2024 Instructional Material Summer Review Institute

Review Team Appraisal of Title

Grades 6-8 Life 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 Life Science Core Online Bundle (Online, Student Notebook Set per year for 1 Yr)	Publisher	Accelerate Learning Inc.
SE ISBN	9798891928688	TE ISBN	
SW ISBN	9781643048574	Grade Level/Content	Grades 6-8 Life 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
89%

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
50%

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 make an effort to include a variety of individuals and their perspectives of science as it relates to specific career choices. There are no areas in the materials that showcase stories or personal experiences from diverse populations and how they connect to the science content. Though there is a Spanish version of both the teacher edition and student edition/notebook, this does not reflect the variety of cultural and linguistic perspectives of diverse learners, and in particular, the cultural and linguistic perspectives of the diverse populations found in New Mexico.

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 do not highlight diversity in culture and language through multiple perspectives. There are no references to diverse personal stories and experiences that connect to the science content. The materials do not reference New Mexico spaces or cultures past and present. Though there is a Spanish version of both the teacher edition and student edition/notebook, there is a deficiency beyond these resources to incorporate or encourage cultural and linguistic perspectives that are exclusive to diverse populations such as the ones found 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
93%

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

The STEMscopes materials align with the life science performance expectations (PEs) and related components (DCIs, SEPs, CCCs and CONNs). The materials provide the opportunity to read, discuss, write and explore the content through various lessons and activities. "Anchoring phenomena" and "linking literacy" both offer engagement and alignment with focus areas. New Mexico standards are not specifically referenced in 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 STEMscopes materials align with the life science performance expectations (PEs) and related components (DCIs, SEPs, CCCs and CONNs) for this focus area. The materials provide the opportunity to read, discuss, write and explore the content through various lessons and activities. "Anchoring phenomena" and "linking literacy" both provide engagement activities and alignment with the focus area.

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 align with the life science performance expectations, the three related DCIs, SEPs, CCCs, and CONNs for ecosystems interactions, energy, and dynamics. The materials offer opportunities to construct explanations to predict patterns of interactions among organisms in an ecosystem. The materials provide opportunities to model and describe how matter and energy flow among the living and nonliving parts of an ecosystem.

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 align with the science performance expectations (PEs) and related components, with one exception. There are opportunities to develop and use models to describe structural changes to genes and understand the structure and function of organisms.

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 align with the performance expectations and the related DCIs, SEPs, CCCs, CONNs. The materials offer opportunities to analyze and interpret data for patterns in the fossil record. The materials also provide opportunities to construct scientific explanations for anatomical similarities or differences among modern and fossil organisms to infer evolutionary relationships, and provide opportunities to analyze similarities in embryological development to notice relationships not evident in fully formed adult organisms. Simulations and analysis of data investigations and claim-evidence-reasoning are common activities in this unit.

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 STEMscopes materials align with the engineering design performance expectations (PEs) and the related components (DCIs, SEPs, CCCs and CONNs) in the "explore engineering solutions" activities. The materials offer opportunities to design, test, revise, self-reflect, and obtain feedback for designing their solution based on criteria and constraints.

CCSS for ELA and Math in Grades 6-8 NGSS
Materials align to the ELA and math standards identified in grades 6-8 Life Science NGSS.
Statements of appraisal and supporting evidence:

The materials do align with the CCSS for ELA and math. There are supports for ELA CCSS that require written arguments focused on content, comparing and contrasting information, and distinguishing among facts and reason judgment based on research findings. There are also supports for the math CCSS that have a focus on understanding ratios and rates, claims and findings, and modeling with mathematics.

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
89%

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 STEMscopes materials allow a three-dimensional approach to the instructional materials centered around high-quality phenomena and/or problems. The explore activities actively engage in science learning through videos, building models, hands-on activities, designing investigations, sharing ideas, developing explanations and arguing evidence. The materials offer 21st century skills, such as critical thinking, collaboration, communication, and applying knowledge to other situations, to make sense of the phenomena and/or problem-based solutions which require a three-dimensional approach.

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 provide multiple-choice, open-ended, and claim-evidence-reasoning assessments for teachers to measure progress with life sciences disciplinary core ideas (DCIs), crosscutting concepts (CCCs), and science and engineering practices (SEPs). The materials are organized in the guides as a snapshot of the activities in terms of the five Es (ENGAGE, EXPLORE, EXPLAIN, ELABORATE, and EVALUATE) as well as showing their relation to the 3Ds (SEPs, DCIs, CCCs).

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

The STEMscopes materials include opportunities for teachers to plan effectively through both digital and print materials. The materials are organized through tabs with the scope as well as topic title, the five Es and intervention and acceleration items. Each section in the teacher edition has a "home" tab where teachers can utilize teacher background, standards alignment, answer keys, rubrics, and materials lists. The teacher edition print materials offer a timeline for each scope with an outline of each lesson's time in days and hours. The online materials do not offer a search function for teachers to search for a specific keyword, topic or lesson.

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

The materials provide opportunities for regular and active participation in science content. There is a high level of complex content and engagement with activities. The activities and readings are student-centered and allow for differentiation for different levels of learning. Reading texts are listed as having different lexile ranges but are exactly the same texts.

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

The materials include opportunities for a variety of learners to be engaged and active in the learning process. There are resources that provide supports and strategies to learners of different levels and abilities. The teacher's edition and student edition/notebook are available in Spanish. The materials do not provide diversity relevant to specific cultures, regions, and personal experiences, particularly for New Mexico and its diverse population.

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
74%

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 align with the NGSS standards and have value for New Mexico middle schools. They address science and engineering practices, cross cutting practices, and life sciences core ideas which make up the desired 3-D approach.

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

The lessons are well-designed and engaging, with a clear and logical progression, starting with a hook, investigative phenomena, accessing prior knowledge, graphic organizers with additional opportunities to practice and/or extend new ideas. The assessments at the end of lessons are varied. Multiple-choice, open-ended, and structured open-ended claim-evidence-reasoning evaluations give learners with diverse abilities and backgrounds accurate measurements of their learning progress.

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 teacher resources to support planning and learning in both online and print format. Each middle school Life Science Bundle offers teachers a "snapshot" with an anchoring phenomena event, anchoring phenomena driving question, mission goal, and scope and sequence timeline. The teacher guide also provides teachers with three-dimensional learning, NGSS standards, and a scope overview. The scope overview offers teachers the progression of learning throughout the entire unit, showing how knowledge is refined as they move throughout the content. Documents are available to help teachers with question prompts, artifacts to look for throughout the scope, and sample answers to help teachers plot students' understanding.

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 STEMscopes instructional materials offer teachers a variety of assessment resources and tools in both online and print format. The materials provide prior knowledge to help pull out students' current knowledge levels. The materials include formative claim-evidence-reasoning assessment to help teachers gauge students' understanding and help to formally assess student learning. The information and data that is gathered on these forms enable plotting of students' understanding and can be used to track progress on the CCC and SEP skills.

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 students to compare and contrast by applying scientific reasoning. The materials include 3D supports, interventions for adaptive, physical, cognitive, and SEL development. The materials also include language acquisition strategies, as well as spotlights on science careers. Interventions give students more opportunities to review and learn key concepts, and extensions give students a chance to deepen their understanding of key concepts.

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 make an effort to include a variety of individuals and their perspectives of science as it relates to specific career choices. There are no areas in the materials that showcase stories or personal experiences from diverse populations and how they connect to the science content. Though there is a Spanish version of both the teacher edition and student edition/notebook, this does not reflect the variety of cultural and linguistic perspectives of diverse learners, and in particular, the cultural and linguistic perspectives of the diverse populations found in New Mexico.

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 do not highlight diversity in culture and language through multiple perspectives. There are no references to diverse personal stories and experiences that connect to the science content. The materials do not reference New Mexico spaces or cultures past and present. Though there is a Spanish version of both the teacher edition and student edition/notebook, there is a deficiency beyond these resources to incorporate or encourage cultural and linguistic perspectives that are exclusive to diverse populations such as the ones found 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 #: 43

Background and experience:

BA in Education and an MA in Education (Curriculum and Instruction) from Eastern New Mexico University. Level III Administration license, a Level III-A K-8 Elementary license, a Level III-A Pre K-12 Special Education license with endorsements in science and health, and a Level I 7-12 Athletic Coach license. 17 years of educational experience. 3 years as a STEM director and teacher of STEAM-H at a charter high school, where I lead my team to a 2021 Governor's STEM Challenge Statewide Championship. 12 years at a charter middle school teaching middle school science; I also taught the 8th grade Next-Step class and the STEAM-H elective. 2018 NMPED Teacher of the Year Finalist and the 2019 New Mexico Teach Plus Policy Fellow of the Year. Served as a New Mexico Teach Plus Policy Senior Fellow for 2021, 2022 and 2023 and helped with the Phoenix Project (Teach Plus). Board member and North Central Regional Representative for the New Mexico Science Teachers Association (NMSTA). I have helped develop End of Course Exams (EoCs) for the NMPED and have participated in past in the Summer Instructional Review Institute.

Professional summary of material:

The materials provide a multiplicity of highly engaging activities for different learning levels. There is a direct alignment with all lessons to the Next Generation Science Standards (NGSS) as well as Common Core ELA and math standards. The lessons provide teachers with many tools to help guide students through activities that are hands on and allow for exploration on a variety of experiences within the topic of life science. The connection to careers and fields in STEM and lessons aligned to real-world scenarios provide a comprehensive learning experience. The materials keep learning fun, engaging, and support students in mastering the content. Each lesson starts with a phenomenon that is interesting and thought-provoking. The teacher's edition is easy to navigate and flows effortlessly to each lesson and unit. There are multiple opportunities and forms of formative and summative assessments embedded in each lesson with a focus on content knowledge and real-world experiences. The technology that is incorporated (media, videos, and simulators) in each lesson is informative, engaging, and conducive to the learning process. Graphic organizers in each lesson support students at different learning levels to stay organized within their thought processes and the information they receive. The materials provide both digital and physical editions (in English and Spanish) to allow teachers and students the ability to differentiate accordingly. STEMScopes lacks a depth of culturally and linguistically responsive supports and does not contain any mention or connection to the diversity of learners in this state.

Reviewer #: 44

Background and experience:

M.S. in Science Teaching, New Mexico Institute of Mining and Technology; B.A. Political Science and History (Pre-Law), Olivet Nazarene University. Teach 7th grade Life Science; Level III Teacher - 23 years. Previously taught H.S. Geology/Chemistry, General Science, 8th grade Physical Science, 6th grade Earth Science. 2009 Teacher on Loan at the Air Force Research Laboratory STEM Outreach. 2022 University of New Mexico Rose Scholar and Research Experience for Teachers Participant. Participated in NMPED Instructional Materials Science Review 2018.

Professional summary of material:

The materials offer exploration, inquiry and hands-on activities, a variety of assessments, scaffolding lessons, and problem based learning [PBL] projects. The materials align with NGSS and ELA and math common core standards. The materials provide time for real-life connections, use of technology, assessing credible sources, and presentations. The anchoring phenomenon at the beginning of each topic provide opportunities to discuss and write answers to different questions, draw from previous learning, and draw from life experience. The materials offer organization and tools to track progress and learning throughout the topics. STEMscopes materials are offered in Spanish and are online as well as in print format.

Reviewer #: 45

Background and experience:

Level 3 bilingual high school mathematics and computer science teacher for 14 years (Algebra 1, Honors Algebra 1, Geometry, Bilingual Geometry, Bilingual Precalculus, Honors/AP Precalculus, Computers with Math Applications, Consumer Math, Fractal Math and Chaos Science), including AP and regular computer science and statistics teacher for 3 years. M.A. in mathematics from the University of South Florida; B.A. with math and physics majors from Goshen College,;and computer science B.A. equivalent with English and French language studies from Eastern Kentucky University.

Professional summary of material:

The materials are engaging for middle school students and straightforward for teachers to use. They are aligned with the NGSS. The materials have accessibility features and are suitable for diverse students with a wide-range of abilities. The online materials do not have a “Search” feature, do not reference any of the page numbers for the same printed materials, and have some reading texts listed as having different lexile ranges but that are exactly the same texts.