NEW MEXICO
Public Education Department

AFAM

NM-ASR and NM-MSSA Spring 2023

Accessibility Features and Accommodations Manual

Guidance for Districts and Decision-Making Teams to Ensure that Spring 2023 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: newmexico.onlinehelp.cognia.org/accommodations-information

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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 *2022–23 Assessment Accommodations & Accessibility Manual* available at https://webnew.ped.state.nm.us/wp-content/uploads/2022/09/2022_23_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 2023 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 2023 Science/Math/ELA Assessments

Although 2023 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: 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 2023 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. Small group size can vary from 5–10 students depending on the circumstance and student needs as outlined in the IEP.
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 2023 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:** • Assignment in iTester: 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:** • 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).
Blank Scratch Paper **Before Testing:** • Assignment in iTester: not assigned prior to testing; available to all students • Materials: 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:** • Assignment in iTester: 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:** • Materials: 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 must be removed before test booklet or answer document is submitted for scoring.

CBT Tool and Guidelines	PBT Equivalent and Guidelines

Calculator – Mathematics (Calculator Sessions)
 	
Before Testing:
   • 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.
	Same as CBT
	
	Before Testing:
	   • 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.

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 2023 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 2023 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, only accommodations that are used in daily instruction should be assigned on a summative assessment. Under no circumstance should the assessment be the first time a student is exposed to a particular accommodation. 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 2023 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 2023 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 2023 Science, Math, and ELA assessments. It is important for educators to become familiar with policies regarding accommodations used for the 2023 Science, Math, and ELA assessments.

The guidelines provided in this manual are intended to ensure that valid and reliable scores are produced on the 2023 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.

Providing an accommodation feature that is not documented in a student's IEP or administering an assessment without documented accommodations will result in the invalidation of a test session.

TAs and proctors should be familiar with individual student needs regarding appropriate accommodations before a student begins and completes a test session in order to mitigate the need for testing invalidation.

If a student completes less than three questions in a test session with or without the appropriate accommodations, the DTC (or STC) should stop the session, complete a testing irregularity report in the DTC portal, request a test invalidation, and reschedule the session under the appropriate conditions. If more than three questions are completed, PED authorization of the invalidation will be required to re-schedule the session and re-test the student.

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 2023 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 2023 Science/Math/ELA assessment, a Nonstandard Accommodation Request Form must be completed within the DTC portal. 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 2023 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.	

Basic/Scientific Calculator on Non-Calculator Sections of the Mathematics Test

(See also Mathematics Tools [Non-Calculator Sections])
Before Testing:
- Assignment in iTester: must be assigned prior to testing
- Materials: 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.

Braille Notetaker,
Braille Writer

Before Testing:
- Assignment in iTester: 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 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 assistive technology devices. Test-related content must be deleted from all devices. Nonscorable student work must be securely shredded

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 2023 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.

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.

CBT Accommodation and Guidelines	PBT Accommodation and Guidelines

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, and a standard test booklet or answer document for transcription.
- Test Administrator Training: Test Administrators of students with visual impairments must review:
  - o 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.
  - o Appendix I: The 2023 Math and ELA Assessments for Students with Visual Impairments, Including Blindness.
  - o 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 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.

CBT Accommodation and Guidelines	PBT Accommodation and Guidelines

- 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 Kits include a large print test booklet and a standard test booklet or answer document for transcription.
- Test Administrator Training: Test Administrators of students with visual impairments must review:
  - Appendix I: The Spring 2023 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).

CBT Accommodation and Guidelines	PBT Accommodation and Guidelines

- 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 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 F: ELA Audio Guidelines.
    - Appendix H: Human Signer Guidelines (signers only).
    - Appendix I: The 2023 Math and ELA Assessments for Students with Visual Impairments, Including Blindness.
    - 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 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.	
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 2023 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 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	See ***Paper form Braille***

CBT Accommodation and Guidelines	PBT Accommodation and Guidelines
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
    - 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.
	See ***Paper form Braille***

CBT Accommodation and Guidelines	PBT Accommodation and Guidelines
• **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 2023 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:** • 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.	

CBT Accommodation and Guidelines	PBT Accommodation and Guidelines

- 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:
- 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.

CBT Accommodation and Guidelines	PBT Accommodation and Guidelines
Word Prediction (Embedded)	See *Word Prediction (external)*
Before Testing:	

Word Prediction (Embedded)

Before Testing:
- Assignment in iTester:
  - must be assigned prior to testing
  - available on English language and Spanish language tests
  - available to users on Chromebook, Mac, and Windows
- 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.

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 2023 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:
- <u>Assignment in iTester</u>: must be assigned prior to testing

Spanish Language Version

Before Testing:
- <u>Assignment in iTester</u>:
  - ○ 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.
- <u>Test Administer Training</u>: 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 2023 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 2023 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 2023 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 2023 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 2023 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 2023 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 2023 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 2023 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 2022–23

NEW MEXICO
Public Education Department
NMPED

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 should be submitted through the DTC portal.
- 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. _____
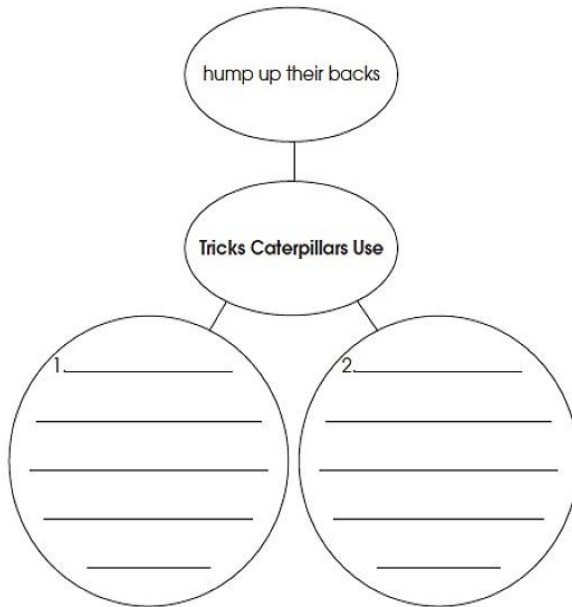
Example 2

10. Use details from the reading selection to complete the web below.

Facts about snowflakes

float to the ground
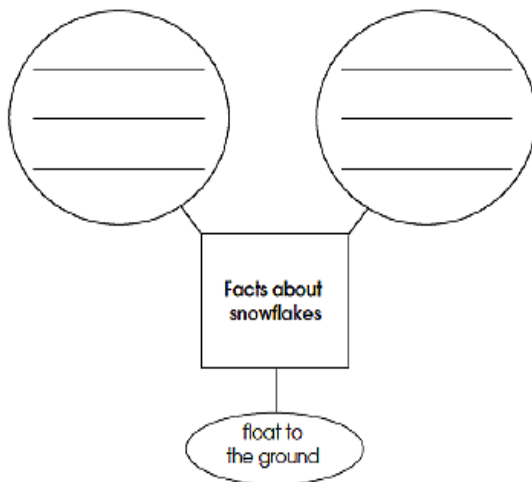
Example 3

Jimmy made this web. Use it to answer questions 14 and 15.
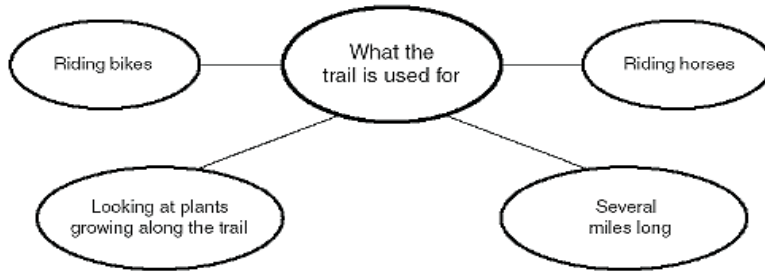
Audio Guideline

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?
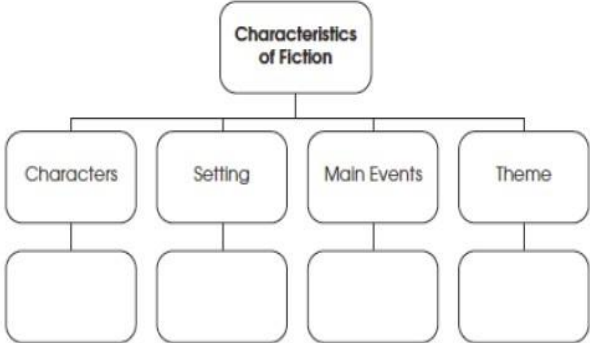
A. Characters

B. Setting

C. Main Events

D. Theme

Example 2

41.
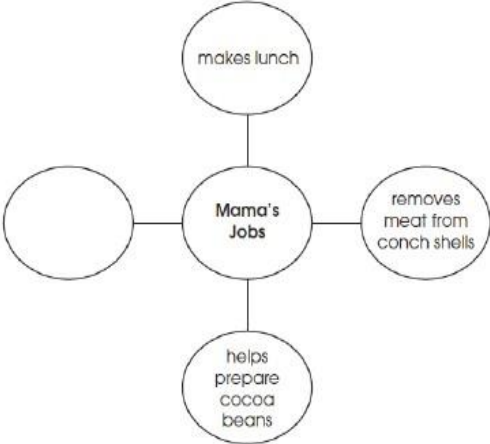
According to information in the selection, which phrase should be added to the graphic organizer above?

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
$2x \le 6$

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
$3x \ge 6$

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 || $\overline{XY}$)

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
$4 + 2x = \square$

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
ΔEFG ~ ΔJKL

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* ∴ *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
∠*FGH* ≅ ∠*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
$3 \times 5 = X$

Example 2
$xy + 4x = 10$

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
$\sqrt{2}$

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
$\sin 15° = \cos 75°$

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	⊮ |
Rockets	|||
Sharks	⊮ ||
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
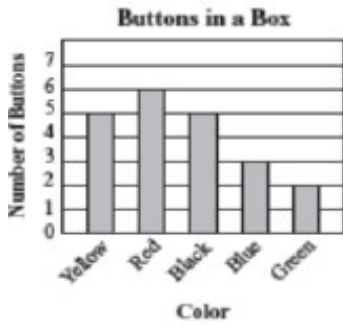
Example 2
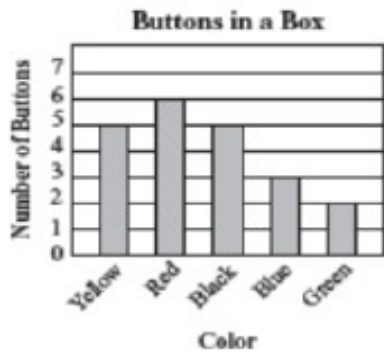
How many red buttons are in the box?

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.
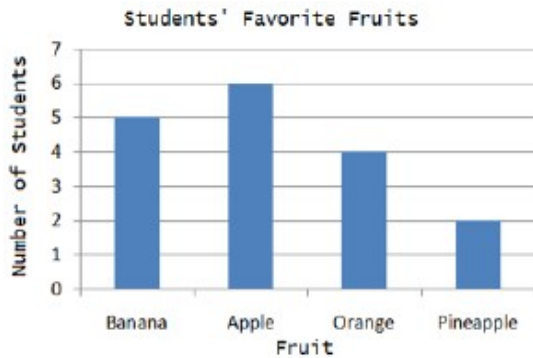
Audio Guideline

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
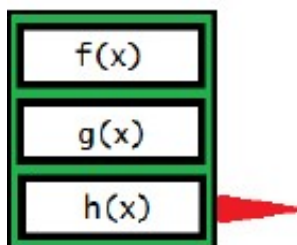
If this graph is described with a tool like that above used to select different graphs on the same coordinate plane, it should be read as follows:

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
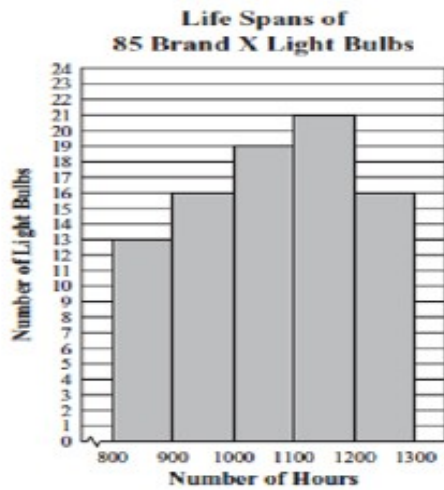
What was the total number of Brand X light bulbs that had life spans greater than or equal to 1000 hours?

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
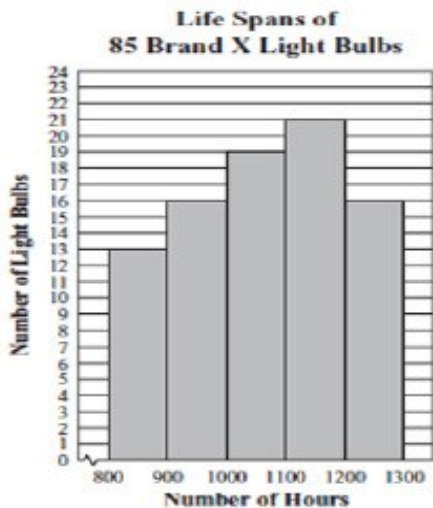
What was the total number of Brand X light bulbs that had life spans greater than or equal to 1000 hours?

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
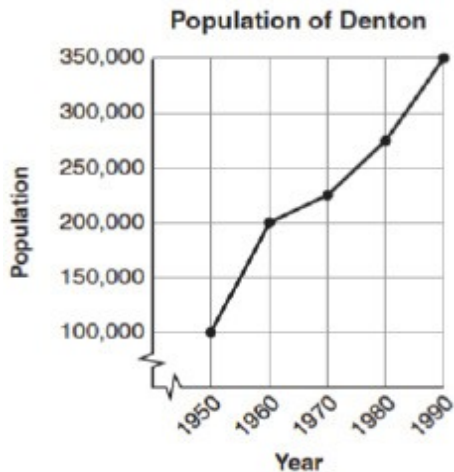
Example 2
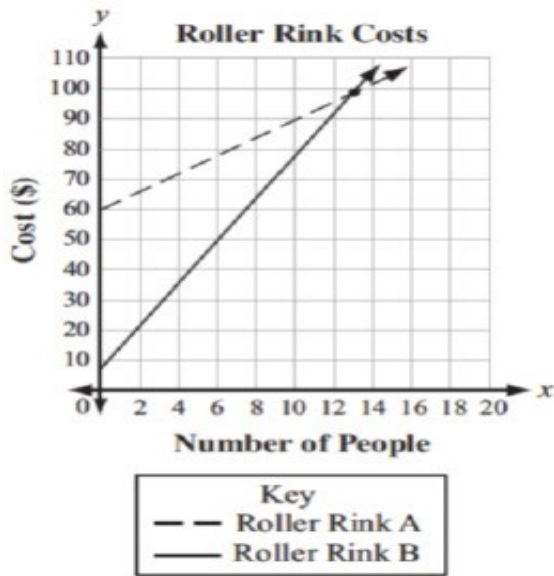
Audio Guidelines

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)
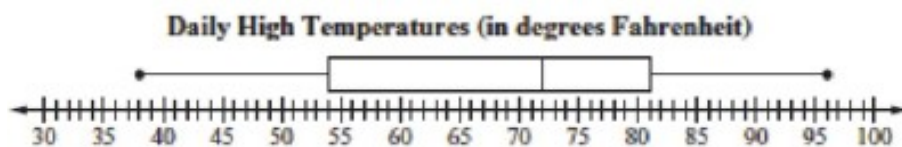
Based on the box plot, in which of the intervals of temperatures is it most likely that exactly 50% of the daily high temperatures are located?

Example 2

The box plot represents the daily high temperatures at a beach in April

Daily High Temperatures
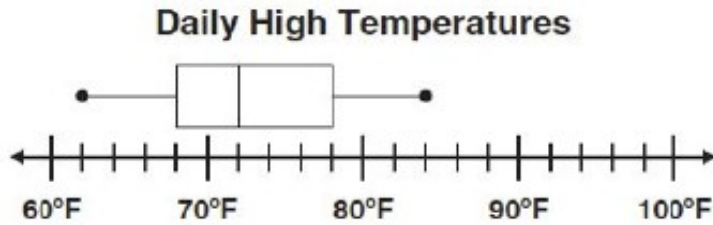
What was the median daily high temperature?

Example 3

Heights of Plants (cm)
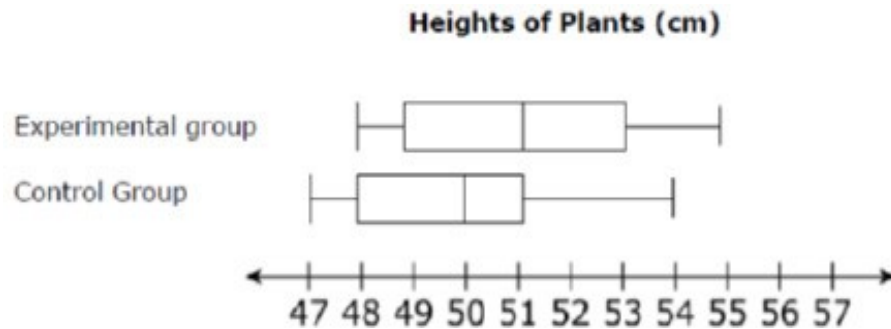
Audio Guidelines

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
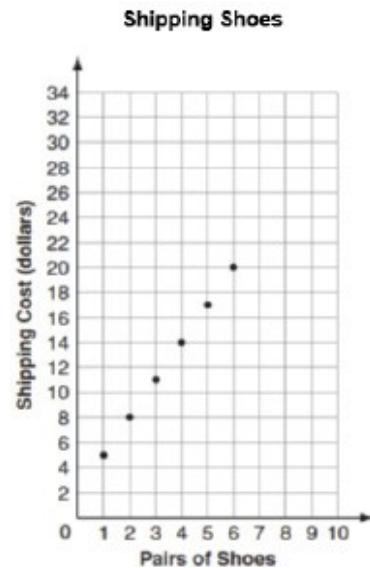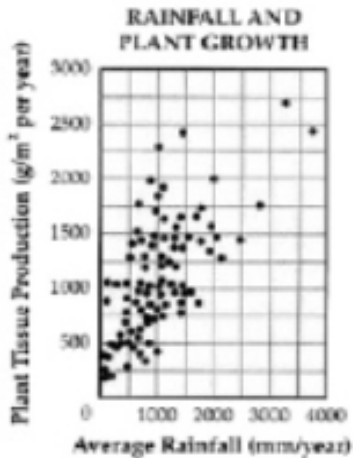
Audio Guidelines

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.
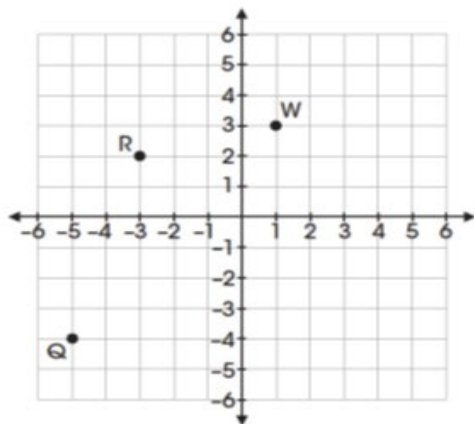
Where should point Z be plotted so that parallelogram QRWZ is formed?

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.
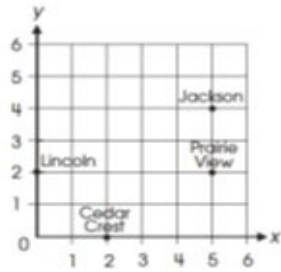
Which school is located at (2, 0)?

○ A. Cedar Crest

○ B. Jackson

○ C. Lincoln

○ D. Prairie View

Example 3

Use the diagram below to answer question 7.
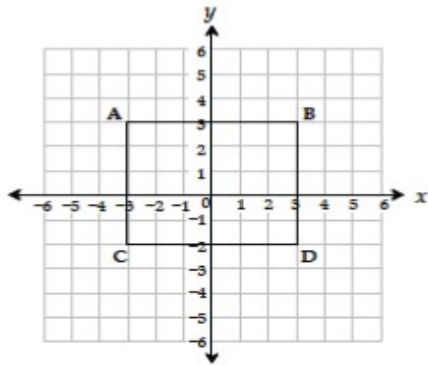
7. **Which ordered pair identifies the location of vertex C?**

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
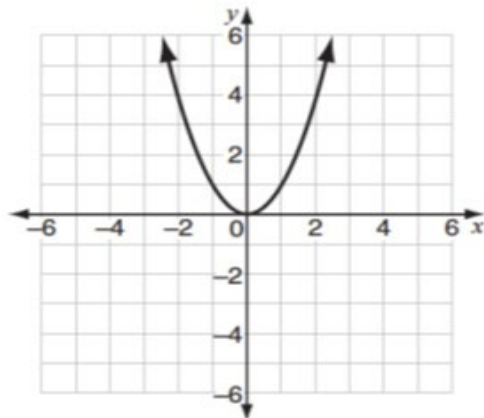
31. The graph of the function $f(x)$ is shown below.
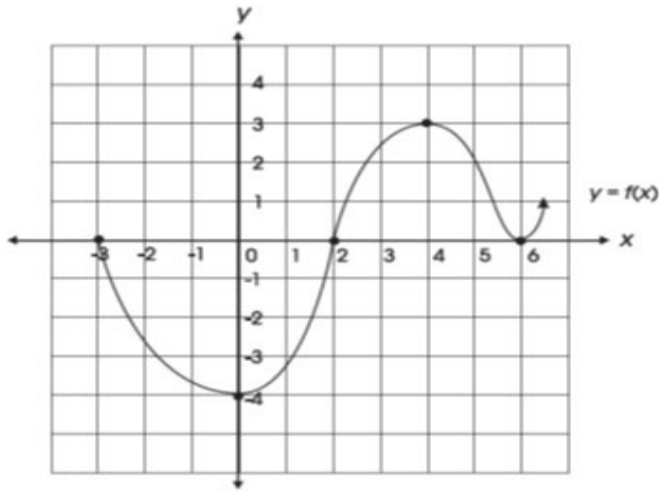
Which of the following is NOT a zero of $f(x)$?

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.
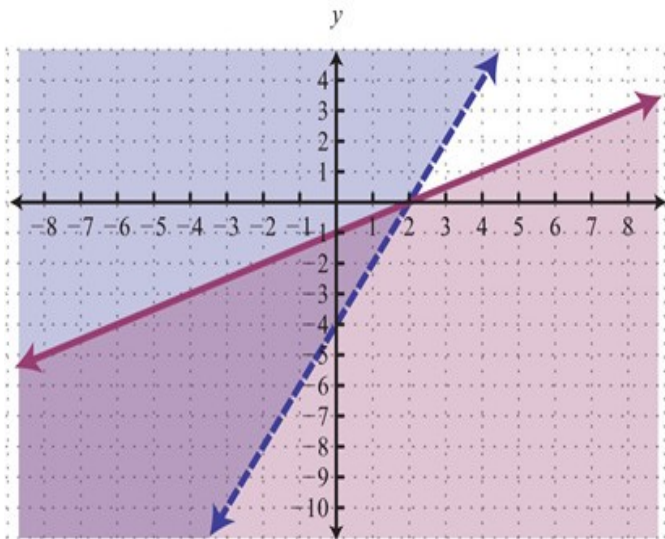
System of inequalities

Example
Which graph represents the solution to this system of inequalities?
y > 2x — 4
3x — 6y ≥ 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.

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.
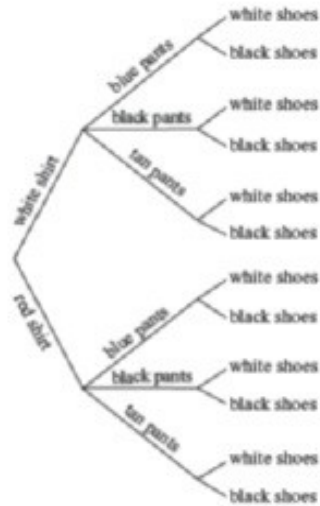
What is the total number of possible outfits with a white shirt?

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
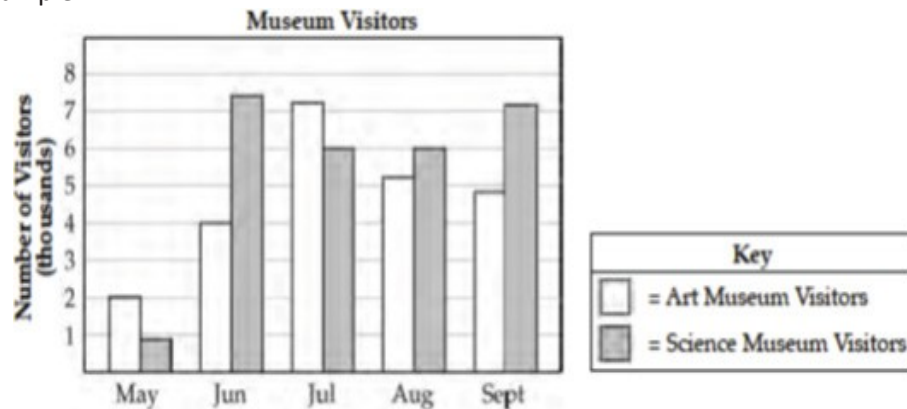
Audio Guidelines

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
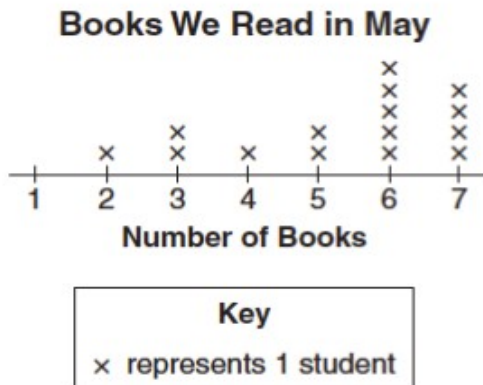
Audio Guideline

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.
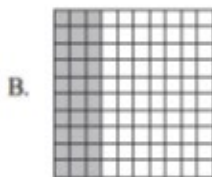
Shaded Figures (Grids, Bars, and Shapes)

Example

1 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.
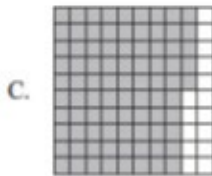
Audio Guidelines

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

Dogs at the Park

Type of Dog	Number of Dogs
Beagle	🐕 🐕
Collie	🐕 🐕 🐕
Poodle	🐕
Dalmatian	🐕 🐕 🐕 🐕

Key
🐕 represents 1 dog
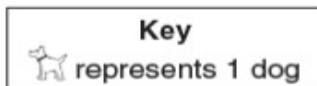
Audio Guidelines

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.
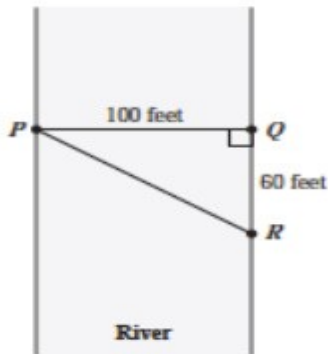
Figures/Illustrations

Example 1

Scale: 1 inch = 20 feet
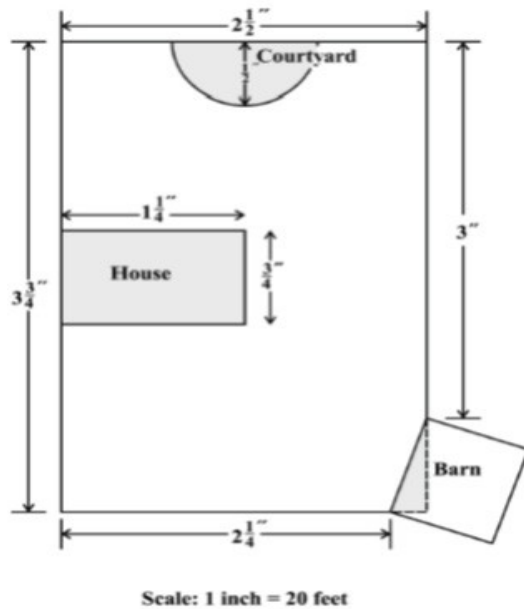
Use the scale to find the actual dimensions, in feet, of the house. Show or explain how you found your answer.

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.
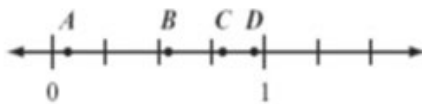
Example 2
A diagram showing a rectangular section of a river is illustrated. Triangle PQR shows Pam's trip across the river with all three points of the triangle touching a side of the river. Point P is on the left side of the river, and points Q and R are on the right side of the river. Point Q is the vertex of a right angle. The distance from P to Q is one hundred feet. The distance from Q to R is sixty feet.
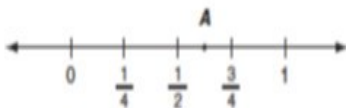
Number Lines

Example 1

Which point on the number line below best represents 0.8?

A. point *A*
B. point *B*
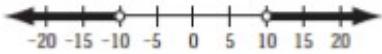C. point *C*
D. point *D*

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.
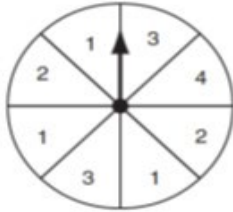
Example 3
A number line shows from negative twenty to positive twenty in increments of five. The areas from negative twenty to negative ten and positive ten to positive twenty are bolded with open circles at negative ten and positive ten. There are bolded arrows to the left of negative twenty and to the right of positive twenty.
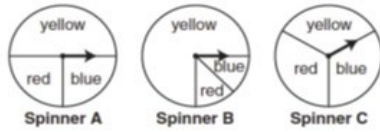
Spinners

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.

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

5 Cindy had $1.00. Then she bought a pencil for $0.37. How much money does she have now?

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.
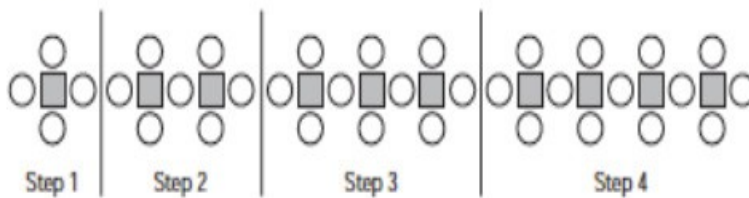C shows three quarters and two pennies.
D shows one one-dollar bill, one quarter, one dime, and two pennies.

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.
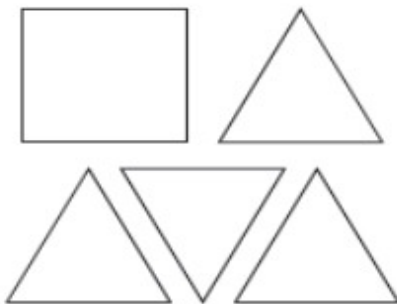
What is the three-dimensional figure?

A. cube
B. cone
C. prism
D. pyramid

Example 2

Look at this diagram.
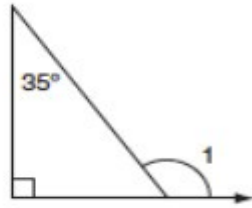
What is the measure of ∠1?

A. 55°
B. 115°
C. 125°
D. 135°

Example 3

Look at these figures.
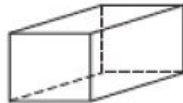
Figure P   Figure Q
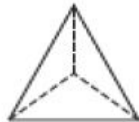
Figure R   Figure S

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.
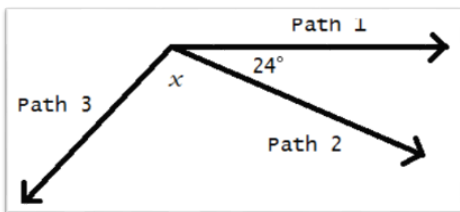
A diagram shows three rays, each originating at the same point. The first ray, drawn horizontally to the right, is labeled Path 1. The second ray, labeled Path 2, is drawn downward and toward the right. The angle that includes Path 1 and Path 2 is labeled 24 degrees. The third ray, labeled Path 3, is 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 2023 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 2023, 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 2023 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 2023 Science/Math/ELA Assessments for Students with Visual Impairments, Including Blindness

2023 Science, Math, and ELA Assessments and Students with Visual Impairment, Including Blindness

I.   Purpose of this Guidance

The 2023 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 2023 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 2023 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 2023 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 2023 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 2023 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 2023 Science, Math, and ELA assessments.

Answers written on braille paper must be transcribed onto the standard-size paper form of the 2023 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 2023 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 2023 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