2024 Instructional Material Summer Review Institute

Review Team Appraisal of Title

Fifth 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 5 Core Online Bundle (Online, Student Notebook Set per year for 1 Yr)	Publisher	Accelerate Learning Inc.
SE ISBN	9798891928480	TE ISBN	
SW ISBN	9781643049335	Grade Level/Content	Fifth 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
84%

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 incorporate culturally responsive teaching practices by featuring examples and case studies reflecting cultural backgrounds. The materials offer a visual glossary that provides a collection of images and information. Embedded within each lesson scope are interdisiplinary connections for math, reading, and information about real-life experiences. The materials include stories and scenarios from various cultures to illustrate scientific concepts, but there is a limited amount of resources and activities provided to support 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 include tools and resources to provide students opportunities to make personal connections within their community. Materials are translated into Spanish. Some cultural perspectives are provided through career connections, descriptions of events and experiences. While the materials offer these components, they are limited in incorporating equality throughout various cultures. There is also a restricted connection to 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:

Each unit is designed to be in line with the NGSS performance expectations, ensuring alignment with Disciplinary Core Ideas (DCIs), Science and Engineering Practices (SEPs), Crosscutting Concepts (CCCs), Connections (CONNs), and New Mexico standards. The materials are structured to offer a coherent and comprehensive approach, facilitating active learning through hands-on investigations, real-world applications, and engineering practices. Each lesson bundle follows a structured sequence, beginning with accessing prior knowledge, incorporating hands-on activities, and integrating formative and summative assessments. Additionally, the materials include extension and intervention strategies along with associated resources to meet the needs of all students.

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 offer students opportunities to participate in hands-on activities related to matter and its interactions. Examples of these activities include dissolving sugar in water and testing water for contaminants. Through these activities, students engage in identifying the physical properties of matter by comparing different sources, analyzing results, and conducting tests on conductivity, magnetism, and reflection.

MOTION AND STABILITY: FORCES AND 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 materials offer lesson activities on motion and stability, involving students in hands-on experimentation with gravitational pull, particularly focusing on gravity directed towards the center of the earth. hese activities incorporate Crosscutting Concepts (CCCs) and Connections by applying real-world examples of forces and interactions such as testing gravity using a magnet and paperclip. This instructional approach is aligned with both NGSS and New Mexico standards, aiming to enhance students' comprehension of the practical relevance of these scientific concepts.

ENERGY
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 materials align with the physical science performance expectations and related components, including Disciplinary Core Ideas (DCIs), Science and Engineering Practices (SEPs), Crosscutting Concepts (CCCs), Connections (CONNs), and New Mexico standards. For instance, they provide comprehensive coverage of key concepts such as energy transfer within a food web and its origin. Detailed lessons are structured to offer clear explanations, integrating relevant DCIs, SEPs, and CCCs. Additionally, the materials present opportunities for hands-on exploration, allowing students to engage directly with the concepts and deepen their understanding through inquiry-based activities.

FROM MOLECULES TO ORGANISMS: STRUCTURES AND PROCESSES
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:

Materials offer opportunities for students to support an argument that plants get what they need to survive primarily through air and water. Activities include supporting an understanding that matter is transported into, out of, and within systems of plants. It aligns with life science performance expectations by offering detailed investigations into cellular structure and function, such as activities where students use microscopes to observe plant and animal cells and compare their structures.

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 materials offer a comprehensive approach to understanding ecosystems by providing activities focused on modeling food webs and energy flow. For example, students are asked to engage in investigations where they create dioramas depicting the intricate relationships among producers, consumers, and decomposers within these ecosystems. Moreover, the materials integrate Crosscutting Concepts (CCCs) and Connections (CONNs) by linking ecological concepts to broader scientific principles. For instance, students are tasked to explore the concept of stability and change in ecosystems through real-world scenarios, such as examining the impact of environmental changes on local ecosystems.

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 focus on the phenomenon of the sun appearing larger and brighter, guiding students to explore this concept in depth. Using technology, students are provided opportunities to analyze patterns influenced by the earth's rotation on its axis and its orbit around the sun. Additionally, the materials provide opportunities for students to conduct investigations and construct models, enabling them to support arguments while examining the distances of different stars from Earth, encouraging inquiry-based learning and critical thinking.

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 materials emphasize the interactions among the four spheres (geosphere, hydrosphere, biosphere, and atmosphere) and understanding the distribution of water. Examples of these interactions include activities having students analyzing weather patterns and constructing models of the water cycle. This aligns with earth and space PEs by offering in-depth explorations of how Earth's systems interact and affect each other. The materials integrates CCCs and CONNs by connecting earth science concepts to all encompassing scientific themes.

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 materials include activities where students analyze the impact of natural disasters and explore methods to mitigate their effects, such as addressing pollution and promoting sustainable use of natural resources. Students investigate effects of human activities in agriculture, such as farming by, using a model to observe what happens to the soil and underground water when food is grown and chemicals are used. Additionally, students engage in designing solutions to support arguments concerning scientific phenomena, including environmental challenges. These activities provide opportunities for examining cause-and-effect relationships and investigating the influence of human activities on the earth's 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:

The instructional materials actively engage students in the process of designing, testing, and refining prototypes to solve real-world problems, adhering to specific criteria and constraints within the engineering design process. For instance, students may participate in projects where they create and test prototypes, such as designing a trap for an invasive species of python and designing a model to clean up a cafeteria trash problem. These hands-on activities align with NGSS engineering standards and "NM StemReady!" benchmarks and provide students with practical experience in applying scientific concepts to real-life challenges.

CCSS for ELA and Math Grade 5 NGSS
Materials align to the ELA and math standards identified in the fifth grade NGSS.
Statements of appraisal and supporting evidence:

The materials incorporate connections to English Language Arts (ELA) andmathematics in each lesson. In ELA, students engage in activities such as reading literacy passages and analyzing informational texts about scientific concepts. Students also journal their investigation findings, write detailed lab reports, and participate in structured debates on scientific issues. These activities align with CCSS for reading, writing, speaking, and listening standards. In mathematics, there are a variety of tasks where students apply mathematical concepts to scientific inquiries, such as measurement, graphing, data analysis, and problem-solving in the context of scientific investigations. These tasks align with CCSS for math, particularly in the domains of measurement and data, operations and algebraic thinking, and mathematical practices.

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, offering a detailed lesson planning guide with a thorough scope and sequence to guide educators. Emphasizing the use of real-world phenomena, the materials engage students in hands-on activities and data analysis, fostering deep engagement and connections to their experiences. For example, in a unit on ecosystems, students may develop models, explore energy flow, and analyze patterns within food webs. This approach aims to enhance student understanding through practical application and relevant context.

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 feature a variety of both formative and summative assessments designed to evaluate students' understanding of the three-dimensional standards comprehensively. These assessments provide teachers with a diverse range of tools to monitor student progress. Examples of assessment types include rubrics, claim-evidence-reasoning prompts, open-response questions, and multiple-choice formats, allowing for a comprehensive 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 offer extensions to support differentiated instruction, aiming to foster an inclusive learning environment for all students. Teacher resources include a variety of tools such as a teacher toolbox, pacing guides, curriculum maps, and detailed lesson plans. These resources provide comprehensive support by outlining lesson objectives, identifying necessary materials, and offering step-by-step instructions for implementation. Additionally, the toolbox contains resources to monitor student progress, adjust instruction, provide feedback, and interpret evidence of learning. Furthermore, instructional videos are provided to assist teachers in implementing the three-dimensional learning approach.

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

The materials provide a comprehensive range of learning experiences including digital formats and textbooks, catering to diverse learning needs and preferences. For example, students actively engage in hands-on investigations, collaborative group work, and inquiry-based activities to explore scientific concepts firsthand. An example activity is the modeling of the water cycle, which encourages students to explore concepts through direct experience and discussion. Additionally, resources within the materials are adapted to accommodate diverse learning styles and levels, incorporating interactive activities, visual aids, and scaffolded tasks. These resources are designed to encourage all students to actively participate and engage with the science content.

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

The materials offer numerous instructional strategies and resources designed to accommodate diverse learning needs for all students. These strategies include modified lesson plans, accommodations for students requiring intervention, and extension activities for accelerated learners. The material incorporates contextually relevant examples to engage students from diverse backgrounds. For instance, lessons may feature local environmental issues or culturally significant phenomena.

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 materials offer a well-structured sequence of lessons designed to build upon students' prior knowledge and introduce increasingly complex concepts in alignment with the New Mexico content standards. Each lesson begins with a standards alignment section, providing clear connections between the lesson content and the standards for both teachers and students. The instructional materials are organized into bundles, with each bundle containing lesson scopes that cover the full content outlined in the standards for each grade level. Within each scope, a variety of assessments and activities are provided to reinforce content aligned with state standards, supporting student success in both college and career pathways.

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 clear and concise, with a teacher toolbox containing a range of resources and supports for lesson planning. Each lesson includes a list of the standards addressed, facilitating alignment with learning objectives. Additionally, cross-curricular learning extensions are offered, with corresponding learning standards provided for each activity. Furthermore, the materials outline performance expectations for each scope within the lessons, providing educators with clear guidance on 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 offer detailed lesson plans, pacing guides, and curriculum maps aligned with New Mexico content standards. Additionally, professional development modules and instructional videos are accessible to support teachers in enhancing their understanding of the standards and implementing practices in their classrooms. The materials are accessible online, organized by grade level, and bundled according to specific science content standard bands. Furthermore, the materials include a section called "STEMcoach in Action" that provides practical classroom strategies for creating and building an engaging classroom environment.

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 offer a variety of formative and summative assessments, including multiple choice, open-ended response, and claim-evidence-reasoning, which are aligned with NM content standards. These assessments enable teachers to monitor student progress. Rubrics are provided for the Cross Cutting Concepts (CCCs) and Science and Engineering Practices (SEPs). There are answer keys and suggestions for alternative assessments and further instruction with provided differentiation for all learners.

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 provide a variety of differentiated activities, hands-on investigations, and scaffolded tasks to help meet the needs of all learners. At the beginning of each bundle, there is an editable family letter that encourages family involvement. Each lesson follows the teaching model of the five Es--Engage, Explore, Explain, Elaborate, and Evaluate--to reinforce critical and creative thinking, inquiry based learning, and solving complex problems.

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 incorporate culturally responsive teaching practices by featuring examples and case studies reflecting cultural backgrounds. The materials offer a visual glossary that provides a collection of images and information. Embedded within each lesson scope are interdisiplinary connections for math, reading, and information about real-life experiences. The materials include stories and scenarios from various cultures to illustrate scientific concepts, but there is a limited amount of resources and activities provided to support 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 include tools and resources to provide students opportunities to make personal connections within their community. Materials are translated into Spanish. Some cultural perspectives are provided through career connections, descriptions of events and experiences. While the materials offer these components, they are limited in incorporating equality throughout various cultures. There is also a restricted connection to 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:

I recommend STEMscopes New Mexico 3D as high-quality instructional material. Highlights of the material include resources for teachers that include comprehensive lessons, a thorough scope and sequence, and a user friendly website designed to navigate through the material. The materials provide a clear and concise teacher edition, which contains a teacher toolbox that offers resources and lesson planning supports. Within each lesson, there are headings that are identified as a teacher resource or a student resource that shows a purposeful sequencing of teaching and learning expectations. Each lesson includes hands-on activities and resources to promote student engagement. The lessons address the NGSS as well as making connections to ELA and math. There are a variety of assessments to utilize as well as intervention and extension activities. As a classroom teacher, utilizing STEMscopes would be an enriching opportunity.

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 the STEMscopes material for use in the state of New Mexico. The material provides comprehensive resources to facilitate fifth graders' understanding of the grade level science standards. STEMscopes includes engaging hands-on experiments, conceptual models such as visual aids and diagrams to help students deepen their understanding of the content, interventions for struggling learners, and acceleration suggestion lessons. Data analysis is also present through intentional lessons that guide students in collecting, organizing, and interpreting data from experiments to draw conclusions and CCC and SEP inventory of skills, located in the Teacher Toolbox, to monitor the progression of standards. The material also provides interactive discussions structured for students to discuss their findings and refine their understanding. Students' comprehension of the content is assessed through many tools such as open-ended and multiple choice assessments, worksheets, and project-based learning supported with teacher and student rubrics. This material aligns with New Mexico's science standards. However, it does not completely meet the culturally and linguistically responsive aspect of all cultures. STEMscopes follows a 5E (Engage, Explore, Explain, Elaborate, and Evaluate) approach for every lesson. The Teacher Edition provides background knowledge of concepts being taught for teachers to reference, pacing guides, and lesson planning resources to ensure meaningful connections are made for students through engaging lessons that align with the standards.

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:

For me, STEMscopes is comprehensive, standard-aligned science material designed to engage students in hands-on, inquiry-based learning. The material integrates Disciplinary Core Ideas, Science and Engineering Practices, and Crosscutting Concepts from the NGSS, ensuring a holistic approach to science education. It includes vigorous teacher resources, detailed lesson plans, and various assessment tools to support differentiated instruction and monitor student progress. Additionally, STEMscopes emphasizes cultural and linguistic inclusivity, providing resources tailored to diverse student populations and promoting equity in the classroom. This dynamic approach prepares students for college and career readiness by fostering critical thinking, collaboration, and problem-solving skills.