2024 Instructional Material Summer Review Institute

Review Team Appraisal of Title

Second Grade Science

This appraisal form is provided for use by educators responsible for the selection of instructional materials for implementation with districts and charter schools across New Mexico to meet the need of their student populations.

NMPED Adoption Information

Text Title	STEMscopes New Mexico 3D Grade 2 Core Online Bundle (Online, Student Notebook Set per year for 1 Yr)	Publisher	Accelerate Learning Inc.
SE ISBN	9798891928367	TE ISBN	
SW ISBN	9781643049304	Grade Level/Content	Second Grade Science

Core Instructional Material Designation *(Core Instructional Material is the comprehensive print or digital educational material, including basal material, which constitutes the necessary instructional components of a full academic course of study in those subjects for which the department has adopted content standards and benchmarks.)*

Recommended (90% and above)	☑	**Recommended with Reservations** (80-89%)	☐	**Not Recommended and Not Adopted** (below 80%)	☐

Total Score - *The final score for the materials is averaged between the team of reviewers.*

Average Score
99%

Cultural and Linguistic Relevance Recognition - *Materials are reviewed for relevant criteria pertaining to the support for teachers and students in the material regarding cultural relevance and the inclusion of a culturally responsive lens. Those materials receiving a score of 90% or above on the CLR portion of the review are recognized as culturally and linguistically relevant.*

CLR Recognized ☐

Average Score
88%

FOCUS AREA 6: CULTURAL AND LINGUISTIC PERSPECTIVES
Instructional materials represent a variety of cultural and linguistic perspectives.
Statements of appraisal and supporting evidence:

The instructional materials offer a comprehensive approach to supporting diverse cultural and linguistic backgrounds through various images, stories, and discussions. These represent a broad spectrum of demographic groups without resorting to stereotypes. Beginning each scope with activities to access prior knowledge and including discussions throughout allows students to connect their own experiences and perspectives to the content. Connections to reading, writing, math, and physical movement activities, along with real-life applications in science activities, further enrich the learning experience. While the materials effectively integrate interdisciplinary connections and highlight diverse scientists and career paths across the United States, there is limited inclusion of local cultures to enhance cultural relevance and engagement within them.

FOCUS AREA 7: INCLUSION OF CULTURALLY AND LINGUISTICALLY RESPONSIVE LENS
Instructional materials highlight diversity in culture and language through multiple perspectives.
Statements of appraisal and supporting evidence:

The instructional materials provide a comprehensive framework for integrating cultural and linguistic diversity into the content area, featuring English-Spanish resources as well as visuals and videos that highlight diversity. Throughout each scope, activities promote inclusive discussions and active participation, facilitating students' exploration of multiple perspectives. However, while the materials highlight scientists and current events from diverse backgrounds globally, they offer limited representation of local cultures, particularly from New Mexico.

Science Standards Review - *Materials are reviewed for alignment with the state adopted content standards, benchmarks and performance standards. The science standards include the performance expectations (PEs), disciplinary core ideas (DCIs), science and engineering practices (SEPs), crosscutting concepts (CCCs), and connections (CONNs) of the Next Generation Science Standards (NGSS). They also include the six NM StemReady! science standards.*

Average Score
99%

OVERALL ALIGNMENT
Materials align with the science standards overall.
Statements of appraisal and supporting evidence:

The instructional materials align with the New Mexico content standards by integrating reading, writing, science, and math activities. They include reading passages with comprehension questions and texts connecting science concepts such as erosion and wind damage. Activities involve researching animal habitats, writing letters about preventing mudslides, solving math problems using graphs and measurements, and designing structures to withstand natural disasters. Collaborative projects include researching water forms, creating flip books on land changes, and sorting objects by states of matter. Additionally, the materials cover earth and space science by illustrating how wind and water shape land. They also cover life science by exploring animal habitats and plant needs. Furthermore, the materials support engineering design through hands-on activities like building structures and creating models to address real-world problems. These resources provide a comprehensive understanding of natural phenomena and enhance learning via practical, inquiry-based activities.

MATTER AND ITS INTERACTIONS
Materials align to the physical science performance expectations (PEs) and related components (DCIs, SEPs, CCCs, CONNs, and NM Standards) for this focus area.
Statements of appraisal and supporting evidence:

The instructional materials align with the physical science performance expectations and related components for this focus area. The outlined activities encourage hands-on investigations, collaborative experiments, and data analysis. These include determining physical properties of objects, observing state changes in snowmen, testing absorbency of paper towels, and exploring the effects of heat on various materials. Group work supports participation in designing and testing experiments, recording observations, and discussing findings. The materials also involve using graphic organizers, watching educational videos, and conducting structured explorations, such as assembling and analyzing the parts of a flashlight. Additionally, the materials support the creation of structures from building blocks and the writing of scientific explanations based on observations. These varied activities aim to develop a broad understanding of material properties and their applications in everyday phenomena.

ECOSYSTEMS: INTERACTIONS, ENERGY, AND DYNAMICS
Materials align to the life science performance expectations (PEs) and related components (DCIs, SEPs, CCCs, CONNs, and NM Standards) for this focus area.
Statements of appraisal and supporting evidence:

The instructional materials align with the life science performance expectations and related components for this focus area. These materials include investigations on the needs of plants and the role of animals in pollination or seed dispersal. Activities involve planning and conducting experiments, collecting and analyzing data and constructing models. Additional activities include engaging in designing as well as testing a super insect for pollination, and observing plant growth under varying conditions. The materials incorporate reading, organizing information, and hands-on experimentation to facilitate understanding of the interdependence of organisms in ecosystems.

BIOLOGICAL EVOLUTION: UNITY AND DIVERSITY
Materials align to the life science performance expectations (PEs) and related components (DCIs, SEPs, CCCs, CONNs, and NM Standards) for this focus area.
Statements of appraisal and supporting evidence:

The instructional materials align with the life science performance expectations and related components for this focus area. They include explanations, together with illustrations, of animals and their diverse habitats in the STEMscopedia. Activities involve reading books or watching video clips about animals in different habitats, recording information on class charts or worksheets, and using habitat posters with organism keys for data collection as well as comparison. Additionally, there are opportunities to research, observe, and compare various habitats, focusing on the characteristics of living things within these environments. These activities aim to provide a comprehensive understanding of animal habitats and the organisms that live in them.

EARTH'S PLACE IN THE UNIVERSE

Materials align to the earth and space science performance expectations (PEs) and related components (DCIs, SEPs, CCCs, CONNs, and NM Standards) for this focus area.

Statements of appraisal and supporting evidence:

The instructional materials align to the earth and space science performance expectations and related components for this focus area. These materials include videos depicting slow and quick changes to the earth, and STEMscopedia offers various examples of these changes. Activities involve reading about different types of land changes, making observations from group presentations, and gathering data to construct evidence-based accounts of these phenomena. Activities involve opportunities to design structures to withstand simulated earthquakes, collect evidence on quick earth events, and model how landforms can be shaped by environmental factors. Online resources also feature educational videos explaining the impacts of natural events on earth's environment, both quick and slow. These activities aim to provide a comprehensive understanding of earth's changing surface and the impact of natural events.

EARTH'S SYSTEMS

Materials align to the earth and space science performance expectations (PEs) and related components (DCIs, SEPs, CCCs, CONNs, and NM Standards) for this focus area.

Statements of appraisal and supporting evidence:

The instructional materials align with the earth and space science performance expectations and related components for this focus area. They include videos showing how wind and water can shape land, highlighting examples such as flooding and desert winds. Activities involve designing and testing structures to protect homes from wind and water erosion, comparing solutions, and refining designs based on effectiveness. The STEMscopedia explains different forms and locations of water on earth, supplemented by interactive photographs and informative texts. Additional activities include using various sources to research questions about water forms, comparing ice melting in different contexts, and mapping landforms and bodies of water in the classroom and local environment. The materials enhance an understanding of the impact of natural forces on land and water distribution on earth.

ENGINEERING DESIGN

Materials align to the engineering design performance expectations (PEs) and related components (DCIs, SEPs, CCCs, CONNs, and NM Standards) for this focus area.

Statements of appraisal and supporting evidence:

The instructional materials align with the engineering design performance expectations and related components for this focus area. The materials allow for hands-on activities such as designing and building structures to withstand simulated earthquakes and creating kites from different materials to evaluate performance. They address environmental challenges by designing solutions for wind and water damage to beach houses as well as constructing super insects for pollination and seed dispersal. The materials include creating models to demonstrate physical properties and their applications, along with refining designs based on testing and peer feedback. Detailed instructions and criteria guide the development of solutions to real-world problems, promoting collaboration and critical thinking. Additionally, the materials provide opportunities to map landforms/bodies of water, conduct investigations on water forms, and design models based on observable properties, enhancing the understanding of natural phenomena and engineering principles.

CCSS for ELA and Math Grade 2 NGSS

Materials align to the ELA and math standards identified in the second grade NGSS.

Statements of appraisal and supporting evidence:

The instructional materials align with the 2nd grade CCSS for ELA and math, supporting the New Mexico content standards by integrating reading, writing, science, and math activities. The materials include science-based reading passages accompanied by comprehension questions, as well as activities that connect science concepts to texts. Additional activities include researching animal habitats, writing letters to prevent mudslides, solving math problems using graphs/measurements, and designing structures to withstand natural disasters. Collaborative projects involve researching water forms, creating flip books on land changes, and sorting objects by states of matter. Furthermore, there are opportunities to interpret data from graphs, measure objects, and model mathematical concepts, enhancing understanding through practical, inquiry-based learning.

Science Content Review- *Materials are reviewed against relevant criteria pertaining to the support for teachers and students in the specific content area reviewed.*

Average Score
100%

FOCUS AREA 1: PHENOMENA-/PROBLEM-BASED AND THREE-DIMENSIONAL APPROACH
Instructional materials are centered around high quality phenomena and/or problems and require a three dimensional approach to make sense of the phenomena or to solve the problems.

The instructional materials align with the NM STEM Ready! Standards, incorporating grade-level progressions and a three-dimensional approach to learning. Each bundle includes an anchoring phenomenon event, guiding teachers through investigative phenomena and instructional focus. The materials integrate all three dimensions of the science standards. Additionally, math and ELA standards are connected to enhance the understanding of scientific principles and are indicated in the teacher edition where appropriate. The materials support meaningful discourse through partner work, group work, and whole-class discussions. They feature opportunities for students to justify their decisions as well as participate in collaborative learning experiences. Overall, the materials provide coherent lessons that encourage student-generated questions and support sensemaking within the three dimensions.

FOCUS AREA 2: THREE-DIMENSIONAL ASSESSMENT
Assessments provide tools, guidance and support for teachers to collect, interpret and act on data about student progress toward the learning goals of the 3 dimensional standards.

The instructional materials align with the NM STEM Ready! Standards, integrating comprehensive assessments and project-based tasks to facilitate understanding of phenomena and problem-solving. Each scope features claim-evidence-reasoning, open-ended responses, multiple choice assessments, and performance tasks. The materials provide diverse evaluation options, including formative and summative assessments, reasoning questions, and CCC/SEP mastery rubrics. Project-based learning and engineering solution activities are supported by resources like 21st-century performance rubrics, team rubrics, and self-reflection. Overall, the materials offer meaningful tasks and assessments that engage learners and support comprehensive learning experiences.

FOCUS AREA 3: TEACHER SUPPORTS
Materials include opportunities for teachers to effectively plan and utilize materials.

The instructional materials align with the NM STEM Ready! Standards, offering comprehensive resources for teachers to support planning and instruction. Each bundle includes detailed materials lists and specific safety tips, supplemented by printable or projectable safety posters. The STEMscopedia features nonfiction articles, photographs, simulations, and interactive photos to enhance learning, with videos in each scope. Intervention and acceleration opportunities are embedded, with assessment options and supports outlined in the bundle planning guide. CCC and SEP rubrics provide guidance for monitoring progress, complemented by progress tracking sheets. The "Help" tab provides teacher professional development for the use of digital components within the materials. Technology is integrated through the use of interactive tools, educational videos, and games. Scoring rubrics help assess work at various levels, and the year-long lesson planning guide aids in understanding standards. Overall, STEMscopes includes opportunities for teachers to plan and utilize materials effectively.

FOCUS AREA 4: STUDENT CENTERED INSTRUCTION
Materials are designed for each student's regular and active participation in science content.

The instructional material is designed for each student's active participation in science. It provides for coherent learning progression and student-centered instruction. Each scope integrates investigative phenomena and activates prior knowledge through graphic organizers and engaging activities. The organization page outlines topics from main bundles to specific lessons, aiding comprehensive understanding. Online resources connect to prior knowledge and local contexts. Teachers benefit from detailed year-long and bundle-specific lesson planning guides, emphasizing the structured progression of concepts. Scope overviews and sample lesson plans in the teacher edition support organized instructional strategies. Activities are designed to engage students actively in learning, fostering deeper understanding and retention.

FOCUS AREA 5: EQUITY
Materials are designed for all learners.

STEMscopes provides extensive opportunities for learners to engage in science and engineering at their grade level, offering resources for deeper exploration and support. Each scope includes an acceleration section for advanced engagement, featuring project-based learning, science art activities, and recommended books. It also includes an intervention section for practicing science concepts and vocabulary. Language acquisition strategies and the ability to toggle between English and Spanish are available. The materials incorporate group and partner work, along with individual activities, to support knowledge application and reasoning. Diverse activities such as accessing prior knowledge, hands-on experiences, and collaborative discussions connect to phenomena-based learning. Engineering solutions include student-centered activities, choice of materials, collaboration, and self-reflection rubrics to enhance the application of science knowledge.

All Content Review - *Materials are reviewed against relevant criteria pertaining to the support for teachers and students in the material regarding the progression of the standards, lesson structure, pacing, assessment, individual learners and cultural relevance.*

Average Score
96%

FOCUS AREA 1 COHERENCE:
Instructional materials are coherent and consistent with the New Mexico Content Standards that all students should study in order to be college- and career-ready.
Statements of appraisal and supporting evidence:

The instructional materials integrate second grade standards, including performance expectation standards, SEPs, DCIs, and CCCs across all scopes and units. They emphasize mastery through diverse activities and assessments detailed in bundle planning guides. Using the 5E inquiry-based framework, the materials promote three-dimensional learning, incorporating literacy, math, social studies, and art components within the lessons. They provide comprehensive support for intervention and acceleration, which fosters independent and guided exploration.

FOCUS AREA 2 WELL-DESIGNED LESSONS:
Instructional materials take into account effective lesson structure and pacing.
Statements of appraisal and supporting evidence:

The instructional materials integrate NGSS performance expectations and evidence statements throughout, supporting a coherent progression from scope to scope and within each lesson. Suggested pacing is available at the beginning of each bundle, scope and activity. Clear and measurable content objectives are outlined at the start of every lesson. This aligns with the 5E inquiry-based framework and fosters engagement through structured activities and assessments. The materials feature consistent layouts in both print and digital formats, enhancing accessibility. Comprehension of science concepts are strengthened by visuals, interactive tools, and vocabulary supports. They also emphasize ongoing review and practice to reinforce learning, providing opportunities to apply scientific concepts during Engineering Solutions and Bundle Missions.

FOCUS AREA 3 RESOURCES FOR PLANNING:
Instructional materials provide teacher resources to support planning, learning, and understanding of the New Mexico Content Standards.
Statements of appraisal and supporting evidence:

The instructional materials provide comprehensive support for educators, aligning each lesson with specific standards outlined in the teacher edition and offering estimated instructional times for effective planning. Through the 5E inquiry-based framework, teachers access detailed procedures, facilitation points, and additional instructional strategies, providing clarity and guidance in lesson presentation. Digital enhancements include interactive assignments and assessments, as well as videos and STEMscopedia tools. The materials also integrate cross-disciplinary connections, intervention strategies, and language acquisition support, promoting inclusive and engaging learning experiences across all scopes and activities.

FOCUS AREA 4 ASSESSMENT:
Instructional materials offer teachers a variety of assessment resources and tools to collect ongoing data about student progress related to the standards.
Statements of appraisal and supporting evidence:

The instructional materials offer a comprehensive array of assessments designed to evaluate student proficiency across various standards, supported by clear scoring rubrics and objectives integrated throughout. Assessments include diverse formats such as multiple choice, short answer, and performance tasks. These cater to different learning levels and are accessible in print and digital formats with customizable features for enhanced accessibility. Each scope features formative assessments and a variety of summative assessments across the engage, explore, explain, elaborate, and evaluate components. These assessments are aligned with NGSS and CCSS, providing educators with valuable tools to gauge student progress, inform instructional strategies, and support individualized learning needs effectively.

FOCUS AREA 5 EXTENSIVE SUPPORT:
Instructional materials give all students extensive opportunities and support to explore key concepts.
Statements of appraisal and supporting evidence:

The instructional materials are designed to be interactive and hands-on, offering diverse opportunities for exploration tailored to various learning styles. Each scope incorporates intervention and acceleration sections to support students approaching proficiency and those advanced in their academic abilities. The materials include Spanish language components and feature language acquisition strategies throughout. Parent engagement is facilitated through informative letters and resources, fostering home-school connections. Online adaptability allows for personalized learning experiences, while activities encourage critical thinking, inquiry, and problem-solving skills aligned with grade-level expectations. Overall, the materials cater to differentiated instructional needs and provide comprehensive support for diverse student populations, promoting accessible and engaging science education.

FOCUS AREA 6 CULTURAL AND LINGUISTIC PERSPECTIVES:
Instructional materials represent a variety of cultural and linguistic perspectives.
Statements of appraisal and supporting evidence:

The instructional materials offer a comprehensive approach to supporting diverse cultural and linguistic backgrounds through various images, stories, and discussions. These represent a broad spectrum of demographic groups without resorting to stereotypes. Beginning each scope with activities to access prior knowledge and including discussions throughout allows students to connect their own experiences and perspectives to the content. Connections to reading, writing, math, and physical movement activities, along with real-life applications in science activities, further enrich the learning experience. While the materials effectively integrate interdisciplinary connections and highlight diverse scientists and career paths across the United States, there is limited inclusion of local cultures to enhance cultural relevance and engagement within them.

FOCUS AREA 7 INCLUSION OF CULTURALLY AND LINGUISTICALLY RESPONSIVE LENS:
Instructional materials highlight diversity in culture and language through multiple perspectives.
Statements of appraisal and supporting evidence:

The instructional materials provide a comprehensive framework for integrating cultural and linguistic diversity into the content area, featuring English-Spanish resources as well as visuals and videos that highlight diversity. Throughout each scope, activities promote inclusive discussions and active participation, facilitating students' exploration of multiple perspectives. However, while the materials highlight scientists and current events from diverse backgrounds globally, they offer limited representation of local cultures, particularly from New Mexico.

Reviewers' Professional Summary - *These materials are reviewed by Level II and Level III educators from across New Mexico. The reviewers have brought their knowledge, experience and expertise into the review of these materials. They offer here their individual summary of the material as a whole.*

Reviewer #: 1

Background and experience:

Reviewer 1 is a Level III Master Teacher with 18 years of educational experience ranging from grades K-8th grade in a bilingual setting, holding a Bachelor's in Community Health Education and a Master of Arts in Elementary Education with endorsements in bilingual, TESOL, reading, science, and health. The focus of instruction has primarily been within grades first and second with extensive instruction in science. Currently, Reviewer 1 serves as an Educational Specialist for Early Childhood in the district.

Professional summary of material:

The instructional materials comprehensively cover NGSS content with three-dimensional learning and integrate literacy components using the 5E Inquiry-Based Framework. Each lesson includes math, social studies, and art content. They support standard mastery through explicit science instruction, literacy development, technology integration, hands-on learning, project-based activities, peer critiques, and group discussions, with various assessments measuring progress. Materials enable grade-level participation with visuals, organizers, and hands-on activities, offering intervention and acceleration resources. Standards and performance expectations are detailed throughout the materials. Timelines and measurable objectives align with NGSS and ample vocabulary resources support learning. The consistent layout and features like visuals, technology, and graphic organizers aid comprehension. Instructional materials offer planning resources, intervention strategies, scripted instructions, and interactive digital components. Diverse assessments and scoring rubrics, including those aligned with NGSS, measure student progress. Materials accommodate diverse learners with resources in English and Spanish, online tools, and differentiated instruction. They support parental engagement and culturally responsive pedagogy, integrating diverse perspectives and real-life applications in lessons. However, although diverse scientists are mentioned, local societies and cultures have minimal representation.

Reviewer #: 2

Background and experience:

Reviewer 2 is a Level III Master Teacher with 22 years of experience as an educator. Reviewer 2 earned a Bachelor of Science in Elementary Education and a Master of Arts in Teaching (Curriculum and Instruction). Reviewer 2 has taught kindergarten, 1st Grade, 2nd Grade, 4th Grade, and in a multi-age K-2 classroom. Reviewer 2 is currently an elementary science content specialist for a school district.

Professional summary of material:

STEMscopes provides a robust educational framework designed to engage students in hands-on, inquiry-based learning aligned with the Next Generation Science Standards (NGSS). The material emphasizes critical thinking and problem-solving through a variety of activities, such as collaborative, hands-on exploration activities facilitated by the teacher and real-world problems requiring students to engage in the engineering design process collaboratively within a small group to design solutions to the problems. Students engage in diverse tasks, including planning and creating models, engaging in science investigations, using evidence to support claims, and engaging in all four language domains throughout each lesson. The material includes comprehensive resources, such as detailed rubrics for self-reflection and teacher feedback, a variety of assessment types, and thorough safety and materials support. It also offers technological features like digital assignments, accessibility tools, and bilingual options, ensuring equitable access to learning.

The instructional materials in STEMscopes support student mastery of standards by providing clear timelines, coherent lesson sequences, and multiple opportunities for practice and extension. Vocabulary and language development are reinforced through explicit instruction and integrated activities. While the program effectively integrates real-life experiences and interdisciplinary connections, it could enhance its cultural representation to better reflect diverse demographics. Overall, STEMscopes is a well-rounded program that supports diverse learning needs and promotes an inquiry-based approach to science education, encouraging students to explore, analyze, and apply scientific concepts through engaging and practical activities.

Reviewer #: 3

Background and experience:

Reviewer 3 is a level III Master Teacher with 36 years of educational experience. Reviewer 3 earned a Bachelor of Science degree in Elementary Education and a Master of Arts degree in Curriculum and Instruction. Reviewer 3 has taught kindergarten through 3rd grade and is currently teaching 2nd grade. Thirty years of teaching experience were spent in a Title I school serving 75% Native American population. Reviewer 3 is currently on the Math and Science Team in their district.

Professional summary of material:

The instructional materials for Grade 2 include a comprehensive approach to teaching performance expectations, science and engineering practices, disciplinary core ideas, and crosscutting concepts. Each bundle and scope lists relevant standards and provides various assessment options, including formative and summative assessments, to gauge student mastery. The materials use the 5E instructional model, offering engaging activities, experiments, and assessments that cater to second-grade students' needs and extend to enrichment activities. They are available in both English and Spanish, providing for accessibility and inclusivity. The teacher's edition offers detailed lesson plans, instructional strategies, and timelines for each scope, and includes resources like printable vocabulary cards, online components, and interactive STEMscopedia content. Lessons are designed to build on prior knowledge, promoting continuity in learning and connection to real-life experiences. The materialemphasizes hands-on, interactive learning and supports diverse learners with interventions and acceleration sections. Cultural diversity is reflected in the inclusion of scientists from various backgrounds, and the materials encourage critical thinking and problem-solving skills. Accessibility features such as text-to-speech and customizable assessments further support diverse learning needs. The materials also facilitate parent involvement through informational letters and resources, fostering a holistic educational environment.