2024 Instructional Material Summer Review Institute

Review Team Appraisal of Title

Third 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 3 Core Online Bundle (Online, Student Notebook Set per year for 1 Yr)	Publisher	Accelerate Learning Inc.
SE ISBN	9798891928404	TE ISBN	
SW ISBN	9781643049311	Grade Level/Content	Third 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
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
76%

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

At the beginning of each lesson, the materials address preconceptions about the topics. Anchoring phenomena are discussed and allow for connections to be made. The materials provide many images and stories that represent a broad range of demographic groups. The materials also provide opportunities for role playing various occupations to develop and solve real-world problems and make connections. The instructional materials provide for authentic conversations.

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 hands-on experiments that engage interests and activate background knowledge to build upon future learning. The hands-on activities and discussion provide opportunities for collaboration and to share perspectives. The STEMscopedia student book allows opportunities for making connections and reflecting on personal/prior experiences. However, there is no evidence found to show connections to NM cultures, past and present. There is no evidence of materials that show multiple ethnic descriptions, interpretations or perspectives of events and experiences.

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 material supports students of New Mexico in achieving a comprehensive understanding of key scientific concepts and practices. Each unit and lesson is clearly linked to specific performance expectations, providing a structured approach to meeting the standards. The materials integrate science and engineering practices throughout, encouraging students to engage in hands-on, inquiry-based learning. Lessons regularly include activities that require students to plan and conduct investigations, analyze data, and construct explanations.

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 allow for planning and conducting investigations of the effects of balanced and unbalanced forces on the motion of an object. The materials identify the phenomena under investigation, allowing for collaborative work to develop an investigation, identify a problem and develop solutions. The materials allow for questions to arise from observations of two objects not in contact with one another interacting through electric or magnetic forces. Students are also asked to use project-based learning to develop a plan, build a model, conduct tests, collect data, and revise designs based on evidence made by making observations. Activities in the materials allow for use of patterns to predict future motion and determine cause and effect relationships. The cause and effect relationships between electric and magnetic forces between a pair of objects is also explored within the materials.

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:

The materials provide opportunities for students to develop models to describe the unique and diverse life cycles of organisms. There are tasks to explore the phenomena of life cycles by identifying patterns within various life cycles and use these patterns to predict change and realize that all organisms have the same life cycle though they may look different (mammals give live births vs butterflies undergo metamorphosis).

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 have activities about various ecosystems and their organisms, exploring their interactions and group behaviors within their habitats. Students are tasked to collect information and use evidence to construct arguments, such as how some animals form groups to enhance survival by aiding in tasks like food gathering and group defense are present throughout. There are investigations for cause-and-effect relationships to explain changes within ecosystems. Explore activities promote an understanding of how being part of a group can impact an animal's survival. There are also opportunities to explore the consequences of losing group status, understanding that it can lead to reduced access to food, decreased defense capabilities, and reduced survival chances for individual animals.

HEREDITY: INHERITANCE AND VARIATION OF TRAITS
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 provide for the collecting and analyzing of data on the hereditary traits of both plants and animals. The materials explore how traits passed down from parent organisms can result in variations among offspring that are similar. The materials allow for participation in cause and effect investigations where students plan, develop/design, and construct explanations that illustrate how environmental factors can influence traits. For example, not enough water produces plants that are shorter and have fewer flowers than plants that have more water available. The hands-on approach demonstrates the complex interaction between inherited traits and environmental factors.

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 materials provide exploration activities to demonstrate how fossils offer evidence of ancient plants and animals and the environments they lived in long ago. There are opportunities for students to organize data using tables, charts, and graphs. The materials provide guidance on recognizing and explaining the connections between fossils and present-day living organisms. Opportunities to observe the phenomenon are provided and understanding that it exists from very short to very long time periods and that science assumes consistent patterns in natural systems. The materials provide information about fossils through readings and activities in order to explore how environmental factors (over-hunting, weather) caused animals to go extinct.

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 align to the earth and space science performance expectations for Earth's Systems and their related components. Data in tables and graphical displays describe typical weather conditions during a particular season. The materials ask students to obtain and combine information to describe different climates in various parts of the world. They also look for patterns of change and understand those could be used to make predictions about future weather. The materials provide opportunities for students to participate in investigative activities to understand the difference between climate and weather phenomena. They as students to also research information about meteorologists, the instruments they use, as well as the process they use to make forecasts. Provided graphic organizers are used by students to identify patterns in seasonal temperatures and to develop presentations.

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 provide for participation in the design and solution process, particularly in the prevention of weather related hazards. Materials include readings for the understanding that natural hazards are a result of natural processes that humans cannot eliminate, but that steps can be taken to mitigate the negative impact. Materials allow for the analysis of the cause and effect relationship of what happens to different houses during a natural disaster and for the development of a scientific explanation as to why one house had more damage than the other. There are options to plan, design, and construct a prototype following criteria and constraints to provide a solution to the problem using the engineering design process.

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 materials include opportunities for students to plan and carry out investigations that incorporate working collaboratively with classmates in the identification of a problem, asking questions, and designing and creating models to conduct investigations and tests. Mathematical and computational thinking, constructing explanations, engaging in arguments from evidence including dialogue with peers, and evaluating and communicating information are evident throughout the materials. For example, designing and building a toy car racetrack that moves vehicles using magnetism and exploring ways to design a structure that can withstand rising water is undertaken by students. In addition, the materials also include how people's needs and wants change over time as do their demands for new and improved technologies and how engineers improve existing technology.

CCSS for ELA and Math Grade 3 NGSS
Materials align to the identified ELA and math standards in the third grade NGSS.
Statements of appraisal and supporting evidence:

The materials align with the identified ELA and Math standards in the third grade NGSS by providing opportunities for math connections and reading texts within the Elaborate tab in every lesson. These include differentiated math and reading activities to support varied levels of learning abilities. Materials provide multiple opportunities to complete measurements including fractions; basic calculations using base ten operations; modeling with mathematics; and using tools appropriately. Opportunities to reason abstractly and quantitatively, measuring liquids and volumes, asking and answering questions, stating and supporting opinions, using information gained from illustrations, and comparing and contrasting, as well as writing explanatory text are all present. Short research projects to build knowledge about a topic are also included.

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 incorporate a phenomena and problem-based approach, integrating the three dimensions of the Next Generation Science Standards (NGSS): disciplinary core ideas, crosscutting concepts, and science and engineering practices. The instructional materials are centered around engaging, real-world phenomena that captivate interest and provide a meaningful context for learning. The materials present real-world problems that require the application of scientific principles to develop solutions.

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.

Assessments within the materials allow for the effective measurement of student progress in disciplinary core ideas, science and engineering practices, and crosscutting concepts. Each assessment explicitly links questions and tasks to specific NGSS performance expectations. For instance, a summative assessment on plant and animal life cycles includes questions that require the creation of a life cycle and analysis of the stages of a life cycle as well as conducting investigations to test hypotheses. The materials provide a variety of assessment types, including formative assessments, summative assessments, performance tasks, and self-assessments, to capture a comprehensive picture of learning.

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

The materials include opportunities for teachers to effectively plan and utilize materials; each lesson has an anchoring phenomena event, a scope overview, prior knowledge and progression, and a pacing guide. Each lesson is divided into sections called Engage, Explore, Explain, Elaborate, and Evaluate (tabs) for varying levels of activities. Lessons also include an Intervention and an Acceleration tab for additional activities and assessments. Materials are available in both digital and print and a Spanish version.

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

The instructional materials for science are crafted to foster a student-centered learning environment. The materials are designed to enhance the learning process through hands-on activities, experiments, and collaborative projects. The materials emphasize cooperative learning, small group collaboration, sharing ideas, and learning from one another. Each unit begins with a guiding question or phenomena that sparks curiosity and drives inquiry. For instance, a unit on forces and motion might start with the question, "How do different forces affect the movement of objects?" The materials then provide opportunities to design and conduct experiments to explore this question, engaging in the scientific process and developing critical thinking skills.

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

The materials include a variety of methods for students to interact with the science content. All lessons come with extension activities and independent practice for those students who are ready for the challenge or desire to go deeper into the content. There are extensions such as project based learning activities, books, as well as making art through science activities to enhance student learning in greater depth. Materials also provide numerous engineering activities where students work with the SEPs in a meaningful way. The use of technology, student notebooks, videos, and online activities (assessments, lessons, readings) give students access to meaningful learning. Assessments and materials are easily accessed and include mulitple ways for students to respond as well as allowing all students access to content and various opportunities for student self-reflection.

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
90%

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 address the full content in the standards. At the beginning of every "Bundle" under the "Scopes" tab, the standards alignment can be found, illustrating the Performance Expectation (PE) as well as the 3-Dimensional Focus that includes the SEPs, DCIs and CCCs. Materials contain CCC and SEP scoring rubrics for each "Scope" to help guide teachers in determining mastery of the standards. In addition, each lesson has embedded activities/tasks that may be used as formative assessments. The materials provide grade level appropriate topics/themes that are engaging. They also incorporate many opportunities for collaborative and independent work and shared learning. The instructional materials are coherent and flow at a good pace. Meaningful connections are made and prior learning is revisited.

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

Learning progressions are clear and located at the beginning of each "Bundle." Prior knowledge and progressions are located along with the "Scope" overview that includes a timeline/pacing guide for each lesson and "Bundle." In the teacher's guide for each "Bundle" there is a "Three-Dimensional" learning page that outlines all the components. Content objectives are aligned with the standards for each lesson. The materials include measurable language objectives that focus on one or more of the four domains of listening, speaking, reading or writing that correspond to the content objectives. The online materials include picture vocabulary flashcards that may be printed for vocabulary games to build understanding or used for a word wall. Both the print and digital instructional materials follow a consistent layout. There are embedded graphic organizers as well as cooperative learning activities. There are print files and editable Google files that can be accessed and modified. The "Teacher Toolbox" contains resources, interventions, interactives and vocabulary resources and linking literacy tools. The materials provide opportunities to practice, review, share, present, read and write.

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 a roadmap for lesson planning with suggestions for pacing. A materials list with consumables and reusables is given. The planning guide has procedures and talking points that include suggestions on how to present and discuss the anchoring phenomena, with a mission and suggested video along with prompts to guide discussions. The materials include suggestions and activities to meet the needs of all learners. Instructional strategies are included for facilitating discussions, small group/independent work, re-teaching opportunities and extension lessons for accelerated learning. The materials are accessible and available both in print and digital formats. The materials provide background to assist teachers in understanding the design and the need to build an understanding of STEM concepts. Each "Bundle" incorporates a snapshot that shows the larger picture or how the materials are laid out with the Performance Expectations noted and which "Scope" will be introduced to meet that PE. Integration of digital learning is embedded throughout the instructional materials. The materials can also be printed and are available in Spanish.

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 include a variety of assessments to measure progress through the use of oral presentations, graphic organizers, open-ended responses, and multiple choice assessments. The instructional materials provide oral and written performance-based tasks, quizzes and other formative and summative assessments. There are scoring rubrics for the CCCs and SEPs that give guidance on how to analyze and interpret student responses and final products for proficiency. There are answer keys and suggested sample student responses for graphic organizers, investigative phenomena, accessing prior knowledge, content connection video questions, Claim Based Evidence Reasoning, and open-ended/multiple choice assessments. There are guided practice activities for remediation, with guiding questions to help build understanding of the concept as well as extension lessons to meet the needs of accelerated learners. Materials provide some alternatives for Spanish speakers, but are not explicit for other languages. Assessments are available online or may be printed.

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 opportunities for small group, individual, and partner work. Different lexile levels are provided to accomodate all learners' reading abilities and digital/printed materials offer both intervention and acceleration activities. Sentence stems are embedded throughout the instructional materials to assist with writing. The instructional materials provide some linguistic scaffolds to support ELs and other special populations. The materials are offered in Spanish, but the ability to translate to other languages is not supported. "Accessing Prior Knowledge" allows the opportunity for making cultural connections. The materials offer a "Teacher Toolbox" with parent resources that are editable and that can be downloaded in both English and Spanish. There is also a "Connecting with your Child" handout that encourages scientific dialogue which offers a series of questions that can be asked at home to further reinforce science concepts learned at school. The materials provide opportunities for all learners to think critically, solve complex problems and foster inquiry.

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

At the beginning of each lesson, the materials address preconceptions about the topics. Anchoring phenomena are discussed and allow for connections to be made. The materials provide many images and stories that represent a broad range of demographic groups. The materials also provide opportunities for role playing various occupations to develop and solve real-world problems and make connections. The instructional materials provide for authentic conversations.

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 hands-on experiments that engage interests and activate background knowledge to build upon future learning. The hands-on activities and discussion provide opportunities for collaboration and to share perspectives. The STEMscopedia student book allows opportunities for making connections and reflecting on personal/prior experiences. However, there is no evidence found to show connections to NM cultures, past and present. There is no evidence of materials that show multiple ethnic descriptions, interpretations or perspectives of events and experiences.

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 #: 4

Background and experience:

I am currently a Level III educator teaching 5th grade. I hold a Master's Degree in Curriculum and Instruction and have 16 years of experience in elementary education, including three years focused exclusively on teaching science. I facilliate an after school science club. This is my second time working with the NMPED as a reviewer for instructional materials adoption.

Professional summary of material:

The materials provided by this publisher are engaging and easy to follow in both the printed and digital formats. They involve students in many inquiry lessons in order to teach the content of each standard. Students are encouraged to think critically and reason abstractly using evidence from activities to support their ideas and conclusions and claims. There are project based learning opportunities for students, where they can take their learning further. Materials do offer interventions and areas where teachers can differentiate for students. The cultural and linguistic lens could have been stronger if it included more supports for diversity of language and background representation.

Reviewer #: 5

Background and experience:

I am a level III teacher with endorsements in TESOL and social studies. I have been teaching for 34 years in elementary education and instructing students in all subject areas. I am in charge of the science fair at my school and help facilitate an after school science club. I have my Master's Degree in Special Education and am a Nationally Board Certified Teacher. This is my fourth time working as a reviewer of record for the NMPED. I have reviewed ELA, math, and social studies materials.

Professional summary of material:

The instructional materials are engaging and cover all the NGSS. The materials are easy to understand and teacher friendly. They are simple to navigate, both the online portion and the printed teacher edition. The activities for the students are engaging and fun to do. There are different levels of questioning and scaffolding for students below and above grade level. There are little or no materials for, or examples of, culturally and diverse learners. Assessments are both open-ended and multiple choice, which are accessible online or in pencil/paper format.

Reviewer #: 6

Background and experience:

I am a level III-A teacher with a K-8 license with endorsements in ELA, TESOL, and reading. I also hold a level III-B PK-12 administrative license. I have been teaching K-5th grade for the past 24 years. Currently, I am an English Language Development teacher/coordinator. This is my third time working with the NMPED as a reviewer for the instructional materials adoption. I also served in the past as a dossier reviewer for teacher licensure advancement as well as a reviewer for the Governor's Reading Initiative.

Professional summary of material:

The instructional materials are aligned with the NGSS and NM content standards. They provide students with activities and learning to help them develop a comprehensive understanding of scientific concepts and project-based learning for their grade level. Overall, the pacing guide and the format/layout are teacher friendly and include opportunities for teachers to differentiate for reading and writing. There are many graphic organizers embedded throughout each lesson, which lends itself well to helping students organize their ideas. As an ELD teacher, my only concern is that the materials are only translated into Spanish and no other languages are represented.; this is not reflective of NM. Also, the CLR component is lacking in the cultural relevance for some cultures and could provide more sensitivity as well as guiding teachers in understanding indigenous cultures and their corresponding belief systems.