-0.362
	No	7,954	350.1	352.0	20.7	-0.411	-0.130
	Unknown	2,745	343.4	344.0	20.1	-0.246	-0.158
English Learners	Yes	3,483	335.4	337.0	19.8	-0.097	-0.364
	No	17,382	345.4	345.0	21.0	-0.282	-0.273
	Unknown	7	--	--	--	--	--
Foster Care	Yes	5	--	--	--	--	--
	No	6,347	345.0	345.0	21.1	-0.232	-0.298
	Unknown	14,520	343.2	344.0	21.1	-0.234	-0.343
Homeless	Yes	269	331.5	334.0	18.7	-0.150	-0.493
	No	17,166	343.9	345.0	21.2	-0.237	-0.348
	Unknown	3,437	343.8	344.0	20.4	-0.241	-0.189
Homeschool	Yes	0	--	--	--	--	--
	No	20,872	343.7	344.0	21.1	-0.233	-0.328
	Unknown	0	--	--	--	--	--
Migrant	Yes	24	--	--	--	--	--
	No	11,718	344.4	345.0	20.6	-0.259	-0.248
	Unknown	9,130	342.9	344.0	21.7	-0.194	-0.422
Military	Yes	214	353.5	354.5	17.7	-0.312	0.035
	No	11,117	344.4	345.0	20.7	-0.253	-0.263
	Unknown	9,541	342.8	344.0	21.6	-0.198	-0.405
Special Ed	Yes	3,060	330.8	331.0	21.0	0.289	-0.279
	No	14,973	346.2	347.0	20.4	-0.298	-0.167
	Unknown	2,839	344.8	345.0	19.9	-0.286	-0.127
Plan 504	Yes	137	350.5	351.0	19.1	-0.037	-0.232
	No	17,152	343.7	344.0	21.3	-0.232	-0.357
	Unknown	3,583	343.6	344.0	20.3	-0.239	-0.194

Calculations based on those students attempting 5 or more items on the given NM-MSSA & ASR assessments. Statistical values are suppressed for those content areas/grades with fewer than 50 students.

Table R-8. Scaled Score Descriptive Statistics for NM-MSSA Mathematics Grade 4, as a Function of Subgroup*

Group	Subgroup	Number of Students	Mean	Median	SD	Skewness	Kurtosis
Overall		21,080	445.4	446.0	20.8	-0.222	-0.221
Gender	Female	10,272	444.5	446.0	20.2	-0.229	-0.149
	Male	10,807	446.3	446.0	21.4	-0.230	-0.285
	Unknown	1	--	--	--	--	--
Ethnicity	African American or Black	563	443.0	443.0	20.9	-0.268	-0.162
	American Indian or Alaska Native	2,469	438.5	439.0	19.2	-0.212	-0.167
	Asian	381	458.4	459.0	20.7	-0.531	0.002
	Caucasian	17,133	446.2	446.0	20.8	-0.246	-0.211
	Hawaiian Native or Other Pacific Islander	61	446.4	450.0	21.4	-0.453	-0.125
	Multi	471	447.6	446.0	21.3	-0.160	-0.313
	Unknown	2	--	--	--	--	--
Hispanic	Yes	12,976	443.3	443.0	19.9	-0.249	-0.155
	No	8,102	448.9	450.0	21.7	-0.279	-0.307
	Unknown	0	--	--	--	--	--
Bilingual	Yes	1,931	440.6	441.0	19.4	-0.223	-0.191
	No	11,329	446.2	446.0	21.3	-0.213	-0.298
	Unknown	7,820	445.6	446.0	20.3	-0.270	-0.105
Econ. Dis.	Yes	10,273	440.7	441.0	19.7	-0.189	-0.189
	No	7,914	451.5	452.0	20.8	-0.389	-0.105
	Unknown	2,893	445.6	446.0	20.4	-0.282	-0.092
English Learners	Yes	3,995	438.0	439.0	18.9	-0.233	-0.207
	No	17,083	447.2	448.0	20.9	-0.266	-0.201
	Unknown	2	--	--	--	--	--
Foster Care	Yes	4	--	--	--	--	--
	No	6,190	446.1	446.0	20.6	-0.234	-0.188
	Unknown	14,886	445.2	446.0	20.9	-0.217	-0.234
Homeless	Yes	292	433.7	436.0	20.1	0.110	-0.110
	No	17,114	445.6	446.0	20.8	-0.222	-0.228
	Unknown	3,674	445.5	446.0	20.7	-0.250	-0.144
Homeschool	Yes	0	--	--	--	--	--
	No	21,080	445.4	446.0	20.8	-0.222	-0.221
	Unknown	0	--	--	--	--	--
Migrant	Yes	27	--	--	--	--	--
	No	11,668	446.0	446.0	20.2	-0.269	-0.125
	Unknown	9,385	444.7	446.0	21.6	-0.163	-0.331
Military	Yes	222	457.4	458.5	18.2	-0.484	0.316
	No	10,983	445.8	446.0	20.2	-0.260	-0.134
	Unknown	9,875	444.7	446.0	21.5	-0.172	-0.312
Special Ed	Yes	3,345	432.1	432.0	20.6	0.300	-0.108
	No	14,834	448.1	448.0	19.9	-0.271	-0.031
	Unknown	2,901	447.0	448.0	20.0	-0.339	-0.021
Plan 504	Yes	131	446.4	446.0	20.6	-0.193	-0.185
	No	17,205	445.4	446.0	20.8	-0.214	-0.236
	Unknown	3,744	445.4	446.0	20.9	-0.260	-0.154

Calculations based on those students attempting 5 or more items on the given NM-MSSA & ASR assessments.
Statistical values are suppressed for those content areas/grades with fewer than 50 students.

Table R-9. Scaled Score Descriptive Statistics for NM-MSSA Mathematics Grade 5, as a Function of Subgroup*

Group	Subgroup	Number of Students	Mean	Median	SD	Skewness	Kurtosis
Overall		21,995	548.8	551.0	20.4	-0.500	-0.037
Gender	Female	10,871	549.1	551.0	19.6	-0.552	0.171
	Male	11,121	548.5	551.0	21.2	-0.452	-0.217
	Unknown	3	--	--	--	--	--
Ethnicity	African American or Black	609	547.0	549.0	19.8	-0.427	-0.029
	American Indian or Alaska Native	2,537	543.7	545.0	18.9	-0.538	-0.026
	Asian	361	561.5	563.0	20.4	-0.658	0.351
	Caucasian	17,971	549.3	551.0	20.5	-0.525	-0.032
	Hawaiian Native or Other Pacific Islander	65	546.5	547.0	19.5	-0.626	0.222
	Multi	449	550.5	553.0	20.5	-0.515	0.060
	Unknown	3	--	--	--	--	--
Hispanic	Yes	13,648	546.5	549.0	19.9	-0.503	-0.079
	No	8,344	552.5	554.0	20.6	-0.573	0.093
	Unknown	0	--	--	--	--	--
Bilingual	Yes	2,289	542.8	545.0	19.8	-0.472	-0.324
	No	11,734	549.8	551.0	20.8	-0.509	-0.061
	Unknown	7,972	549.0	551.0	19.7	-0.530	0.106
Econ. Dis.	Yes	10,762	544.1	547.0	20.0	-0.446	-0.224
	No	8,221	554.6	556.0	19.7	-0.659	0.382
	Unknown	3,012	549.8	551.0	19.5	-0.555	0.176
English Learners	Yes	4,254	541.8	545.0	19.0	-0.505	-0.224
	No	17,738	550.5	553.0	20.4	-0.548	0.046
	Unknown	3	--	--	--	--	--
Foster Care	Yes	4	--	--	--	--	--
	No	6,557	550.8	553.0	19.7	-0.594	0.241
	Unknown	15,434	547.9	549.0	20.6	-0.458	-0.131
Homeless	Yes	350	537.5	540.0	19.2	-0.395	-0.553
	No	17,834	549.0	551.0	20.5	-0.510	-0.032
	Unknown	3,811	549.0	551.0	20.0	-0.484	0.017
Homeschool	Yes	0	--	--	--	--	--
	No	21,995	548.8	551.0	20.4	-0.500	-0.037
	Unknown	0	--	--	--	--	--
Migrant	Yes	33	--	--	--	--	--
	No	12,404	550.2	553.0	19.6	-0.586	0.210
	Unknown	9,558	547.0	549.0	21.3	-0.379	-0.287
Military	Yes	231	560.6	563.0	17.9	-1.149	2.171
	No	11,561	550.1	551.0	19.5	-0.578	0.208
	Unknown	10,203	547.1	549.0	21.2	-0.394	-0.266
Special Ed	Yes	3,606	535.3	536.0	21.1	0.040	-0.562
	No	15,243	551.8	553.0	19.1	-0.579	0.352
	Unknown	3,146	549.9	553.0	19.5	-0.570	0.166
Plan 504	Yes	206	550.5	551.0	19.8	-0.486	0.181
	No	18,093	548.8	551.0	20.5	-0.506	-0.038
	Unknown	3,696	548.5	551.0	20.2	-0.473	-0.045

Calculations based on those students attempting 5 or more items on the given NM-MSSA & ASR assessments.
Statistical values are suppressed for those content areas/grades with fewer than 50 students.

Table R-10. Scaled Score Descriptive Statistics for NM-MSSA Mathematics Grade 6, as a Function of Subgroup*

Group	Subgroup	Number of Students	Mean	Median	SD	Skewness	Kurtosis
Overall		22,145	648.6	651.0	22.4	-0.472	-0.159
Gender	Female	10,875	648.0	649.0	22.2	-0.456	-0.142
	Male	11,268	649.2	651.0	22.6	-0.490	-0.170
	Unknown	2	--	--	--	--	--
Ethnicity	African American or Black	589	645.8	647.0	22.0	-0.392	-0.163
	American Indian or Alaska Native	2,645	641.0	644.0	21.6	-0.379	-0.327
	Asian	342	662.1	667.0	23.1	-0.931	0.419
	Caucasian	18,067	649.5	651.0	22.2	-0.504	-0.102
	Hawaiian Native or Other Pacific Islander	84	649.7	651.0	24.5	-0.603	-0.117
	Multi	411	651.4	653.0	22.8	-0.527	-0.130
	Unknown	7	--	--	--	--	--
Hispanic	Yes	13,742	646.4	649.0	21.8	-0.461	-0.154
	No	8,396	652.3	653.0	22.8	-0.561	-0.092
	Unknown	0	--	--	--	--	--
Bilingual	Yes	2,011	641.1	644.0	21.0	-0.398	-0.213
	No	11,641	650.0	651.0	22.6	-0.507	-0.132
	Unknown	8,493	648.5	649.0	22.0	-0.485	-0.130
Econ. Dis.	Yes	10,384	643.8	647.0	21.7	-0.424	-0.240
	No	8,633	654.9	657.0	21.9	-0.661	0.163
	Unknown	3,128	647.1	649.0	21.6	-0.453	-0.102
English Learners	Yes	4,209	638.2	641.0	20.8	-0.381	-0.381
	No	17,929	651.1	653.0	22.0	-0.548	-0.018
	Unknown	7	--	--	--	--	--
Foster Care	Yes	4	--	--	--	--	--
	No	6,875	649.5	651.0	22.5	-0.499	-0.126
	Unknown	15,266	648.2	649.0	22.3	-0.461	-0.171
Homeless	Yes	277	638.4	641.0	21.6	-0.283	-0.378
	No	18,162	649.1	651.0	22.4	-0.489	-0.140
	Unknown	3,706	647.1	649.0	21.9	-0.420	-0.188
Homeschool	Yes	0	--	--	--	--	--
	No	22,145	648.6	651.0	22.4	-0.472	-0.159
	Unknown	0	--	--	--	--	--
Migrant	Yes	50	644.0	645.5	22.5	-0.481	-0.244
	No	13,312	649.4	651.0	22.2	-0.516	-0.086
	Unknown	8,783	647.4	649.0	22.6	-0.405	-0.247
Military	Yes	237	659.2	662.0	19.8	-0.790	0.796
	No	12,467	649.3	651.0	22.2	-0.511	-0.102
	Unknown	9,441	647.5	649.0	22.5	-0.415	-0.227
Special Ed	Yes	3,407	633.0	634.0	22.3	0.119	-0.432
	No	15,671	652.0	653.0	21.2	-0.590	0.208
	Unknown	3,067	648.7	649.0	21.0	-0.477	0.009
Plan 504	Yes	201	656.6	657.0	19.1	-0.624	0.541
	No	18,224	648.9	651.0	22.5	-0.483	-0.155
	Unknown	3,720	646.9	649.0	21.9	-0.413	-0.181

Calculations based on those students attempting 5 or more items on the given NM-MSSA & ASR assessments. Statistical values are suppressed for those content areas/grades with fewer than 50 students.

Table R-11. Scaled Score Descriptive Statistics for NM-MSSA Mathematics Grade 7, as a Function of Subgroup*

Group	Subgroup	Number of Students	Mean	Median	SD	Skewness	Kurtosis
Overall		23,383	747.6	749.0	19.4	-0.280	-0.205
Gender	Female	11,559	747.4	749.0	19.1	-0.286	-0.152
	Male	11,822	747.8	749.0	19.7	-0.276	-0.254
	Unknown	2	--	--	--	--	--
Ethnicity	African American or Black	654	744.5	747.0	18.8	-0.253	-0.272
	American Indian or Alaska Native	2,793	741.8	745.0	18.2	-0.256	-0.355
	Asian	354	761.1	764.0	20.2	-0.676	0.216
	Caucasian	19,065	748.2	749.0	19.4	-0.307	-0.166
	Hawaiian Native or Other Pacific Islander	87	749.7	749.0	21.2	-0.668	-0.156
	Multi	425	751.3	751.0	20.1	-0.245	-0.312
	Unknown	5	--	--	--	--	--
Hispanic	Yes	14,674	745.6	747.0	18.7	-0.323	-0.180
	No	8,704	751.1	751.0	20.3	-0.321	-0.254
	Unknown	0	--	--	--	--	--
Bilingual	Yes	2,010	740.5	742.0	18.0	-0.245	-0.339
	No	12,408	749.0	749.0	19.8	-0.304	-0.223
	Unknown	8,965	747.2	749.0	18.9	-0.308	-0.123
Econ. Dis.	Yes	10,999	743.5	745.0	18.5	-0.285	-0.264
	No	9,118	752.9	754.0	19.5	-0.409	-0.060
	Unknown	3,266	746.9	747.0	18.9	-0.306	-0.117
English Learners	Yes	4,081	736.8	739.0	16.8	-0.318	-0.561
	No	19,297	749.9	751.0	19.2	-0.354	-0.084
	Unknown	5	--	--	--	--	--
Foster Care	Yes	6	--	--	--	--	--
	No	7,063	748.2	749.0	19.5	-0.297	-0.239
	Unknown	16,314	747.4	749.0	19.4	-0.273	-0.187
Homeless	Yes	319	738.7	742.0	17.6	-0.303	-0.573
	No	19,101	748.0	749.0	19.5	-0.285	-0.204
	Unknown	3,963	746.4	747.0	19.0	-0.287	-0.175
Homeschool	Yes	1	--	--	--	--	--
	No	23,382	747.6	749.0	19.4	-0.280	-0.205
	Unknown	0	--	--	--	--	--
Migrant	Yes	41	--	--	--	--	--
	No	14,123	748.0	749.0	19.2	-0.310	-0.164
	Unknown	9,219	747.1	747.0	19.8	-0.234	-0.261
Military	Yes	216	756.5	759.0	18.1	-0.741	0.616
	No	13,127	747.8	749.0	19.2	-0.301	-0.179
	Unknown	10,040	747.1	747.0	19.7	-0.244	-0.237
Special Ed	Yes	3,802	734.9	739.0	18.9	0.275	-0.140
	No	16,369	750.7	751.0	18.5	-0.377	0.074
	Unknown	3,212	746.7	747.0	18.4	-0.335	0.000
Plan 504	Yes	295	751.0	753.0	17.7	-0.542	0.257
	No	19,339	747.9	749.0	19.5	-0.281	-0.208
	Unknown	3,749	745.7	747.0	19.0	-0.275	-0.207

Calculations based on those students attempting 5 or more items on the given NM-MSSA & ASR assessments. Statistical values are suppressed for those content areas/grades with fewer than 50 students.

Table R-12. Scaled Score Descriptive Statistics for NM-MSSA Mathematics Grade 8, as a Function of Subgroup*

Group	Subgroup	Number of Students	Mean	Median	SD	Skewness	Kurtosis
Overall		18,646	843.9	846.0	18.6	-0.426	-0.182
Gender	Female	9,182	843.9	846.0	18.0	-0.462	-0.113
	Male	9,460	843.8	846.0	19.2	-0.395	-0.252
	Unknown	4	--	--	--	--	--
Ethnicity	African American or Black	489	840.9	843.0	19.1	-0.284	-0.453
	American Indian or Alaska Native	2,346	841.0	843.0	17.4	-0.456	-0.291
	Asian	259	854.8	857.0	21.1	-0.388	-0.166
	Caucasian	15,119	844.2	846.0	18.6	-0.453	-0.175
	Hawaiian Native or Other Pacific Islander	75	847.3	849.0	19.3	-0.321	0.259
	Multi	354	846.0	849.0	18.2	-0.479	0.072
	Unknown	4	--	--	--	--	--
Hispanic	Yes	11,698	841.9	843.0	18.2	-0.446	-0.301
	No	6,944	847.2	849.0	18.8	-0.460	0.009
	Unknown	0	--	--	--	--	--
Bilingual	Yes	1,579	839.8	843.0	17.9	-0.437	-0.346
	No	9,829	844.7	846.0	19.0	-0.414	-0.180
	Unknown	7,238	843.6	846.0	18.1	-0.472	-0.161
Econ. Dis.	Yes	8,906	840.2	843.0	18.0	-0.413	-0.396
	No	7,172	848.3	851.0	18.5	-0.518	0.140
	Unknown	2,568	844.3	846.0	18.1	-0.522	-0.136
English Learners	Yes	3,359	835.2	840.0	17.3	-0.330	-0.688
	No	15,283	845.8	849.0	18.3	-0.494	-0.007
	Unknown	4	--	--	--	--	--
Foster Care	Yes	2	--	--	--	--	--
	No	5,582	844.4	846.0	18.8	-0.487	-0.174
	Unknown	13,062	843.7	846.0	18.5	-0.399	-0.181
Homeless	Yes	240	839.8	843.0	17.0	-0.520	-0.426
	No	15,297	843.9	846.0	18.7	-0.418	-0.181
	Unknown	3,109	843.9	846.0	18.1	-0.471	-0.181
Homeschool	Yes	3	--	--	--	--	--
	No	18,643	843.9	846.0	18.6	-0.425	-0.182
	Unknown	0	--	--	--	--	--
Migrant	Yes	37	--	--	--	--	--
	No	11,151	844.2	846.0	18.4	-0.500	-0.142
	Unknown	7,458	843.4	846.0	19.0	-0.320	-0.227
Military	Yes	151	853.3	855.0	16.6	-0.867	1.041
	No	10,478	843.9	846.0	18.5	-0.485	-0.178
	Unknown	8,017	843.6	846.0	18.8	-0.345	-0.189
Special Ed	Yes	3,057	832.4	836.0	18.6	0.076	-0.616
	No	13,109	846.5	849.0	17.8	-0.513	0.164
	Unknown	2,480	844.4	846.0	17.6	-0.530	-0.030
Plan 504	Yes	219	848.7	851.0	17.0	-0.713	0.640
	No	15,457	843.8	846.0	18.7	-0.414	-0.186
	Unknown	2,970	843.9	846.0	18.1	-0.465	-0.198

Calculations based on those students attempting 5 or more items on the given NM-MSSA & ASR assessments.
Statistical values are suppressed for those content areas/grades with fewer than 50 students.

Table R-13. Scaled Score Descriptive Statistics for NM-MSSA Science Grade 5, as a Function of Subgroup*

Group	Subgroup	Number of Students	Mean	Median	SD	Skewness	Kurtosis
Overall		21,995	553.6	553.0	13.3	0.360	-0.382
Gender	Female	10,878	553.7	552.0	12.9	0.387	-0.323
	Male	11,114	553.6	553.0	13.6	0.337	-0.440
	Unknown	3	--	--	--	--	--
Ethnicity	African American or Black	607	552.5	552.0	12.7	0.408	-0.190
	American Indian or Alaska Native	2,487	548.9	548.0	11.0	0.509	0.026
	Asian	358	560.8	561.0	14.7	0.030	-0.728
	Caucasian	18,026	554.2	553.0	13.4	0.319	-0.434
	Hawaiian Native or Other Pacific Islander	64	551.1	550.0	11.6	0.081	-0.899
	Multi	451	555.1	555.0	13.8	0.208	-0.294
	Unknown	2	--	--	--	--	--
Hispanic	Yes	13,720	551.9	551.0	12.3	0.381	-0.258
	No	8,273	556.5	556.0	14.2	0.211	-0.627
	Unknown	0	--	--	--	--	--
Bilingual	Yes	2,284	548.5	546.0	11.2	0.626	0.194
	No	11,643	554.7	554.0	13.6	0.281	-0.459
	Unknown	8,068	553.6	552.0	12.9	0.362	-0.365
Econ. Dis.	Yes	10,747	550.4	549.0	12.1	0.472	-0.100
	No	8,225	557.6	557.0	13.8	0.141	-0.577
	Unknown	3,023	554.1	553.0	12.8	0.298	-0.397
English Learners	Yes	4,233	547.4	546.0	10.4	0.526	0.234
	No	17,760	555.1	554.0	13.4	0.260	-0.475
	Unknown	2	--	--	--	--	--
Foster Care	Yes	4	--	--	--	--	--
	No	6,484	554.4	553.0	13.3	0.293	-0.455
	Unknown	15,507	553.3	552.0	13.2	0.388	-0.344
Homeless	Yes	350	546.8	545.0	10.5	0.620	0.502
	No	17,828	553.8	553.0	13.3	0.349	-0.389
	Unknown	3,817	553.6	552.0	13.1	0.365	-0.394
Homeschool	Yes	0	--	--	--	--	--
	No	21,995	553.6	553.0	13.3	0.360	-0.382
	Unknown	0	--	--	--	--	--
Migrant	Yes	33	--	--	--	--	--
	No	12,411	553.9	553.0	12.9	0.338	-0.377
	Unknown	9,551	553.3	552.0	13.7	0.389	-0.397
Military	Yes	232	559.6	559.5	13.3	-0.063	-0.324
	No	11,591	553.8	553.0	12.9	0.343	-0.366
	Unknown	10,172	553.4	552.0	13.6	0.389	-0.394
Special Ed	Yes	3,593	545.5	543.0	11.7	1.038	1.172
	No	15,255	555.5	555.0	13.0	0.289	-0.367
	Unknown	3,147	554.1	553.0	12.7	0.305	-0.438
Plan 504	Yes	207	555.7	555.0	13.3	0.224	-0.558
	No	18,089	553.7	553.0	13.3	0.356	-0.383
	Unknown	3,699	553.4	552.0	13.1	0.387	-0.360

Calculations based on those students attempting 5 or more items on the given NM-MSSA & ASR assessments. Statistical values are suppressed for those content areas/grades with fewer than 50 students.

Table R-14. Scaled Score Descriptive Statistics for NM-MSSA Science Grade 8, as a Function of Subgroup*

Group	Subgroup	Number of Students	Mean	Median	SD	Skewness	Kurtosis
Overall		23,887	855.0	853.0	10.9	0.449	0.228
Gender	Female	11,674	855.2	854.0	10.4	0.422	0.335
	Male	12,208	854.7	853.0	11.3	0.478	0.133
	Unknown	5	--	--	--	--	--
Ethnicity	African American or Black	625	853.3	851.0	10.1	0.302	0.524
	American Indian or Alaska Native	2,853	852.6	851.0	9.2	0.468	0.928
	Asian	358	861.9	862.0	12.7	0.038	-0.715
	Caucasian	19,482	855.2	854.0	11.0	0.434	0.160
	Hawaiian Native or Other Pacific Islander	94	857.1	855.0	11.3	0.335	-0.610
	Multi	470	856.2	855.0	11.4	0.119	0.084
	Unknown	5	--	--	--	--	--
Hispanic	Yes	14,974	853.5	852.0	10.1	0.418	0.431
	No	8,908	857.5	856.0	11.6	0.356	-0.157
	Unknown	0	--	--	--	--	--
Bilingual	Yes	2,004	851.4	850.0	9.0	0.405	1.008
	No	12,668	855.7	854.0	11.2	0.372	0.087
	Unknown	9,215	854.8	853.0	10.6	0.510	0.281
Econ. Dis.	Yes	11,339	852.8	851.0	9.8	0.449	0.591
	No	9,322	857.8	857.0	11.6	0.313	-0.241
	Unknown	3,226	854.4	853.0	10.6	0.392	0.587
English Learners	Yes	4,214	849.0	848.5	7.7	0.299	1.443
	No	19,668	856.2	855.0	11.0	0.354	0.078
	Unknown	5	--	--	--	--	--
Foster Care	Yes	3	--	--	--	--	--
	No	7,136	855.4	854.0	11.1	0.389	0.242
	Unknown	16,748	854.8	853.0	10.8	0.474	0.219
Homeless	Yes	301	852.3	851.0	9.8	0.459	0.388
	No	19,682	855.2	854.0	10.9	0.432	0.192
	Unknown	3,904	854.1	853.0	10.6	0.522	0.432
Homeschool	Yes	5	--	--	--	--	--
	No	23,882	855.0	853.0	10.9	0.449	0.229
	Unknown	0	--	--	--	--	--
Migrant	Yes	48	--	--	--	--	--
	No	14,381	855.2	854.0	10.7	0.428	0.205
	Unknown	9,458	854.6	853.0	11.1	0.486	0.270
Military	Yes	193	861.9	862.0	11.2	0.092	-0.207
	No	13,507	855.2	854.0	10.8	0.427	0.214
	Unknown	10,187	854.6	853.0	11.0	0.487	0.279
Special Ed	Yes	3,797	849.1	848.0	9.8	0.932	2.371
	No	16,844	856.5	855.0	10.8	0.378	0.099
	Unknown	3,246	853.9	853.0	10.2	0.504	0.404
Plan 504	Yes	304	857.9	857.0	10.8	0.205	-0.425
	No	19,856	855.1	853.0	10.9	0.444	0.214
	Unknown	3,727	854.1	853.0	10.6	0.494	0.397

Calculations based on those students attempting 5 or more items on the given NM-MSSA & ASR assessments. Statistical values are suppressed for those content areas/grades with fewer than 50 students.

Table R-15. Scaled Score Descriptive Statistics for NM-MSSA Science Grade 11, as a Function of Subgroup*

Group	Subgroup	Number of Students	Mean	Median	SD	Skewness	Kurtosis
Overall		19,727	1158.9	1158.0	8.3	0.443	0.835
Gender	Female	10,028	1158.3	1158.0	7.8	0.308	1.452
	Male	9,695	1159.4	1158.0	8.8	0.499	0.290
	Unknown	4	--	--	--	--	--
Ethnicity	African American or Black	454	1157.9	1157.0	7.2	0.365	0.237
	American Indian or Alaska Native	2,401	1156.3	1155.0	6.8	0.544	0.923
	Asian	325	1164.4	1163.0	10.3	-0.019	1.217
	Caucasian	16,078	1159.1	1158.0	8.3	0.390	0.782
	Hawaiian Native or Other Pacific Islander	62	1159.5	1160.5	8.1	0.257	-0.393
	Multi	401	1160.9	1160.0	9.5	0.436	0.384
	Unknown	6	--	--	--	--	--
Hispanic	Yes	11,977	1157.6	1157.0	7.6	0.357	1.239
	No	7,744	1160.7	1159.0	8.9	0.382	0.277
	Unknown	0	--	--	--	--	--
Bilingual	Yes	772	1156.9	1156.0	7.7	0.676	0.924
	No	6,655	1159.5	1159.0	8.7	0.326	0.453
	Unknown	12,300	1158.6	1158.0	8.1	0.489	1.106
Econ. Dis.	Yes	6,822	1156.5	1156.0	7.3	0.238	2.388
	No	10,919	1160.6	1159.0	8.6	0.377	0.252
	Unknown	1,986	1157.1	1156.0	7.2	0.592	0.304
English Learners	Yes	2,213	1152.8	1152.0	5.5	0.346	3.267
	No	17,508	1159.6	1159.0	8.3	0.381	0.836
	Unknown	6	--	--	--	--	--
Foster Care	Yes	1	--	--	--	--	--
	No	3,299	1159.5	1159.0	8.1	0.448	-0.037
	Unknown	16,427	1158.7	1158.0	8.3	0.445	0.995
Homeless	Yes	259	1156.4	1155.0	7.2	0.677	0.263
	No	16,758	1159.1	1158.0	8.4	0.403	0.870
	Unknown	2,710	1157.7	1157.0	7.5	0.641	0.439
Homeschool	Yes	0	--	--	--	--	--
	No	19,727	1158.9	1158.0	8.3	0.443	0.835
	Unknown	0	--	--	--	--	--
Migrant	Yes	81	1155.4	1155.0	6.9	0.365	-0.160
	No	13,465	1159.1	1158.0	8.1	0.453	0.892
	Unknown	6,181	1158.4	1157.0	8.6	0.438	0.726
Military	Yes	115	1162.9	1163.0	7.5	-0.015	-0.416
	No	12,738	1159.0	1158.0	8.2	0.444	0.952
	Unknown	6,874	1158.5	1158.0	8.5	0.459	0.681
Special Ed	Yes	2,463	1153.5	1152.0	6.9	0.447	4.362
	No	15,988	1159.8	1159.0	8.2	0.431	0.682
	Unknown	1,276	1157.6	1157.0	7.2	0.476	0.179
Plan 504	Yes	347	1162.3	1161.0	8.4	0.342	-0.019
	No	17,071	1159.0	1158.0	8.3	0.429	0.860
	Unknown	2,309	1157.5	1156.0	7.6	0.520	0.779

Calculations based on those students attempting 5 or more items on the given NM-MSSA & ASR assessments.
Statistical values are suppressed for those content areas/grades with fewer than 50 students.

Table R-16. Scaled Score Descriptive Statistics for NM-MSSA SLA Grade 3, as a Function of Subgroup*

Group	Subgroup	Number of Students	Mean	Median	SD	Skewness	Kurtosis
Overall		693	339.9	339.0	17.9	-0.039	-0.159
Gender	Female	355	341.0	341.0	17.3	0.018	-0.113
	Male	338	338.8	339.0	18.5	-0.065	-0.229
	Unknown	0	--	--	--	--	--
Ethnicity	African American or Black	4	--	--	--	--	--
	American Indian or Alaska Native	0	--	--	--	--	--
	Asian	5	--	--	--	--	--
	Caucasian	680	339.9	339.0	18.0	-0.038	-0.176
	Hawaiian Native or Other Pacific Islander	3	--	--	--	--	--
	Multi	1	--	--	--	--	--
	Unknown	0	--	--	--	--	--
Hispanic	Yes	685	339.8	339.0	17.9	-0.047	-0.140
	No	8	--	--	--	--	--
	Unknown	0	--	--	--	--	--
Bilingual	Yes	499	340.5	339.0	17.1	-0.186	-0.237
	No	51	338.5	336.0	20.8	0.375	0.086
	Unknown	143	338.4	339.0	19.6	0.216	-0.081
Econ. Dis.	Yes	515	339.4	339.0	17.1	-0.124	-0.254
	No	95	341.8	343.0	19.7	-0.164	-0.088
	Unknown	83	341.2	339.0	20.5	0.281	-0.191
English Learners	Yes	667	340.1	339.0	17.8	-0.046	-0.125
	No	26	--	--	--	--	--
	Unknown	0	--	--	--	--	--
Foster Care	Yes	0	--	--	--	--	--
	No	167	340.9	339.0	17.6	-0.141	0.322
	Unknown	526	339.6	339.0	18.1	-0.007	-0.277
Homeless	Yes	12	--	--	--	--	--
	No	517	340.9	341.0	17.7	-0.192	-0.169
	Unknown	164	337.4	334.0	18.2	0.432	0.282
Homeschool	Yes	0	--	--	--	--	--
	No	693	339.9	339.0	17.9	-0.039	-0.159
	Unknown	0	--	--	--	--	--
Migrant	Yes	21	--	--	--	--	--
	No	391	342.0	343.0	18.0	-0.285	-0.092
	Unknown	281	336.7	334.0	17.7	0.335	0.133
Military	Yes	0	--	--	--	--	--
	No	410	342.2	343.0	17.8	-0.291	-0.044
	Unknown	283	336.7	334.0	17.7	0.326	0.129
Special Ed	Yes	81	329.9	331.0	15.2	-0.224	-0.200
	No	305	340.4	339.0	17.7	-0.119	-0.088
	Unknown	307	342.1	341.0	18.0	-0.028	-0.227
Plan 504	Yes	6	--	--	--	--	--
	No	512	341.1	341.0	17.8	-0.206	-0.155
	Unknown	175	336.6	334.0	18.1	0.452	0.325

Calculations based on those students attempting 5 or more items on the given NM-MSSA & ASR assessments.
Statistical values are suppressed for those content areas/grades with fewer than 50 students.

Table R-17. Scaled Score Descriptive Statistics for NM-MSSA SLA Grade 4, as a Function of Subgroup*

Group	Subgroup	Number of Students	Mean	Median	SD	Skewness	Kurtosis
Overall		561	438.9	439.0	19.5	0.052	-0.270
Gender	Female	295	441.0	443.0	20.0	0.005	-0.289
	Male	266	436.6	437.0	18.8	0.072	-0.229
	Unknown	0	--	--	--	--	--
Ethnicity	African American or Black	2	--	--	--	--	--
	American Indian or Alaska Native	2	--	--	--	--	--
	Asian	3	--	--	--	--	--
	Caucasian	553	439.0	439.0	19.5	0.055	-0.265
	Hawaiian Native or Other Pacific Islander	1	--	--	--	--	--
	Multi	0	--	--	--	--	--
	Unknown	0	--	--	--	--	--
Hispanic	Yes	555	439.0	439.0	19.6	0.043	-0.271
	No	6	--	--	--	--	--
	Unknown	0	--	--	--	--	--
Bilingual	Yes	388	437.7	439.0	19.1	-0.061	-0.443
	No	62	442.7	443.0	15.8	-0.113	0.193
	Unknown	111	441.0	437.0	22.3	0.337	-0.354
Econ. Dis.	Yes	395	437.0	437.0	19.2	-0.007	-0.452
	No	94	443.0	443.0	17.1	-0.319	0.162
	Unknown	72	444.3	442.0	22.7	0.362	-0.477
English Learners	Yes	534	438.9	439.0	19.7	0.051	-0.295
	No	27	--	--	--	--	--
	Unknown	0	--	--	--	--	--
Foster Care	Yes	0	--	--	--	--	--
	No	137	442.2	443.0	17.9	-0.109	0.069
	Unknown	424	437.9	437.0	19.9	0.120	-0.313
Homeless	Yes	13	--	--	--	--	--
	No	412	440.1	441.0	18.5	-0.120	-0.328
	Unknown	136	436.6	434.0	21.9	0.476	-0.043
Homeschool	Yes	0	--	--	--	--	--
	No	561	438.9	439.0	19.5	0.052	-0.270
	Unknown	0	--	--	--	--	--
Migrant	Yes	12	--	--	--	--	--
	No	310	441.0	441.0	19.0	-0.129	-0.304
	Unknown	239	436.5	434.0	20.1	0.312	-0.077
Military	Yes	2	--	--	--	--	--
	No	313	440.9	441.0	19.0	-0.160	-0.279
	Unknown	246	436.4	434.0	20.0	0.322	-0.059
Special Ed	Yes	47	--	--	--	--	--
	No	265	441.1	441.0	17.8	-0.134	-0.115
	Unknown	249	438.8	437.0	21.1	0.128	-0.353
Plan 504	Yes	9	--	--	--	--	--
	No	406	440.1	441.0	18.6	-0.134	-0.307
	Unknown	146	436.1	434.0	21.7	0.469	0.011

Calculations based on those students attempting 5 or more items on the given NM-MSSA & ASR assessments.
Statistical values are suppressed for those content areas/grades with fewer than 50 students.

Table R-18. Scaled Score Descriptive Statistics for NM-MSSA SLA Grade 5, as a Function of Subgroup*

Group	Subgroup	Number of Students	Mean	Median	SD	Skewness	Kurtosis
Overall		210	542.5	544.0	18.0	-0.199	0.105
Gender	Female	109	542.8	546.0	18.4	-0.235	0.336
	Male	101	542.2	544.0	17.6	-0.162	-0.126
	Unknown	0	--	--	--	--	--
Ethnicity	African American or Black	1	--	--	--	--	--
	American Indian or Alaska Native	1	--	--	--	--	--
	Asian	2	--	--	--	--	--
	Caucasian	201	542.5	544.0	18.1	-0.197	0.122
	Hawaiian Native or Other Pacific Islander	3	--	--	--	--	--
	Multi	1	--	--	--	--	--
	Unknown	1	--	--	--	--	--
Hispanic	Yes	208	542.7	545.0	18.0	-0.208	0.126
	No	1	--	--	--	--	--
	Unknown	0	--	--	--	--	--
Bilingual	Yes	105	545.5	546.0	18.4	-0.111	0.198
	No	44	--	--	--	--	--
	Unknown	61	538.6	541.0	17.4	-0.527	-0.444
Econ. Dis.	Yes	107	543.4	546.0	19.7	-0.172	-0.018
	No	84	540.7	541.0	16.5	-0.250	0.143
	Unknown	19	--	--	--	--	--
English Learners	Yes	191	543.0	544.0	17.4	-0.121	0.176
	No	18	--	--	--	--	--
	Unknown	1	--	--	--	--	--
Foster Care	Yes	0	--	--	--	--	--
	No	81	544.0	546.0	16.6	-0.032	-0.121
	Unknown	129	541.6	544.0	18.8	-0.240	0.127
Homeless	Yes	8	--	--	--	--	--
	No	175	543.0	544.0	18.2	-0.155	0.154
	Unknown	27	--	--	--	--	--
Homeschool	Yes	0	--	--	--	--	--
	No	210	542.5	544.0	18.0	-0.199	0.105
	Unknown	0	--	--	--	--	--
Migrant	Yes	6	--	--	--	--	--
	No	136	544.2	546.0	17.2	-0.279	0.242
	Unknown	68	538.4	541.0	18.3	-0.158	-0.051
Military	Yes	1	--	--	--	--	--
	No	138	544.7	546.0	17.7	-0.221	0.233
	Unknown	71	538.3	541.0	18.1	-0.146	-0.015
Special Ed	Yes	4	--	--	--	--	--
	No	147	542.0	544.0	17.2	-0.207	0.275
	Unknown	59	545.5	546.0	19.0	-0.337	0.223
Plan 504	Yes	1	--	--	--	--	--
	No	171	542.9	544.0	18.3	-0.143	0.150
	Unknown	38	--	--	--	--	--

Calculations based on those students attempting 5 or more items on the given NM-MSSA & ASR assessments. Statistical values are suppressed for those content areas/grades with fewer than 50 students.

Table R-19. Scaled Score Descriptive Statistics for NM-MSSA SLA Grade 6, as a Function of Subgroup*

Group	Subgroup	Number of Students	Mean	Median	SD	Skewness	Kurtosis
Overall		218	634.7	635.0	17.2	-0.038	-0.043
Gender	Female	116	635.4	635.0	17.2	-0.085	0.012
	Male	102	633.9	635.0	17.2	0.014	-0.029
	Unknown	0	--	--	--	--	--
Ethnicity	African American or Black	0	--	--	--	--	--
	American Indian or Alaska Native	2	--	--	--	--	--
	Asian	0	--	--	--	--	--
	Caucasian	213	634.9	635.0	17.3	-0.060	-0.065
	Hawaiian Native or Other Pacific Islander	1	--	--	--	--	--
	Multi	1	--	--	--	--	--
	Unknown	1	--	--	--	--	--
Hispanic	Yes	213	634.7	635.0	17.3	-0.037	-0.087
	No	4	--	--	--	--	--
	Unknown	0	--	--	--	--	--
Bilingual	Yes	99	636.8	635.0	16.9	0.282	0.291
	No	54	628.2	631.0	19.3	-0.117	-1.127
	Unknown	65	636.9	638.0	14.3	0.018	-0.077
Econ. Dis.	Yes	103	633.8	631.0	17.9	0.123	-0.151
	No	101	635.3	635.0	17.1	-0.160	0.099
	Unknown	14	--	--	--	--	--
English Learners	Yes	196	634.8	635.0	17.3	-0.007	0.017
	No	21	--	--	--	--	--
	Unknown	1	--	--	--	--	--
Foster Care	Yes	0	--	--	--	--	--
	No	81	633.6	635.0	18.4	-0.060	0.243
	Unknown	137	635.4	635.0	16.4	0.009	-0.326
Homeless	Yes	7	--	--	--	--	--
	No	189	634.8	635.0	17.6	-0.031	-0.081
	Unknown	22	--	--	--	--	--
Homeschool	Yes	0	--	--	--	--	--
	No	218	634.7	635.0	17.2	-0.038	-0.043
	Unknown	0	--	--	--	--	--
Migrant	Yes	8	--	--	--	--	--
	No	148	636.3	635.0	17.8	-0.087	0.043
	Unknown	62	631.4	631.0	15.7	-0.123	-0.493
Military	Yes	0	--	--	--	--	--
	No	154	636.1	635.0	17.7	-0.076	0.053
	Unknown	64	631.3	631.0	15.6	-0.101	-0.480
Special Ed	Yes	6	--	--	--	--	--
	No	164	634.1	635.0	17.8	-0.014	-0.013
	Unknown	48	--	--	--	--	--
Plan 504	Yes	1	--	--	--	--	--
	No	186	634.9	635.0	17.7	-0.046	-0.108
	Unknown	31	--	--	--	--	--

*Calculations based on those students attempting 5 or more items on the given NM-MSSA & ASR assessments.
Statistical values are suppressed for those content areas/grades with fewer than 50 students.*

Table R-20. Scaled Score Descriptive Statistics for NM-MSSA SLA Grade 7, as a Function of Subgroup*

Group	Subgroup	Number of Students	Mean	Median	SD	Skewness	Kurtosis
Overall		225	737.9	740.0	19.1	-0.146	-0.332
Gender	Female	106	738.8	740.0	19.0	-0.319	-0.189
	Male	119	737.0	737.0	19.2	0.003	-0.362
	Unknown	0	--	--	--	--	--
Ethnicity	African American or Black	0	--	--	--	--	--
	American Indian or Alaska Native	1	--	--	--	--	--
	Asian	0	--	--	--	--	--
	Caucasian	222	738.1	740.0	19.1	-0.146	-0.335
	Hawaiian Native or Other Pacific Islander	1	--	--	--	--	--
	Multi	1	--	--	--	--	--
	Unknown	0	--	--	--	--	--
Hispanic	Yes	223	738.0	740.0	19.1	-0.144	-0.314
	No	2	--	--	--	--	--
	Unknown	0	--	--	--	--	--
Bilingual	Yes	109	737.9	740.0	20.1	-0.277	-0.555
	No	68	737.1	740.0	18.8	-0.145	-0.132
	Unknown	48	--	--	--	--	--
Econ. Dis.	Yes	116	737.9	741.5	20.4	-0.218	-0.629
	No	87	739.7	740.0	17.4	-0.064	0.535
	Unknown	22	--	--	--	--	--
English Learners	Yes	193	738.0	740.0	19.0	-0.182	-0.296
	No	32	--	--	--	--	--
	Unknown	0	--	--	--	--	--
Foster Care	Yes	0	--	--	--	--	--
	No	83	736.8	740.0	18.8	-0.301	-0.161
	Unknown	142	738.5	740.0	19.3	-0.072	-0.420
Homeless	Yes	6	--	--	--	--	--
	No	185	738.8	740.0	19.1	-0.163	-0.213
	Unknown	34	--	--	--	--	--
Homeschool	Yes	0	--	--	--	--	--
	No	225	737.9	740.0	19.1	-0.146	-0.332
	Unknown	0	--	--	--	--	--
Migrant	Yes	3	--	--	--	--	--
	No	145	739.4	740.0	18.2	-0.281	-0.040
	Unknown	77	734.2	734.0	20.1	0.091	-0.551
Military	Yes	1	--	--	--	--	--
	No	144	740.1	741.5	18.2	-0.238	-0.002
	Unknown	80	733.9	734.0	20.3	0.086	-0.620
Special Ed	Yes	2	--	--	--	--	--
	No	152	737.7	740.0	19.6	-0.163	-0.169
	Unknown	71	738.8	740.0	18.1	-0.152	-0.758
Plan 504	Yes	1	--	--	--	--	--
	No	179	739.0	740.0	18.9	-0.183	-0.149
	Unknown	45	--	--	--	--	--

*Calculations based on those students attempting 5 or more items on the given NM-MSSA & ASR assessments.
Statistical values are suppressed for those content areas/grades with fewer than 50 students.*

Table R-21. Scaled Score Descriptive Statistics for NM-MSSA SLA Grade 8, as a Function of Subgroup*

Group	Subgroup	Number of Students	Mean	Median	SD	Skewness	Kurtosis
Overall		233	839.5	842.0	18.9	-0.244	-0.315
Gender	Female	106	840.9	842.0	18.7	-0.080	-0.304
	Male	127	838.4	839.0	19.0	-0.372	-0.371
	Unknown	0	--	--	--	--	--
Ethnicity	African American or Black	1	--	--	--	--	--
	American Indian or Alaska Native	0	--	--	--	--	--
	Asian	1	--	--	--	--	--
	Caucasian	231	839.4	839.0	18.9	-0.230	-0.322
	Hawaiian Native or Other Pacific Islander	0	--	--	--	--	--
	Multi	0	--	--	--	--	--
	Unknown	0	--	--	--	--	--
Hispanic	Yes	232	839.5	840.5	18.9	-0.238	-0.323
	No	1	--	--	--	--	--
	Unknown	0	--	--	--	--	--
Bilingual	Yes	104	839.3	842.0	20.0	-0.271	-0.463
	No	69	842.8	842.0	18.2	-0.092	-0.391
	Unknown	60	836.1	839.0	17.3	-0.471	-0.100
Econ. Dis.	Yes	120	839.8	840.5	18.0	-0.308	-0.315
	No	94	840.3	842.0	19.1	-0.117	-0.140
	Unknown	19	--	--	--	--	--
English Learners	Yes	201	839.8	842.0	18.9	-0.263	-0.284
	No	32	--	--	--	--	--
	Unknown	0	--	--	--	--	--
Foster Care	Yes	0	--	--	--	--	--
	No	86	840.8	842.0	19.9	-0.056	-0.356
	Unknown	147	838.8	839.0	18.3	-0.411	-0.339
Homeless	Yes	8	--	--	--	--	--
	No	199	840.5	842.0	18.3	-0.158	-0.291
	Unknown	26	--	--	--	--	--
Homeschool	Yes	0	--	--	--	--	--
	No	233	839.5	842.0	18.9	-0.244	-0.315
	Unknown	0	--	--	--	--	--
Migrant	Yes	7	--	--	--	--	--
	No	150	840.7	840.5	18.1	-0.121	-0.131
	Unknown	76	836.6	840.5	19.8	-0.415	-0.698
Military	Yes	0	--	--	--	--	--
	No	153	840.9	842.0	18.4	-0.099	-0.230
	Unknown	80	837.0	840.5	19.6	-0.448	-0.640
Special Ed	Yes	4	--	--	--	--	--
	No	168	840.1	839.0	17.9	-0.119	-0.126
	Unknown	61	838.9	842.0	20.9	-0.428	-0.647
Plan 504	Yes	0	--	--	--	--	--
	No	192	840.0	840.5	18.3	-0.161	-0.267
	Unknown	41	--	--	--	--	--

*Calculations based on those students attempting 5 or more items on the given NM-MSSA & ASR assessments.
Statistical values are suppressed for those content areas/grades with fewer than 50 students.*

Table R-22. Scaled Score Descriptive Statistics for NM-MSSA Mathematics (Spanish Transadapted) Grade 3, as a Function of Subgroup*

Group	Subgroup	Number of Students	Mean	Median	SD	Skewness	Kurtosis
Overall		704	333.5	334.0	19.6	-0.060	-0.481
Gender	Female	360	332.6	334.0	18.4	-0.075	-0.299
	Male	344	334.4	337.0	20.8	-0.078	-0.650
	Unknown	0	--	--	--	--	--
Ethnicity	African American or Black	4	--	--	--	--	--
	American Indian or Alaska Native	0	--	--	--	--	--
	Asian	5	--	--	--	--	--
	Caucasian	691	333.4	334.0	19.7	-0.051	-0.492
	Hawaiian Native or Other Pacific Islander	3	--	--	--	--	--
	Multi	1	--	--	--	--	--
	Unknown	0	--	--	--	--	--
Hispanic	Yes	696	333.4	334.0	19.6	-0.068	-0.490
	No	8	--	--	--	--	--
	Unknown	0	--	--	--	--	--
Bilingual	Yes	507	334.3	337.0	19.3	-0.226	-0.588
	No	56	330.7	331.0	18.0	0.282	0.471
	Unknown	141	331.6	331.0	21.2	0.337	-0.198
Econ. Dis.	Yes	524	333.2	334.0	19.6	-0.149	-0.654
	No	96	331.7	334.0	18.0	0.059	0.044
	Unknown	84	337.2	335.5	21.2	0.178	-0.203
English Learners	Yes	671	333.8	334.0	19.6	-0.074	-0.464
	No	33	--	--	--	--	--
	Unknown	0	--	--	--	--	--
Foster Care	Yes	0	--	--	--	--	--
	No	172	332.4	334.0	18.3	-0.131	-0.295
	Unknown	532	333.8	334.0	20.0	-0.052	-0.537
Homeless	Yes	13	--	--	--	--	--
	No	526	334.5	337.0	19.2	-0.160	-0.504
	Unknown	165	331.3	334.0	20.7	0.204	-0.239
Homeschool	Yes	0	--	--	--	--	--
	No	704	333.5	334.0	19.6	-0.060	-0.481
	Unknown	0	--	--	--	--	--
Migrant	Yes	21	--	--	--	--	--
	No	393	336.2	337.0	19.2	-0.225	-0.478
	Unknown	290	330.0	331.0	20.0	0.165	-0.329
Military	Yes	0	--	--	--	--	--
	No	412	336.0	337.0	19.0	-0.211	-0.454
	Unknown	292	330.0	331.0	19.9	0.170	-0.313
Special Ed	Yes	83	325.2	327.0	19.2	0.320	-0.596
	No	312	332.0	334.0	18.8	-0.048	-0.422
	Unknown	309	337.2	337.0	19.7	-0.198	-0.312
Plan 504	Yes	6	--	--	--	--	--
	No	519	334.5	337.0	19.2	-0.176	-0.495
	Unknown	179	330.2	331.0	20.4	0.298	-0.182

*Calculations based on those students attempting 5 or more items on the given NM-MSSA & ASR assessments.
Statistical values are suppressed for those content areas/grades with fewer than 50 students.*

Table R-23. Scaled Score Descriptive Statistics for NM-MSSA Mathematics (Spanish Transadapted) Grade 4, as a Function of Subgroup*

Group	Subgroup	Number of Students	Mean	Median	SD	Skewness	Kurtosis
Overall		565	439.2	439.0	19.2	-0.087	-0.009
Gender	Female	296	439.4	441.0	19.3	-0.165	-0.008
	Male	269	439.0	439.0	19.2	-0.001	0.020
	Unknown	0	--	--	--	--	--
Ethnicity	African American or Black	2	--	--	--	--	--
	American Indian or Alaska Native	3	--	--	--	--	--
	Asian	2	--	--	--	--	--
	Caucasian	557	439.5	439.0	19.1	-0.090	0.025
	Hawaiian Native or Other Pacific Islander	1	--	--	--	--	--
	Multi	0	--	--	--	--	--
	Unknown	0	--	--	--	--	--
Hispanic	Yes	559	439.3	439.0	19.3	-0.093	-0.023
	No	6	--	--	--	--	--
	Unknown	0	--	--	--	--	--
Bilingual	Yes	386	439.3	439.0	18.8	-0.152	0.006
	No	68	437.1	439.0	17.4	-0.307	0.653
	Unknown	111	440.3	441.0	21.9	0.066	-0.376
Econ. Dis.	Yes	398	438.2	439.0	19.2	-0.131	-0.092
	No	95	439.4	439.0	16.0	-0.269	0.733
	Unknown	72	444.5	443.0	22.7	-0.065	-0.470
English Learners	Yes	534	439.4	439.0	19.3	-0.095	0.016
	No	31	--	--	--	--	--
	Unknown	0	--	--	--	--	--
Foster Care	Yes	0	--	--	--	--	--
	No	141	438.9	441.0	18.1	-0.239	0.197
	Unknown	424	439.3	439.0	19.6	-0.050	-0.066
Homeless	Yes	13	--	--	--	--	--
	No	422	440.3	441.0	18.3	-0.194	0.147
	Unknown	130	436.6	436.0	21.7	0.235	-0.231
Homeschool	Yes	0	--	--	--	--	--
	No	565	439.2	439.0	19.2	-0.087	-0.009
	Unknown	0	--	--	--	--	--
Migrant	Yes	13	--	--	--	--	--
	No	313	441.6	441.0	18.7	-0.225	0.129
	Unknown	239	436.3	436.0	19.8	0.123	-0.005
Military	Yes	2	--	--	--	--	--
	No	317	441.7	441.0	18.5	-0.244	0.193
	Unknown	246	436.1	436.0	19.7	0.129	0.009
Special Ed	Yes	48	--	--	--	--	--
	No	275	439.5	441.0	17.3	-0.253	0.293
	Unknown	242	441.3	441.0	20.7	-0.001	-0.278
Plan 504	Yes	8	--	--	--	--	--
	No	416	440.0	441.0	18.4	-0.229	0.142
	Unknown	141	436.3	436.0	21.1	0.270	-0.099

Calculations based on those students attempting 5 or more items on the given NM-MSSA & ASR assessments.
Statistical values are suppressed for those content areas/grades with fewer than 50 students.

Table R-24. Scaled Score Descriptive Statistics for NM-MSSA Mathematics (Spanish Transadapted) Grade 5, as a Function of Subgroup*

Group	Subgroup	Number of Students	Mean	Median	SD	Skewness	Kurtosis
Overall		216	538.6	543.0	19.9	-0.353	-0.561
Gender	Female	111	536.7	543.0	20.7	-0.350	-0.990
	Male	105	540.6	543.0	19.0	-0.314	-0.017
	Unknown	0	--	--	--	--	--
Ethnicity	African American or Black	1	--	--	--	--	--
	American Indian or Alaska Native	1	--	--	--	--	--
	Asian	2	--	--	--	--	--
	Caucasian	208	538.5	543.0	20.2	-0.345	-0.600
	Hawaiian Native or Other Pacific Islander	3	--	--	--	--	--
	Multi	1	--	--	--	--	--
	Unknown	0	--	--	--	--	--
Hispanic	Yes	215	538.6	543.0	20.0	-0.346	-0.566
	No	1	--	--	--	--	--
	Unknown	0	--	--	--	--	--
Bilingual	Yes	108	540.4	544.0	20.6	-0.384	-0.703
	No	47	--	--	--	--	--
	Unknown	61	539.0	543.0	17.5	-0.837	-0.041
Econ. Dis.	Yes	112	538.8	543.0	21.6	-0.207	-0.799
	No	86	537.7	540.0	18.1	-0.520	-0.222
	Unknown	18	--	--	--	--	--
English Learners	Yes	197	538.6	543.0	19.7	-0.379	-0.522
	No	19	--	--	--	--	--
	Unknown	0	--	--	--	--	--
Foster Care	Yes	0	--	--	--	--	--
	No	83	540.1	543.0	19.2	-0.334	-0.004
	Unknown	133	537.7	540.0	20.4	-0.354	-0.838
Homeless	Yes	9	--	--	--	--	--
	No	181	538.8	543.0	20.4	-0.334	-0.611
	Unknown	26	--	--	--	--	--
Homeschool	Yes	0	--	--	--	--	--
	No	216	538.6	543.0	19.9	-0.353	-0.561
	Unknown	0	--	--	--	--	--
Migrant	Yes	6	--	--	--	--	--
	No	139	540.8	543.0	19.4	-0.425	-0.121
	Unknown	71	533.5	536.0	20.2	-0.189	-1.172
Military	Yes	1	--	--	--	--	--
	No	141	541.3	543.0	19.4	-0.424	-0.162
	Unknown	74	533.5	536.0	20.2	-0.210	-1.178
Special Ed	Yes	4	--	--	--	--	--
	No	154	537.4	541.5	20.2	-0.314	-0.619
	Unknown	58	543.2	545.0	18.5	-0.552	-0.010
Plan 504	Yes	1	--	--	--	--	--
	No	178	539.0	543.0	20.5	-0.322	-0.606
	Unknown	37	--	--	--	--	--

Calculations based on those students attempting 5 or more items on the given NM-MSSA & ASR assessments. Statistical values are suppressed for those content areas/grades with fewer than 50 students.

Table R-25. Scaled Score Descriptive Statistics for NM-MSSA Mathematics (Spanish Transadapted) Grade 6, as a Function of Subgroup*

Group	Subgroup	Number of Students	Mean	Median	SD	Skewness	Kurtosis
Overall		226	633.7	638.0	20.1	-0.182	-0.324
Gender	Female	121	634.3	638.0	18.9	-0.068	0.237
	Male	105	633.0	638.0	21.4	-0.253	-0.787
	Unknown	0	--	--	--	--	--
Ethnicity	African American or Black	0	--	--	--	--	--
	American Indian or Alaska Native	2	--	--	--	--	--
	Asian	0	--	--	--	--	--
	Caucasian	222	634.0	638.0	20.0	-0.186	-0.280
	Hawaiian Native or Other Pacific Islander	1	--	--	--	--	--
	Multi	1	--	--	--	--	--
	Unknown	0	--	--	--	--	--
Hispanic	Yes	222	633.8	638.0	20.1	-0.178	-0.318
	No	4	--	--	--	--	--
	Unknown	0	--	--	--	--	--
Bilingual	Yes	103	634.8	638.0	20.7	-0.178	-0.439
	No	62	630.7	633.0	18.8	-0.337	-0.700
	Unknown	61	635.0	638.0	20.2	-0.155	0.198
Econ. Dis.	Yes	105	633.0	633.0	21.2	-0.155	-0.711
	No	108	634.7	638.0	19.7	-0.198	0.043
	Unknown	13	--	--	--	--	--
English Learners	Yes	204	634.1	638.0	20.2	-0.157	-0.289
	No	22	--	--	--	--	--
	Unknown	0	--	--	--	--	--
Foster Care	Yes	0	--	--	--	--	--
	No	91	632.7	638.0	19.1	-0.358	-0.438
	Unknown	135	634.5	638.0	20.8	-0.109	-0.295
Homeless	Yes	7	--	--	--	--	--
	No	199	634.5	638.0	20.3	-0.208	-0.301
	Unknown	20	--	--	--	--	--
Homeschool	Yes	0	--	--	--	--	--
	No	226	633.7	638.0	20.1	-0.182	-0.324
	Unknown	0	--	--	--	--	--
Migrant	Yes	9	--	--	--	--	--
	No	155	635.8	638.0	20.4	-0.212	-0.202
	Unknown	62	628.6	628.0	18.7	-0.122	-0.621
Military	Yes	0	--	--	--	--	--
	No	161	635.7	638.0	20.4	-0.249	-0.213
	Unknown	65	628.9	628.0	18.5	-0.156	-0.599
Special Ed	Yes	6	--	--	--	--	--
	No	174	633.3	638.0	20.2	-0.237	-0.380
	Unknown	46	--	--	--	--	--
Plan 504	Yes	0	--	--	--	--	--
	No	196	634.6	638.0	20.4	-0.227	-0.315
	Unknown	30	--	--	--	--	--

*Calculations based on those students attempting 5 or more items on the given NM-MSSA & ASR assessments.
Statistical values are suppressed for those content areas/grades with fewer than 50 students.*

Table R-26. Scaled Score Descriptive Statistics for NM-MSSA Mathematics (Spanish Transadapted) Grade 7, as a Function of Subgroup*

Group	Subgroup	Number of Students	Mean	Median	SD	Skewness	Kurtosis
Overall		239	735.4	739.0	17.0	-0.186	-0.438
Gender	Female	112	735.0	739.0	18.1	-0.057	-0.303
	Male	127	735.7	739.0	15.9	-0.334	-0.672
	Unknown	0	--	--	--	--	--
Ethnicity	African American or Black	0	--	--	--	--	--
	American Indian or Alaska Native	1	--	--	--	--	--
	Asian	1	--	--	--	--	--
	Caucasian	233	735.7	739.0	16.9	-0.196	-0.410
	Hawaiian Native or Other Pacific Islander	2	--	--	--	--	--
	Multi	1	--	--	--	--	--
	Unknown	1	--	--	--	--	--
Hispanic	Yes	236	735.6	739.0	16.9	-0.198	-0.410
	No	2	--	--	--	--	--
	Unknown	0	--	--	--	--	--
Bilingual	Yes	116	735.3	739.0	17.4	-0.080	-0.322
	No	69	734.2	739.0	16.4	-0.220	-0.496
	Unknown	54	737.1	739.0	16.9	-0.433	-0.456
Econ. Dis.	Yes	125	735.2	739.0	18.0	-0.066	-0.481
	No	91	734.6	739.0	16.6	-0.331	-0.683
	Unknown	23	--	--	--	--	--
English Learners	Yes	202	735.0	739.0	17.1	-0.117	-0.409
	No	36	--	--	--	--	--
	Unknown	1	--	--	--	--	--
Foster Care	Yes	0	--	--	--	--	--
	No	86	733.3	734.0	16.0	-0.144	-0.484
	Unknown	153	736.5	739.0	17.4	-0.242	-0.396
Homeless	Yes	10	--	--	--	--	--
	No	190	735.5	739.0	16.9	-0.149	-0.390
	Unknown	39	--	--	--	--	--
Homeschool	Yes	0	--	--	--	--	--
	No	239	735.4	739.0	17.0	-0.186	-0.438
	Unknown	0	--	--	--	--	--
Migrant	Yes	3	--	--	--	--	--
	No	146	735.3	739.0	16.1	-0.222	-0.639
	Unknown	90	735.5	739.0	18.1	-0.138	-0.220
Military	Yes	1	--	--	--	--	--
	No	144	735.5	739.0	16.2	-0.273	-0.601
	Unknown	94	735.2	739.0	18.2	-0.097	-0.319
Special Ed	Yes	4	--	--	--	--	--
	No	157	734.9	739.0	17.5	-0.089	-0.420
	Unknown	78	737.0	740.5	15.6	-0.440	-0.312
Plan 504	Yes	1	--	--	--	--	--
	No	183	735.7	739.0	16.7	-0.151	-0.310
	Unknown	55	734.8	739.0	17.6	-0.305	-0.702

*Calculations based on those students attempting 5 or more items on the given NM-MSSA & ASR assessments.
Statistical values are suppressed for those content areas/grades with fewer than 50 students.

Table R-27. Scaled Score Descriptive Statistics for NM-MSSA Mathematics (Spanish Transadapted) Grade 8, as a Function of Subgroup*

Group	Subgroup	Number of Students	Mean	Median	SD	Skewness	Kurtosis
Overall		194	832.2	836.0	17.4	-0.171	-0.967
Gender	Female	95	829.9	831.0	17.1	-0.124	-1.195
	Male	99	834.4	836.0	17.5	-0.243	-0.758
	Unknown	0	--	--	--	--	--
Ethnicity	African American or Black	2	--	--	--	--	--
	American Indian or Alaska Native	0	--	--	--	--	--
	Asian	0	--	--	--	--	--
	Caucasian	192	832.3	836.0	17.4	-0.173	-0.959
	Hawaiian Native or Other Pacific Islander	0	--	--	--	--	--
	Multi	0	--	--	--	--	--
	Unknown	0	--	--	--	--	--
Hispanic	Yes	193	832.1	836.0	17.4	-0.162	-0.964
	No	1	--	--	--	--	--
	Unknown	0	--	--	--	--	--
Bilingual	Yes	85	831.8	836.0	17.8	-0.159	-0.871
	No	63	830.7	831.0	17.4	-0.152	-1.123
	Unknown	46	--	--	--	--	--
Econ. Dis.	Yes	102	831.0	831.0	17.6	-0.142	-0.885
	No	75	832.7	831.0	16.8	-0.087	-1.030
	Unknown	17	--	--	--	--	--
English Learners	Yes	166	831.3	831.0	17.4	-0.092	-0.923
	No	28	--	--	--	--	--
	Unknown	0	--	--	--	--	--
Foster Care	Yes	0	--	--	--	--	--
	No	78	830.6	831.0	16.7	-0.174	-1.136
	Unknown	116	833.3	836.0	17.8	-0.196	-0.888
Homeless	Yes	8	--	--	--	--	--
	No	160	832.3	833.5	17.5	-0.146	-0.963
	Unknown	26	--	--	--	--	--
Homeschool	Yes	0	--	--	--	--	--
	No	194	832.2	836.0	17.4	-0.171	-0.967
	Unknown	0	--	--	--	--	--
Migrant	Yes	7	--	--	--	--	--
	No	122	832.2	833.5	17.7	-0.133	-0.974
	Unknown	65	831.9	836.0	17.6	-0.215	-1.079
Military	Yes	0	--	--	--	--	--
	No	124	832.7	836.0	17.2	-0.155	-0.866
	Unknown	70	831.3	836.0	17.8	-0.193	-1.138
Special Ed	Yes	5	--	--	--	--	--
	No	134	830.5	831.0	17.2	-0.112	-1.104
	Unknown	55	836.9	840.0	17.4	-0.427	-0.472
Plan 504	Yes	0	--	--	--	--	--
	No	152	831.5	831.0	17.5	-0.123	-0.947
	Unknown	42	--	--	--	--	--

*Calculations based on those students attempting 5 or more items on the given NM-MSSA & ASR assessments. Statistical values are suppressed for those content areas/grades with fewer than 50 students.

Table R-28. Scaled Score Descriptive Statistics for NM-MSSA Science (Spanish Transadapted) Grade 5, as a Function of Subgroup*

Group	Subgroup	Number of Students	Mean	Median	SD	Skewness	Kurtosis
Overall		216	545.8	543.0	9.0	0.689	0.460
Gender	Female	110	545.4	543.0	8.7	0.590	-0.123
	Male	106	546.2	545.0	9.4	0.759	0.872
	Unknown	0	--	--	--	--	--
Ethnicity	African American or Black	1	--	--	--	--	--
	American Indian or Alaska Native	1	--	--	--	--	--
	Asian	2	--	--	--	--	--
	Caucasian	208	545.7	543.0	9.1	0.696	0.441
	Hawaiian Native or Other Pacific Islander	3	--	--	--	--	--
	Multi	1	--	--	--	--	--
	Unknown	0	--	--	--	--	--
Hispanic	Yes	214	545.8	543.0	9.1	0.677	0.428
	No	2	--	--	--	--	--
	Unknown	0	--	--	--	--	--
Bilingual	Yes	107	546.2	545.0	9.4	0.502	0.018
	No	49	--	--	--	--	--
	Unknown	60	544.4	542.5	7.7	0.639	0.226
Econ. Dis.	Yes	109	546.2	543.0	9.8	0.730	0.498
	No	89	545.2	543.0	8.3	0.538	-0.029
	Unknown	18	--	--	--	--	--
English Learners	Yes	197	545.6	543.0	9.1	0.745	0.601
	No	19	--	--	--	--	--
	Unknown	0	--	--	--	--	--
Foster Care	Yes	0	--	--	--	--	--
	No	86	547.2	545.0	9.7	0.855	0.449
	Unknown	130	544.9	543.0	8.5	0.457	0.088
Homeless	Yes	8	--	--	--	--	--
	No	182	546.2	544.0	9.3	0.624	0.291
	Unknown	26	--	--	--	--	--
Homeschool	Yes	0	--	--	--	--	--
	No	216	545.8	543.0	9.0	0.689	0.460
	Unknown	0	--	--	--	--	--
Migrant	Yes	5	--	--	--	--	--
	No	142	547.1	545.0	9.3	0.705	0.247
	Unknown	69	542.9	542.0	7.7	0.471	0.764
Military	Yes	1	--	--	--	--	--
	No	143	547.1	545.0	9.3	0.710	0.210
	Unknown	72	543.1	542.0	7.9	0.444	0.486
Special Ed	Yes	4	--	--	--	--	--
	No	154	545.6	543.0	9.2	0.694	0.602
	Unknown	58	546.7	545.5	8.7	0.639	0.039
Plan 504	Yes	1	--	--	--	--	--
	No	178	546.1	544.0	9.3	0.651	0.375
	Unknown	37	--	--	--	--	--

*Calculations based on those students attempting 5 or more items on the given NM-MSSA & ASR assessments.
Statistical values are suppressed for those content areas/grades with fewer than 50 students.*

Table R-29. Scaled Score Descriptive Statistics for NM-MSSA Science (Spanish Transadapted) Grade 8, as a Function of Subgroup*

Group	Subgroup	Number of Students	Mean	Median	SD	Skewness	Kurtosis
Overall		222	849.4	849.0	7.8	0.240	-0.049
Gender	Female	104	849.5	849.0	7.4	-0.045	-0.383
	Male	118	849.3	849.0	8.1	0.441	0.186
	Unknown	0	--	--	--	--	--
Ethnicity	African American or Black	1	--	--	--	--	--
	American Indian or Alaska Native	0	--	--	--	--	--
	Asian	0	--	--	--	--	--
	Caucasian	221	849.4	849.0	7.8	0.249	-0.047
	Hawaiian Native or Other Pacific Islander	0	--	--	--	--	--
	Multi	0	--	--	--	--	--
	Unknown	0	--	--	--	--	--
Hispanic	Yes	221	849.4	849.0	7.8	0.237	-0.062
	No	1	--	--	--	--	--
	Unknown	0	--	--	--	--	--
Bilingual	Yes	102	849.7	849.0	8.0	0.175	0.392
	No	69	849.0	849.0	8.2	0.288	-0.476
	Unknown	51	849.4	849.0	6.8	0.380	-0.593
Econ. Dis.	Yes	114	849.5	850.0	7.4	-0.054	-0.635
	No	91	849.6	849.0	8.5	0.394	0.336
	Unknown	17	--	--	--	--	--
English Learners	Yes	188	849.5	849.0	7.9	0.264	0.000
	No	34	--	--	--	--	--
	Unknown	0	--	--	--	--	--
Foster Care	Yes	0	--	--	--	--	--
	No	89	848.7	849.0	8.4	0.448	0.368
	Unknown	133	849.9	850.0	7.4	0.104	-0.391
Homeless	Yes	8	--	--	--	--	--
	No	190	849.8	850.0	7.8	0.227	-0.113
	Unknown	24	--	--	--	--	--
Homeschool	Yes	0	--	--	--	--	--
	No	222	849.4	849.0	7.8	0.240	-0.049
	Unknown	0	--	--	--	--	--
Migrant	Yes	6	--	--	--	--	--
	No	143	849.9	850.0	7.9	0.153	0.115
	Unknown	73	848.6	847.0	7.4	0.413	-0.017
Military	Yes	0	--	--	--	--	--
	No	146	849.9	849.5	7.9	0.176	0.002
	Unknown	76	848.5	847.0	7.5	0.354	-0.050
Special Ed	Yes	4	--	--	--	--	--
	No	161	849.5	850.0	7.6	0.325	0.275
	Unknown	57	849.8	849.0	8.1	0.002	-0.640
Plan 504	Yes	0	--	--	--	--	--
	No	184	849.7	850.0	7.7	0.200	-0.057
	Unknown	38	--	--	--	--	--

Calculations based on those students attempting 5 or more items on the given NM-MSSA & ASR assessments.
Statistical values are suppressed for those content areas/grades with fewer than 50 students.

Table R-30. Scaled Score Descriptive Statistics for NM-MSSA Science (Spanish Transadapted) Grade 11, as a Function of Subgroup*

Group	Subgroup	Number of Students	Mean	Median	SD	Skewness	Kurtosis
Overall		192	1154.1	1153.0	5.6	0.037	2.888
Gender	Female	102	1153.8	1153.0	5.0	0.807	0.283
	Male	90	1154.5	1153.0	6.3	-0.479	4.146
	Unknown	0	--	--	--	--	--
Ethnicity	African American or Black	1	--	--	--	--	--
	American Indian or Alaska Native	1	--	--	--	--	--
	Asian	1	--	--	--	--	--
	Caucasian	185	1154.3	1153.0	5.7	-0.016	2.923
	Hawaiian Native or Other Pacific Islander	2	--	--	--	--	--
	Multi	2	--	--	--	--	--
	Unknown	0	--	--	--	--	--
Hispanic	Yes	188	1154.2	1153.0	5.7	0.031	2.880
	No	4	--	--	--	--	--
	Unknown	0	--	--	--	--	--
Bilingual	Yes	68	1154.0	1153.0	6.2	-0.986	5.161
	No	29	--	--	--	--	--
	Unknown	95	1154.6	1153.0	5.5	0.751	0.400
Econ. Dis.	Yes	102	1153.9	1153.0	5.9	-0.423	4.029
	No	86	1154.3	1153.0	5.1	0.677	0.429
	Unknown	4	--	--	--	--	--
English Learners	Yes	161	1154.1	1153.0	5.7	-0.073	3.111
	No	31	--	--	--	--	--
	Unknown	0	--	--	--	--	--
Foster Care	Yes	0	--	--	--	--	--
	No	41	--	--	--	--	--
	Unknown	151	1154.3	1153.0	5.9	-0.131	2.968
Homeless	Yes	14	--	--	--	--	--
	No	168	1154.0	1153.0	5.4	-0.212	3.869
	Unknown	10	--	--	--	--	--
Homeschool	Yes	0	--	--	--	--	--
	No	192	1154.1	1153.0	5.6	0.037	2.888
	Unknown	0	--	--	--	--	--
Migrant	Yes	6	--	--	--	--	--
	No	124	1154.2	1153.0	5.2	0.782	0.400
	Unknown	62	1154.1	1153.0	6.6	-0.741	4.631
Military	Yes	0	--	--	--	--	--
	No	130	1154.2	1153.0	5.1	0.792	0.401
	Unknown	62	1154.1	1153.0	6.6	-0.708	4.463
Special Ed	Yes	2	--	--	--	--	--
	No	172	1154.1	1153.0	5.6	-0.087	3.232
	Unknown	18	--	--	--	--	--
Plan 504	Yes	0	--	--	--	--	--
	No	173	1154.1	1153.0	5.6	-0.083	3.132
	Unknown	19	--	--	--	--	--

Calculations based on those students attempting 5 or more items on the given NM-MSSA & ASR assessments. Statistical values are suppressed for those content areas/grades with fewer than 50 students.

APPENDIX S
SCORE REPORT INTERPRETATION GUIDE

SIG

Score Report Interpretation Guide

for Computer-Based and Paper-Based Tests

Spring 2022

NM-MSSA Grades 3–8
NM-ASR Grades 5, 8, and 11

NEW MEXICO
NMPED
Public Education Department

NM-MSSA
NEW MEXICO MEASURES
OF STUDENT SUCCESS AND
ACHIEVEMENT

NM-ASR
NEW MEXICO ASSESSMENT
OF SCIENCE READINESS

PED Contact Information

General Administration Questions	Policy Questions
Cognia New Mexico Customer Care Center & Help Desk Team	New Mexico Public Education Department Assessment Bureau Helpdesk*
Telephone: 877-676-6722 **Email:** nmtechsupport@cognia.org	**Telephone:** 505-827-5861 **Email:** ped.assessment@state.nm.us

*The PED should only be contacted by the district test coordinator (DTC). Test administrators should contact their school test coordinator or DTC with any questions or concerns.

Note: This manual is available online at newmexico.onlinehelp.cognia.org/combined-manuals-summatives.

Table of Contents

1.0 General Information for Families and Educators

1.1 Background

The New Mexico Measures of Student Success and Achievement (NM-MSSA) is the summative assessment in Language Arts, and Mathematics for students in grades 3–8 aligned to the New Mexico Common Core State Standards (NMCCSS) for math and language arts. The assessment measures a student's grade level proficiency and progress toward college and/or career readiness.

The NM-MSSA Spanish Language Arts Assessment for students in grades 3–8 is aligned to the Common Core Español Standards for Language Arts. The assessment measures a student's grade level proficiency and progress toward college and/or career readiness.

The New Mexico Assessment of Science Readiness (NM-ASR) Is a summative assessment in Science for students in grades 5, 8, and 11 aligned to the New Mexico STEM Ready! Science Standards. The assessment measures whether students are on track to be ready for college and/or career.

1.2 NM-MSSA and NM-ASR Assessments

The NM-MSSA is designed to measure whether students are on track to be ready for college or career, as defined by the State, by showing they have mastered the NMCCSS. The NM-ASR is designed to measure whether students are on track to be ready for college or career, as defined by the State, by showing they have mastered the New Mexico STEM Ready! Science Standards.

The Spring 2022 NM-MSSA assessments were administered in either computer-based or paper-based format. The Reading assessment contained items that focused on understanding key ideas and details, analyzing elements of craft and structure, and integrating knowledge and ideas using informational and literary texts. The Writing and Language assessment contained items that focused on communicating clearly and effectively for a particular task and purpose, determining the meaning of grade-appropriate words, and applying conventions of standard English grammar, usage, and mechanics. The Mathematics assessment focused on understanding and applying skills and concepts, solving multi-step problems that require abstract reasoning, and modeling real-world problems with precision, perseverance, and strategic use of tools. The Science assessement focused on the integration of Science and Engineering Practices, Disciplinary Core Ideas, and Crosscutting Concepts to explain phenomena and solve problems. In each content area, students demonstrated their acquired skills and knowledge by answering selected-response items, multi-select selected response items, and extended response items.

1.3 Confidentiality of Reporting Results

Individual student performance results on NM-MSSA and NM-ASR assessments are confidential and may be released only in accordance with the Family Educational Rights and Privacy Act of 1974 (20 U.S.C. Section 1232g). Aggregated student performance data are made available to the public and do not contain the names of individual students or teachers.

1.4 Purpose of this Guide

This guide provides information on the individual student reports, school reports, and district reports provided for NM-MSSA and NM-ASR assessment results. Section 2.0, which outlines and explains elements of the individual student report, may be shared with families. This section will help families understand their child's test results. "3.0 Understanding the NM-MSSA and NM-ASR School and District Reports" on page 8 outlines and explains elements of the school and district reports. New Mexico state policies and calculations for accountability reporting may differ from the policies and calculations used for assessment reports.

Sample reports included in this guide are for illustration purposes only. They are provided to show the basic layout of the reports and the information they provide. Sample reports do not include actual data from any administration.

2.0 Understanding the NM-MSSA and NM-ASR Individual Student Report (ISR)

2.1 Types of Scores on the NM-MSSA and NM-ASR ISR

Student performance on NM-MSSA and NM-ASR assessments is described on the individual student report using the interim scale scores, performance levels, standard error, and subclaim performance indicators.

2.1.1 Scale Score

A scale score is a numerical value that summarizes student performance. Not all students respond to the same set of test items, so each student's scaled score accounts for the slight differences in difficulty among the various forms and administrations of the test. The resulting scale score allows for an appropriate comparison across test forms and administration years within a grade or course and content area. NM-MSSA and NM-ASR reports provide overall scale scores for Language Arts, Mathematics, and Science, each of which determines a student's performance level in the respective content area. Scale score ranges differ by grade for all tests.

For example, a student who earns an overall scale score of 800 on one form of the grade 8 Mathematics assessment would be expected to earn an overall scale score of 800 on any other form of the grade 8 Mathematics assessment. Furthermore, the student's overall scale score and level of mastery of concepts and skills would be comparable to a student who took the same assessment the previous year or following year.

2.1.2 Performance Level

Each performance level is a broad, categorical level defined by a student's overall scale score and is used to report overall student performance by describing how well students met the expectations for their grade level/course. Each performance level is defined by a range of overall scale scores for each subject. There are four performance levels for NM-MSSA assessments:

- Level 4: Advanced
- Level 3: Proficient
- Level 2: Nearing Proficiency
- Level 1: Novice

Students who are Proficient or Advanced display mastery of grade-level expectations. They display satisfactory or thorough understanding and use of college- and career-readinesses standards.

Performance Level Descriptors (PLDs) describe the knowledge, skills, and practices that students should know and be able to demonstrate at each performance level in each content area (Language Arts, Mathematics, and Science), and at each grade level/course.

Web links to the PLDs are listed in "Appendix B: Performance Level Descriptors" on page 14.

2.1.3 Reporting Category Performance Indicators

Reporting category performance for NM-MSSA and NM-ASR assessments is reported to indicate whether the student performed above standard, at/near standard, and below standard in a given reporting category.

2.2 Description of Individual Student Reports

The following pages show examples of student reports. The text below describes what the information represents.

General Information

A *Identification Information*

The ISR lists the student's name, state student ID, date of birth, language in which the student tested, the grade level of the test, the grade level of the student when assessed, the district name, and the school name.

B *Family Letter*

This letter, written by Secretary of Education Dr. Ryan Stewart, explains how this report was created and the special considerations of this school year. There is information here to guide families to more assessment literacy resources.

Overall Assessment Scores for Each Content Area

C *Overall Scale Score and Performance Level*

This section of the report provides the student's overall scale score and performance level for each assessment taken (refer to Section 2.1). Students receive an overall scale score and, based on that score, are placed in one of four performance levels, with Level 3 indicating the student is on target and Level 1 indicating the student needs support.

Performance by Reporting Category

D *Reporting Category*

Within NM-MSSA and NM-ASR, there are specific skill sets (reporting categories) students demonstrate on the assessments. Each reporting category includes the header identifying the reporting category, a raw score indicating the number of points earned out of the total points possible, and an explanation of whether the student has met the expectations of the reporting category.

E *Reporting Category Performance Indicators*

A student's reporting category performance indicator represents how well the student performed in that category.

Reporting category performance indicators are:

- Above Standard
- At/Near Standard
- Below Standard

F *Ways to Support*

For each reporting category additional resources are provided for supporting families in the development of these skills at home.

Comparison to the School, District, and State

G *Achievement Levels*

This lists the four performance levels and provides a brief description of each.

H *Scale Score Range*

Indicates the highest and lowest scale score for each performance level

I *Peer Comparison*

This section of the report shows a side-by-side comparison of a student's overall scale score with the average scale score of their peers in their school, in their district, and in the state.

New Mexico Measures of Student Success and Achievement and Assessment of Science Readiness

Spring 2022 Student Report

(A)

Student Name:	LASTNAME123, FIRST123 M.
SSID:	D00000123
Date of Birth:	07/29/2009
Tested Grade:	05
Student Grade:	05
District:	Demonstration District A
School:	Demonstration School 2

(B)

Dear Parents and Guardians,

Thank you for your continued support and partnership with the Public Education Department to ensure that all New Mexico students are healthy, secure in their identity, and holistically prepared for college, career, and life. I am especially grateful for your time and sacrifice on behalf of your student during the immense challenges of the last two years.

This Individual Score Report describes how your student performed on spring 2022 state assessments. These assessments are summative in nature. They were not designed to inform your student's teachers about short-term teaching strategies or potential interventions but to give them, and you, a snapshot of where your student finished the 2021-2022 school year relative to state-adopted content standards and instruction.

In particular, this year's assessments are important as a starting point, post-pandemic, for determining new baseline end-of-grade math and reading levels.

If you have specific questions about your student's performance on the assessment, I encourage you to reach out directly to your local school administration. The Family Report Interpretation Guide is available at https://newmexico.onlinehelp.cognia.org/. In addition, should you have specific questions about the assessment, please visit the PED assessment bureau's Parent Resource page at https://webnew.ped.state.nm.us/bureaus/assessment/parent-and-student-resources/.

The PED appreciates the opportunity to be a part of your student's educational success.

Kurt A. Steinhaus

Kurt Steinhaus, Ed.D.
Secretary of Education, New Mexico Public Education Department

NEW MEXICO
Public Education Department

How did your student do on the New Mexico MSSA and ASR assessment? You can look at your student's scale scores, Achievement Level labels, and Achievement Level Descriptors to determine how well your student has done and whether additional support may be necessary. Your student's teacher can help you with interpreting this report and deciding on next steps for your student.

LANGUAGE ARTS

(C) **508**

Proficient

Confidence band is 498 to 518

xxx   xxx   xxx

Your child's English Language Arts score is in the **Proficient** level, on track for college and career readiness.

MATHEMATICS

480

Nearing Proficiency

Confidence band is 470 to 490

xxx   xxx   xxx

Your child's Mathematics score is in the **Nearing Proficiency** level, not yet on track for college and career readiness.

SCIENCE

538

Advanced

Confidence band is 528 to 548

xxx   xxx   xxx

Your child's Science score is in the **Advanced** level, on track for college and career readiness.

Confidence bands: Your student's test score indicates performance on the day of the test. The confidence bands indicate the range of possible test scores your student would be expected to achieve on a different day.

■ Novice   ■ Nearing Proficiency   ■ Proficient   ■ Advanced

LANGUAGE ARTS

First123's Language Arts Performance by Reporting Category

	Points Earned / Points Possible	Subdomain Indicator	Ways to Support First123 (F)
Text type - Literary Text	(D) 13 / 16	(E) Above Standard	• Read stories with your student, allowing them to take the lead and read out loud as you listen and follow along. • After your student reads a story, ask them to summarize what happened in the story.
Text type - Informational Text	9 / 12	At/Near Standard	• Help your student choose materials on topics they are interested in, such as their favorite animals or famous people. Take turns reading with them. • Have your student (or yourself) point out interesting words while you are reading together.
Reading Strategy - Comprehension	3 / 6	Above Standard	• Read stories with your student, allowing them to take the lead and read out loud as you listen and follow along. • After your student reads a story, ask them to summarize what happened in the story.
Reading Strategy - Analysis and Interpretation	1 / 4	Below Standard	• Take turns reading with your student. Encourage and reassure them as they read. • After your student reads a story, ask them basic questions about the story. Ask them to try to use examples from the story to support their answers.

Key: x / y = x points earned out of y possible points

READING

1

xxx   xxx

WRITING

3

xxx   xxx
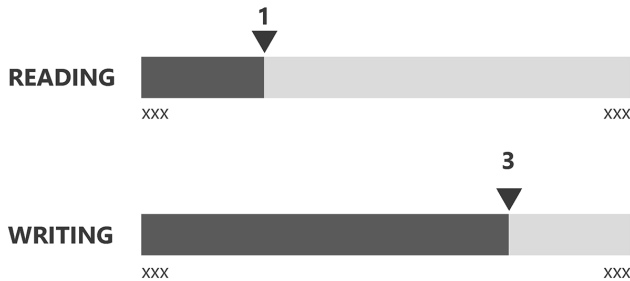
The Writing & Language scale score is based on student responses to the Writing & Language items. These items assess mastery of skills that require students to:
- analyze the use of introductions and conclusions,
- develop writing topics,
- use precise and effective language (grades 4-8),
- use transition words within pieces of writing,
- use correct conventions of standard English,
- use knowledge of language, and
- acquire and use vocabulary.

(G) COMPARISON to the SCHOOL, DISTRICT, and STATE

ACHIEVEMENT LEVELS	(H) SCALE SCORE RANGE	
Advanced – Students show **thorough** understanding of how to interpret and analyze texts, use language and its conventions, and write for a task and purpose.	**xxx – xxx**	4
Proficient – Students show **satisfactory** understanding of how to interpret and analyze texts, use language and its conventions, and write for a task and purpose.	**xxx – xxx**	3
Nearing Proficiency – Students show **partial** understanding of how to interpret and analyze texts, use language and its conventions, and write for a task and purpose.	**xxx – xxx**	2
Novice – Students show **emerging** understanding of how to interpret and analyze texts, use language and its conventions, and write for a task and purpose.	**xxx – xxx**	1

STUDENT SCORE   SCHOOL AVG.   DISTRICT AVG.   STATE AVG.

(I)

Sample Student Report page 3–Mathematics

MATHEMATICS

First123's Mathematics Performance by Reporting Category			
	Points Earned / Points Possible	**Subdomain Indicator**	**Ways to Support First123**
Operations & Algebraic Thinking	15 / 23	Below Standard	• Solve multi-step word problems using addition and subtraction or multiplication and division with decimals. • Understand that multiplication and division can be used to compare quantities. For example, explain that a rubber band can stretch to three times its usual length.
Number & Operations in Base Ten/Number & Operations - Fractions	3 / 9	Below Standard	• Have your child visually model fractions, for example, drawing ½. Have them explain what ½ of certain shapes would look like. • Ask your child to multiply a number ending in zero by 10, 100 or 1000 and have them explain the place value of certain digits.
Measurement & Data/Geometry	9 / 12	At/Near Standard	• Pour liquids into two different sized cups. Ask your child if they have the same or different volume. Have them explain their reasoning. • Solve problems using the coordinate grid (graphs). For example, discuss a graph showing how temperature changes over the course of a year.
Problem Solving/Reasoning & Argument	5 / 6	At/Near Standard	• Describe, analyze, compare, and classify shapes using types of lines and angles. For example, compare the types of angles in two triangles. • Describe, analyze, compare, and classify shapes using types of lines and angles. For example, compare the types of angles in two triangles.
Modeling/Structure & Repeated Reasoning	3 / 8	Below Standard	• Encourage your child to experiment with representing problem situations in multiple ways, including writing numbers, creating math drawings, using objects, writing equations, and making a chart, list or graph. • Use rules (like add 3) to make patterns of numbers (like 2, 5, 8, 11...).

Key: x / y = x points earned out of y possible points

COMPARISON to the SCHOOL, DISTRICT, and STATE

ACHIEVEMENT LEVELS	SCALE SCORE RANGE				
Advanced – Students show **thorough** understanding of mathematical concepts and strong procedural skill, fluency, and application to solve problems.	xxx – xxx				4
Proficient – Students show **satisfactory** understanding of mathematical concepts and adequate procedural skill, fluency, and application to solve problems.	xxx – xxx			3	
Nearing Proficiency – Students show **partial** understanding of mathematical concepts and some procedural skill, fluency, and application to solve problems.	xxx – xxx		2		
Novice – Students show **emerging** understanding of mathematical concepts and beginner procedural skill, fluency, and application to solve problems.	xxx – xxx	1			
		STUDENT SCORE	SCHOOL AVG.	DISTRICT AVG.	STATE AVG.

Sample Student Report page 4–Science

SCIENCE

	Points Earned / Points Possible	Subdomain Indicator	Ways to Support First123
Practices and Crosscutting Concepts in Physical Sciences	12 / 15	Above Standard	• Ask your child to cook with you and discuss how they sometimes form a new substance when you mix two or more substances together. Develop a plan to investigate whether the mass of substances changes. • Ask your child to cook with you and discuss how they sometimes form a new substance when you mix two or more substances together. Develop a plan to investigate whether the mass of substances changes.
Practices and Crosscutting Concepts in Life Sciences	8 / 12	At/Near Standard	• Explore and explain how humans process information from our senses through the brain to keep us alive. • Explore and model how the different parts of plants (like seeds, leaves, roots, and fruit) and animals (like bones, legs, ears, and eyes) help them grow and survive.
Practices and Crosscutting Concepts in Earth and Space Sciences	15 / 18	Above Standard	• Understand the relationships between the Sun, Earth, Moon, and stars. For example, model how the Earth orbits the Sun and the Moon orbits the Earth and the effect of gravity on the orbits. • Work with your child to develop an model of a local ecosystem, showing how plants and animals get substances from energy and matter transfer. Discuss how the construction of a new building might affect the ecosystem.

Key: x / y = x points earned out of y possible points

COMPARISON to the SCHOOL, DISTRICT, and STATE

ACHIEVEMENT LEVELS	SCALE SCORE RANGE				
Advanced – Students show **thorough** understanding of all 3 dimensions in making sense of phenomena and designing solutions in all 3 science domains.	xxx – xxx				4
Proficient – Students show **satisfactory** understanding of all 3 dimensions in making sense of phenomena and designing solutions in all 3 science domains.	xxx – xxx			3	
Nearing Proficiency – Students show **partial** understanding of all 3 dimensions in making sense of phenomena and designing solutions in all 3 science domains.	xxx – xxx	2			
Novice – Students show **emerging** understanding of all 3 dimensions in making sense of phenomena and designing solutions to problems in all 3 science domains.	xxx – xxx		1		
		STUDENT SCORE	SCHOOL AVG.	DISTRICT AVG.	STATE AVG.

3.0 Understanding the NM-MSSA and NM-ASR School and District Reports

3.1 Purpose and Use of NM-MSSA and NM-ASR Results

The NM-MSSA is New Mexico's statewide summative assessment for Language Arts and Mathematics, administered at the end of grades 3–8. The NM-ASR is New Mexico's statewide summative assessment for science, administered at the end of grades 5, 8, and 11. As the NM-MSSA and NM-ASR are singular measures at the end of a grade band, interpretations and uses of NM-MSSA and NM-ASR scores should be supplemented with additional measures, including information from classroom summative and formative assessments in Language Arts, Mathematics, and Science, as well as interim assessments.

3.2 NM-MSSA and NM-ASR School and District Reports

Districts and schools will have access to digital ISRs and a dynamic, customizable grade-level Student List in the Data Interaction reporting platform. The Student List can be customized by adding or removing data fields and by sorting and filtering selected data fields.

Data tools can be used to summarize scores and review score distributions for the whole group or disaggregate scores by subgroups. Bivariate analyses, both cross-tab and scatterplot, can be used to explore the relationship between scores.

ISRs and the Student List can be downloaded in a variety of formats for printing, presentations, or uploading into other analysis tools. Performance on NM-MSSA and NM-ASR assessments is described on the school and district reports using scale scores, performance levels, and reporting category performance levels.

3.3 Types of Scores on the NM-MSSA and NM-ASR School and District Reports

Performance on NM-MSSA and NM-ASR assessments is described on the school and district reports using scale scores, performance levels, and reporting category performance indicators. Information about state, district, and school average results is included in relevant sections of the report to help schools and districts understand how student and school performance compares to other students and schools. In some instances, a dash (–) will appear in place of average results for a school and/or district. This indicates that there are too few students to maintain student privacy and, therefore, results are not reported.

3.3.1 Scale Score

A scale score is a numerical value that summarizes student performance. Not all students respond to the same set of test items, so each student's scale score takes into account the slight differences in difficulty among the various forms of the test. The scale score allows for an appropriate comparison across test forms and administration years within a grade or course and content area. This year, NM-MSSA and NM-ASR reports provide overall scale scores for Language Arts, Mathematics, and Science, each of which determines a student's performance level in the respective content area. You can reference the NM-MSSA and NM-ASR scale score ranges in a table that appears on .

For example, a student who earns an overall scale score of 800 on one form of the grade 8 Mathematics assessment would be expected to earn an overall scale score of 800 on any other form of the grade 8 Mathematics assessment. Furthermore, the student's overall scale score and level of mastery of concepts and skills would be comparable to a student who took the same assessment the previous year or following year.

3.3.2 Performance Level

Each performance level is a broad, categorical level defined by a student's overall scale score and is used to report overall student performance by describing how well students met the expectations for their grade level/course in the given content area. Each performance level is defined by a range of overall scale scores for the assessment. This year, there are four performance levels for NM-MSSA assessments:

- Level 4: Advanced
- Level 3: Proficient
- Level 2: Nearing Proficiency
- Level 1: Novice

Performance Level Descriptors (PLDs) describe the knowledge, skills, and practices that students should know and be able to demonstrate at each performance level in each content area (Language Arts, Mathematics, and Science), and at each grade level/course.

Web links to the PLDs are listed in .

3.3.3 Reporting Category Performance Indicators

Reporting category performance for NM-MSSA and NM-ASR assessments is reported to indicate whether the student performed above standard, at/near standard, and below standard in a given reporting category.

3.4 Description of The Student List and Summary Statistics

The following pages show examples of student reports. The text below describes what the information represents.

General Information

A *Assessment Information*

The Student List displays the assessment, state, year, and the grade level.

B *Identification Information*

The first column of the Student List displays the students in the school by last name. The students' first names and State Student IDs are shown in the next two columns.

Overall Assessment Scores

C *Scale Score*

This column provides the student's overall scale score. Students receive a numerical score and, based on that score, are placed in one of three performance levels.

D *Performance Levels*

This column provides the student's performance levels, with Level 3 indicating the student is on target, Level 2 indicating the student is near target, and Level 1 indicating the student needs support.

Report Functionality

E *Options*

The options menu provides the capability to customize the Student List report. Student demographic fields and score data can be added or removed from the report. Additional scores can also be added or removed. This includes subject level scale scores and subclaim performance levels.

F *Save*

Each report and the current selections can be saved in Data Interaction, allowing the user to conveniently retrieve the report at a later date. Saved reports can be retrieved by clicking on the Save icon.

G *Download*

Tabular reports can be downloaded as an excel, CSV or PDF file by clicking on the Download icon. Charts can be downloaded as PDFs.

H *Print*

Each report can be printed.

I *Help*

A detailed user guide is available by selecting the Help icon.

J *Student ISR*

The ISR for each student in the Student List Report can be viewed by clicking on the Student icon.

Performance by Reporting Category

K *Reporting Category*

Within NM-MSSA and NM-ASR, there are specific skill sets (reporting categories) students demonstrate on the assessments. Each reporting category includes the header identifying the reporting category; state, district, and school averages; and an indicator of the student's performance.

Summary Statistics

Click on Scale Score > Summarize on the Student List page to view summary statistics for the selected organization.

L *Population*

This count includes both valid and invalid students.

M *Valid N*

This count includes only valid student records.

N *Summary Statistics*

These statistics include mean, standard deviation and the minimum and maximum of the selected score.

O *Recent Reports*

Recently generated reports can be viewed, within the session.

Sample Student List (Language Arts, Mathematics, and Science and Summary Statistics)

Student List: MSSA/ASR, New Mexico State, 2021-2022, Grade 08

Options | Save | Download | Print | Help | Roster | Student

Last Name	First Name	State Student ID	Language Arts		Mathematics		Science	
			Scale Score	Achievement Level	Scale Score	Achievement Level	Scale Score	Achievement Level
L Name	F Name	123456789	855	Nearing Proficiency	855	Nearing Proficiency	848	Nearing Proficiency
L Name	F Name	123456789	889	Advanced	874	Advanced	865	Proficient
L Name	F Name	123456789	853	Nearing Proficiency	853	Nearing Proficiency	847	Nearing Proficiency
L Name	F Name	123456789	889	Advanced	878	Advanced	865	Proficient
L Name	F Name	123456789	866	Proficient	855	Nearing Proficiency	856	Nearing Proficiency
L Name	F Name	123456789	846	Nearing Proficiency	859	Nearing Proficiency	848	Nearing Proficiency
L Name	F Name	123456789	859	Nearing Proficiency	853	Nearing Proficiency	845	Nearing Proficiency
L Name	F Name	123456789	889	Advanced	876	Advanced	870	Proficient
L Name	F Name	123456789	826	Novice	837	Novice	842	Novice
L Name	F Name	123456789	863	Proficient	843	Novice	848	Nearing Proficiency
L Name	F Name	123456789	872	Proficient	853	Nearing Proficiency	853	Nearing Proficiency

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Displaying 1-20 of 24582   Jump to: 1   Go

Student List: MSSA/ASR, New Mexico State, 2021-2022, Grade 08

Options | Save | Download | Print | Help | Roster | Student

Last Name	First Name	State Student ID	Scale Score	Achievement Level	Language Arts			
					Text type - Literary Text	Text type - Informational Text	Reading Strategy - Comprehension	Reading Strategy - Analysis and Interpretation
L Name	F Name	123456789	855	Nearing Proficiency	Above	Below	At/Near	At/Near
L Name	F Name	123456789	889	Advanced	Above	Above	Above	Above
L Name	F Name	123456789	853	Nearing Proficiency	At/Near	At/Near	At/Near	At/Near

---

Select *Options*-> Additional Scores can be added or removed. This includes subject level scale scores and reporting category achievement levels.

Sample Student List (Language Arts, Mathematics, and Science Summary Statistics) continued

Student List: MSSA/ASR, New Mexico State, 2021-2022, Grade 08

Last Name	First Name	State Student ID	Language Arts Scale Score	Language Arts Achievement Level	Mathematics Scale Score	Mathematics Achievement Level	Science Scale Score	Science Achievement Level
L Name	F Name	123456789	855	Nearing Proficiency	855	Nearing Proficiency	848	Nearing Proficiency
L Name	F Name	123456789	889	Advanced	874	Advanced	865	Proficient
L Name	F Name	123456789	853	Nearing Proficiency	853	Nearing Proficiency	847	Nearing Proficiency
L Name	F Name	123456789	889	Advanced	878	Advanced	865	Proficient
L Name	F Name	123456789	866	Proficient	855	Nearing Proficiency	856	Nearing Proficiency
L Name	F Name	123456789	846	Nearing Proficiency	859	Nearing Proficiency	848	Nearing Proficiency
L Name	F Name	123456789	859	Nearing Proficiency	853	Nearing Proficiency	845	Nearing Proficiency
L Name	F Name	123456789	889	Advanced	876	Advanced	870	Proficient
L Name	F Name	123456789	826	Novice	837	Novice	842	Novice
L Name	F Name	123456789	863	Proficient	843	Novice	848	Nearing Proficiency
L Name	F Name	123456789	872	Proficient	853	Nearing Proficiency	853	Nearing Proficiency

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Summary Statistics: MSSA/ASR, New Mexico State, 2021-2022, Grade 08

Language Arts Scale Score

Language Arts Test Language	Population	Valid N	Mean	S.D.	Minimum	Maximum
English	24687	23844	861.5	17.0	802	890
Spanish	261	254	855.1	6.4	836	873

Click on *Scale Score->Summarize* on the Student List page to view summary statistics such as mean, standard deviation, and the minimum and maximum score, for the selected organization.

Appendix A: Scale Score Ranges

Subject	Grade	Scale Score Range			
		Novice	Nearing Proficiency	Proficient	Advanced
Language Arts	3	300–335	336–359	360–369	370–390
	4	400–439	440–459	460–472	473–490
	5	500–542	543–559	560–572	573–590
	6	600–631	632–659	660–672	673–690
	7	700–730	731–759	760–774	775–790
	8	800–839	840–859	860–870	871–890
Mathematics	3	300–340	341–359	360–376	377–390
	4	400–443	444–459	460–479	480–490
	5	500–547	548–559	560–572	573–590
	6	600–645	646–659	660–678	679–690
	7	700–747	748–759	760–769	770–790
	8	800–840	841–859	860–877	878–890
Science	5	500–543	544–559	560–574	575–590
	8	800–843	845–859	860–881	882–890
	11	1100–1153	1154–1159	1160–1181	1182–1190

Appendix B: Performance Level Descriptors

Grades 3–8 Language Arts and Mathematics

PLDs for grades 3-8 Language Arts and Mathematics are available at
webnew.ped.state.nm.us/bureaus/assessment/state-assessments/#assessment-nmmssa

Grades 5, 8, 11 Science

PLDs for grades 5, 8, 11 Science are available at
webnew.ped.state.nm.us/bureaus/assessment/state-assessments/#assessment-nmasr