

2024 Instructional Material Summer Review Institute

Review Team Appraisal of Title  
Grades 6-8 Earth and Space 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 Earth and Space Science Core Online Bundle (Online, Student Notebook Set per year for 1 Yr) | Publisher           | Accelerate Learning Inc.           |
| SE ISBN    | 9798891928725  | TE ISBN             |                                    |
| SW ISBN    | 9781643048598  | Grade Level/Content | Grades 6-8 Earth and Space 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

98%

**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

85%

**FOCUS AREA 6: CULTURAL AND LINGUISTIC PERSPECTIVES**

Instructional materials represent a variety of cultural and linguistic perspectives.

**Statements of appraisal and supporting evidence:**

The materials integrate culturally responsive teaching practices that reflect cultural backgrounds. Resources include a visual glossary and picture vocabulary cards that provide images, information and suggested anchor charts. Each lesson scope incorporates interdisciplinary connections to math, reading, and real-life experiences. The materials provide stories and scenarios from various cultures to illustrate scientific concepts, but there are limited resources and activities specifically tailored to support all English learners.

**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 materials feature tools and resources designed to encourage students to establish personal connections within their communities. Content is translated into Spanish and within the "Elaborate" section, cultural perspectives are evident through "Career Connections and Scientist Spotlight". However, while these components are present, there is limited integration of cultural equality across various cultures. Additionally, there is restricted connection to the cultures past and present in 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 |
|---------------|
| 100%          |

#### OVERALL ALIGNMENT

**Materials align with the science standards overall.**

*Statements of appraisal and supporting evidence:*

The instructional materials follow a pattern of instruction that is coherent and consistent with the overall science standards. The materials include Earth and Space Science topics that are organized into units. Each unit follows the NGSS performance expectations and aligns with disciplinary core ideas (DCIs), science and engineering practices (SEPs), crosscutting concepts (CCCs), connections (CONNs), and New Mexico standards. The lessons are embedded within the unit bundles and align with the standards through accessing prior knowledge, incorporating hands-on activities, and utilizing formative and summative assessments. In addition, the materials include intervention and extension strategies and resources to meet the needs of all students.

#### 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 lessons are structured to integrate fundamental disciplinary ideas with scientific practices involving developing and using models and analyzing and interpreting data. Crosscutting concepts (CCCs) are woven throughout the lessons for students to make connections and identify patterns across different phenomena. For example, in the explore activities, students use models to simulate and observe lunar phases and eclipses to understand the spatial relationships and interactions in the Earth-Sun-Moon system. Additionally, the materials explore the role of gravity in the motions within galaxies and the solar system. Students analyze and interpret data of objects within the solar system to comprehend gravitational influences on orbital paths and celestial mechanics.

#### 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 provide lesson activities on earth's systems, engaging students in hands-on experiments involving the rock cycle and earth's processes. These activities focus particularly on understanding how earth's materials move and the energy flow that drives these processes. They incorporate crosscutting concepts (CCCs) and connections (CONNs) by using real-world examples to illustrate stability and change over time. For instance, students design models of the rock cycle to explore concepts related to earth's stability including the forces that govern the formation of igneous, metamorphic, and sedimentary rocks. This instructional approach aligns with NGSS and New Mexico state standards, which encompasses earth's systems of geosphere, atmosphere, hydrosphere, and biosphere. Students investigate how water moves through the spheres in order to understand the processes of precipitation, evaporation, condensation, and runoff. Students explore the interconnectedness of these processes and their impact on earth's ecosystems and climate patterns. This interdisciplinary approach provides comprehension of the practical relevance of scientific concepts in understanding the dynamic interactions within earth's complex systems.

#### EARTH AND HUMAN ACTIVITY

**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 lessons align with 6th-8th grade NGSS for Earth and Human Activity by offering engaging and informative learning experiences that bridge scientific principles with real-world issues. Students investigate the ways human activities influence earth's systems and natural resources, while also exploring sustainable practices. Disciplinary core ideas (DCIs) such as earth's systems, human impacts on the environment, and sustainability of earth's natural resources are woven throughout the material. Examples include hands-on activities such as using map overlays to analyze historical occurrences of natural hazards and forecasting weather predictions. Students also participate in data analysis by examining trends and patterns related to human impacts on earth's systems. Crosscutting concepts (CCCs) are applied through cause-and-effect activities, system models, and stability and change to evaluate how human actions can either disrupt or maintain balance within the interconnected systems.

**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:*

Materials align with the engineering design performance expectations. Evidence of this alignment is found in the comprehensive inclusion of engineering design challenges that require students to apply scientific principles and practice to real world problems. Students are provided opportunities to engage in repeated processes such as building, testing, and refining their designs based on data and feedback. An example of the design challenge is found in the "Protect and Monitor" activity. Students are tasked with designing a system to assess the impact of human interactions on a local ecosystem. Details of the design include describing the ecosystem's biodiversity and developing methods to measure and monitor human impact. Students must consider the interactions and energy flow within the ecosystem, linking their engineering solutions to broader scientific concepts.

**CCSS for ELA and Math in Grades 6-8 NGSS**

**Materials align to the ELA and math standards identified in grades 6-8 Earth and Space Science NGSS.**

*Statements of appraisal and supporting evidence:*

Materials align to the English language arts (ELA) and mathematics standards for Earth and Space Science grades 6th-8th. In mathematics, there are a variety of tasks where students apply mathematical concepts to scientific inquiries through investigations and problem solving. For example, in the "Lunar Cycle" activity, students engage in analyzing data, creating graphs, and interpreting results. The tasks align with math CCSS, specifically in the domains of modeling and reasoning abstractly and quantitatively. In ELA, students have opportunities to engage in their learning by reading literacy passages and analyzing informational texts containing scientific concepts. Students also write in detail about their investigation findings and participate in structured debates on scientific issues. These activities align with the CCSS reading, writing, speaking, and listening standards.

**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 provide a comprehensive learning experience and offer a detailed lesson planning guide with a thorough scope and sequence to guide educators. By focusing on real-world phenomena, the materials involve students in hands-on activities and data analysis, promoting engagement and making connections to everyday experiences. For instance, within a unit on earth's systems, students construct models, investigate dynamic processes, and analyze patterns that govern rates of change. This approach deepens student comprehension through meaningful context and practical application.

#### **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 materials include a range of formative and summative assessments tailored to assess students' understanding of the three-dimensional standards. These assessments equip teachers with versatile resources to track student progress. Assessment types include rubrics, claim-evidence-reasoning prompts, open-response questions, and multiple-choice formats. The assessments provide a thorough evaluation of student learning across various dimensions of the standards.

#### **FOCUS AREA 3: TEACHER SUPPORTS**

**Materials include opportunities for teachers to effectively plan and utilize materials.**

The materials provide support and resources for teachers to promote differentiated instruction. Detailed lesson planning guides are provided that outline the scope and sequence of each unit. The "Year Long Lesson Planning Guide" offers a comprehensive overview of the standards alignment, performance expectations, and suggested pacing for each lesson. Specific examples of teacher supports include the "Teacher Background" sections, which provide in-depth content knowledge and context for each lesson. The material also includes various formative and summative assessment tools, complete with rubrics, digital resources and interactive components to support teacher planning.

#### **FOCUS AREA 4: STUDENT CENTERED INSTRUCTION**

**Materials are designed for each student's regular and active participation in science content.**

The material fosters student-centered instruction in grades 6th-8th Earth and Space Science by emphasizing active learning and inquiry-based exploration. Through interactive components, hands-on experiments, and collaborative projects, students engage with Earth and Space Science concepts. The material encourages students to ask questions, investigate phenomena, and construct explanations. By integrating real-world applications and providing opportunities for critical thinking and problem-solving, the lessons support students in developing a deep understanding of science content while nurturing curiosity and analytical skills.

#### **FOCUS AREA 5: EQUITY**

**Materials are designed for all learners.**

The material is thoughtfully designed to support equity and accessibility for all learners. It incorporates a diverse array of differentiated instructional strategies and activities to support various learning styles and abilities. Examples of differentiated strategies are the inclusion of "Intervention" and "Acceleration" sections within each unit. These sections offer targeted support and enrichment activities customized to meet the diverse levels of student understanding. For example, in the "Geologic History of Earth" scope, the intervention activities include scaffolded support and guided practice to help struggling learners, while the acceleration activities offer project-based activities as extensions. The materials provide comprehensive content and instructional support, but there is limited evidence of cultural perspectives, experiences, and contributions within the lessons.

**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

92%

**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 material demonstrates coherence and alignment with the New Mexico content standards and offers engaging rigorous content in preparation for college and career readiness. The instructional materials are structured to provide a logical progression of concepts that build on students' prior knowledge and skills and provide a consistent learning experience across different units and grade levels. The materials integrate 6th-8th grade Earth and Space Science and engineering practices (SEPs), crosscutting concepts (CCCs), connections (CONNs) and disciplinary core ideas (DCIs) into every lesson, promoting a comprehensive understanding of scientific principles and connections to real-world experiences.

**FOCUS AREA 2 WELL-DESIGNED LESSONS:**

**Instructional materials take into account effective lesson structure and pacing.**

*Statements of appraisal and supporting evidence:*

The materials provide a teacher edition that is straightforward and organized, featuring a teacher toolbox equipped with a variety of resources to support lesson planning. Each lesson includes a list of standards addressed, facilitating alignment with learning objectives. Additionally, cross-curricular extensions are available, accompanied by corresponding learning standards for each activity. Furthermore, the materials outline performance expectations for each scope within the lessons, offering educators guidance on expected learning outcomes. Content-specific standards are included, but measurable language objectives are not listed.

**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 materials provide comprehensive lesson plans, pacing guides, and curriculum maps that are aligned with the New Mexico content standards. In addition, educators have access to professional development modules and instructional videos designed to help them deepen their understanding of the standards and implement best practices in their classrooms. These resources are available online, organized by grade level, and grouped according to specific science content standard bands.

**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 materials provide a range of formative and summative assessments, including multiple-choice, open-ended response, and claim-evidence-reasoning formats, which are aligned with New Mexico content standards. These assessments allow teachers to monitor student progress and understanding. Answer keys are provided with the assessments, along with suggestions for modifications and further instructional activities that cater to the diverse needs of all learners. Rubrics are included for assessing crosscutting concepts (CCCs) and science and engineering practices (SEPs), providing criteria for evaluating student proficiency.

**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 materials offer a range of diverse activities, hands-on experiments, and structured tasks designed to support the learning needs of all students. Each bundle begins with an editable family letter aimed at promoting family engagement. The lessons provide critical and creative thinking opportunities, foster inquiry-based learning, and encourage the resolution of solving complex problems. Materials offer extensive support by incorporating differentiated instructional strategies such as scaffolded tasks and leveled reading materials.

**FOCUS AREA 6 CULTURAL AND LINGUISTIC PERSPECTIVES:**

**Instructional materials represent a variety of cultural and linguistic perspectives.**

*Statements of appraisal and supporting evidence:*

The materials integrate culturally responsive teaching practices that reflect cultural backgrounds. Resources include a visual glossary and picture vocabulary cards that provide images, information and suggested anchor charts. Each lesson scope incorporates interdisciplinary connections to math, reading, and real-life experiences. The materials provide stories and scenarios from various cultures to illustrate scientific concepts, but there are limited resources and activities specifically tailored to support all English learners.

**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 materials feature tools and resources designed to encourage students to establish personal connections within their communities. Content is translated into Spanish and within the "Elaborate" section, cultural perspectives are evident through "Career Connections and Scientist Spotlight". However, while these components are present, there is limited integration of cultural equality across various cultures. Additionally, there is restricted connection to the cultures past and present in 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 #: 7

*Background and experience:*

I am a Level III third grade teacher with TESOL and reading endorsements. I have a Bachelor's Degree in Communication Studies and a Master's Degree in Education. I have been teaching in the classroom for 8 years and have also worked as an educational assistant and substitute teacher. I am a facilitator for the Micro-Credential teacher licensure advancement program. This is my fourth year reviewing instructional materials with the Instructional Material Bureau.

*Professional summary of material:*

After reviewing the materials, I would recommend the STEMscopes NM Middle School Earth and Space Science instructional materials for the state of New Mexico. STEMscopes is comprehensive instructional material that engages students in science content through hands-on learning experiences and reflective thinking. The student lessons follow the research-based "5E+IA" model, which stands for Engage, Explore, Explain, Elaborate, Evaluate, Intervention, and Acceleration. Each component includes activities to support students' understanding of scientific concepts and makes interdisciplinary connections with math, reading, and real-world experiences. There are many resources available for teachers including a thorough scope and sequence, lesson plan instructions, set up videos, differentiated assessments, and embedded professional development opportunities. STEMscopes is available in digital and in print format and contains many online resources that are easy to navigate and utilize. Using the STEMscopes materials would be an enriching opportunity for teachers and students and would enhance all students' learning experiences.

Reviewer #: 8

*Background and experience:*

I hold a Master's Degree in Curriculum and Instruction with a principal certification. I am a Level III fifth grade teacher with a TESOL endorsement and have been in elementary education for 19 years with teaching experience in all content areas. I also have 5 years of elementary administration experience.

*Professional summary of material:*

I recommend STEMscopes materials for adoption in New Mexico. The materials provide extensive resources designed to enhance middle school students' comprehension of Earth and Space science standards at their grade level. STEMscopes includes interactive hands-on experiments, visual aids, and diagrams to support deeper understanding of concepts; interventions for students who need additional support; and acceleration options for advanced learners. Data analysis tools with structured lessons guide students in collecting, organizing, and interpreting data to draw conclusions about the earth and space. The Teacher Toolbox includes an inventory of Crosscutting Concepts (CCC) and Science and Engineering Practices (SEP) skills to track standards progression. The material encourages interactive discussions where students refine their understanding through peer interaction and teacher guidance. It includes small group activities, teacher-led discussions with suggested student responses, and assessments such as open-ended and multiple-choice questions, worksheets, and project-based learning assessments with rubrics for grading guidance. While aligned with New Mexico's science standards, the material may benefit from enhanced cultural and linguistic responsiveness across all student demographics. STEMscopes follows a 5E instructional model (Engage, Explore, Explain, Elaborate, and Evaluate) for each lesson to meet the diverse needs of all students. The teacher edition provides background knowledge on concepts, pacing guides, and lesson planning resources to facilitate meaningful connections through engaging, standards-aligned lessons.

Reviewer #: 9

*Background and experience:*

I have 11 years of teaching experience, with a Level III professional license. I have been part of the NMPED professional learning community for the last two years, particularly in the Math and Science Bureau. I facilitate the NMPED Advancement Program Level Micro-credentials for teachers across New Mexico. I am part of the Building Leadership Team in our school.

*Professional summary of material:*

STEMscopes is comprehensive science material that aligns with the NGSS and New Mexico content standards. It integrates science and engineering practices, cross-cutting concepts, and disciplinary core ideas to provide a well-rounded educational experience. The material offers a variety of hands-on activities, digital resources, and real-world applications that engage students in active learning and critical thinking. It also includes rich teacher support, with clear guidance on instructional strategies, differentiated instruction, and assessment tools. The material provides continuous opportunities for formative assessment, allowing teachers to monitor student progress and tailor instructions accordingly. Overall, STEMscopes establishes that students can develop a deep understanding of scientific concepts while building essential skills for college and career readiness.