2024 Instructional Material Summer Review Institute

Review Team Appraisal of Title

Kindergarten 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 K Core Online Bundle (Online, Student Notebook Set per year for 1 Yr)	Publisher	Accelerate Learning Inc.
SE ISBN	9798891928282	TE ISBN	
SW ISBN	9781643049281	Grade Level/Content	Grade K 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
97%

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 85% or above on the CLR portion of the review are recognized as culturally and linguistically relevant.*

CLR Recognized ☐

Average Score
81%

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

The instructional materials provide comprehensive support for teachers and students, aiming to align with New Mexico content standards while fostering an inclusive learning environment. While they incorporate diverse cultural and linguistic perspectives to some extent, the materials do not include a broader range of demographic groups, particularly those pertinent to southern New Mexico. Although they effectively leverage the 5E Framework to build upon students' backgrounds and prior experiences, there is minimal representation of cultural diversity within the materials, such as in student notebooks and STEMscopedia texts.

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

The instructional materials support teachers in planning, facilitating learning, and adhering to New Mexico content standards while showcasing diversity in culture and language. Engage activities provide multiple entry points for participation and discussion, valuing students' prior knowledge and promoting critical reflection. Accessibility features like text-to-speech and visuals enhance language development and accommodate diverse student backgrounds. Culturally diverse scientists and career connection videos are integrated throughout, offering students varied role models. However, while diverse scientists are highlighted, local cultures and indigenous perspectives have minimal representation within the instructional materials.

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
98%

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

Materials align with the science standards with an overall average score of 98%. The materials offer a well-rounded approach to comprehending fundamental scientific concepts, providing engaging activities and hands-on experiments that foster critical thinking and problem-solving skills. Through a variety of experiments, investigations, and design challenges, students explore concepts such as solar heating, plant and animal needs, weather patterns, habitat design, and environmental impacts. By aligning with the NGSS standards and incorporating math and ELA tasks, the materials promote cross-disciplinary understanding and holistic learning experiences. Additionally, the materials support student engagement through collaborative discussions, graphic organizers, and real-world applications, enhancing comprehension and retention of scientific principles. Overall, these materials provide a comprehensive and integrated approach to STEM education, facilitating inquiry-based learning and preparing students for future scientific exploration.

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 for investigating Forces and Interactions present a structured and comprehensive approach to teaching fundamental physics concepts. Through a series of hands-on activities and inquiries, students engage in experiments ranging from simple tests on push and pull strengths to more complex investigations involving collisions and parking a car. By adhering to evidence statements, these materials promote critical thinking, data analysis, and communication skills through collaborative problem-solving tasks and reflective exercises. Graphic organizers support students in synthesizing their findings, facilitating a deeper understanding of force, motion, and changes in direction. Overall, these materials provide a balanced blend of theory and application, offering a solid foundation for student learning in physics.

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 to the PEs and related components for this focus area. Materials allow for the understanding of solar heating while offering practical and engaging activities designed to illustrate the effects of sunlight on the Earth's surface and everyday objects. Through experiments with blocks of ice and observations of chocolate exposed to sunlight, students directly observe the warming effects of the sun. The inclusion of sorting activities based on sun exposure help students visualize warmer and cooler areas. Additionally, the explanatory content provides clear explanations of how sunlight warms the earth's surface, complementing the hands-on experiences. The practical application of planning and executing a solution to prevent chocolate from melting adds relevance to the learning process. The claim-evidence-reasoning activity further encourages critical thinking by prompting students to apply their observations to real-world scenarios, such as understanding the warming behavior of snakes in different environments. Overall, these materials offer a well-rounded approach to comprehending solar heating phenomena, blending experiential learning with theoretical understanding.

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 align to the PEs and related components for this focus area. The materials provide a comprehensive exploration of the basic needs of both animals and plants, offering students opportunities to identify and understand the essential requirements for growth and survival. Through experiments with seedlings and investigations into the effects of light and water on plant growth, students engage in hands-on learning to observe and analyze patterns. Utilizing graphic organizers and data collection methods, students demonstrate their understanding of plant and animal needs while developing critical thinking skills. Overall, the materials offer a structured approach to exploring fundamental concepts in structures and processes of organisms, facilitating student comprehension through practical experimentation and data analysis.

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 PEs and related components for this focus area. The materials offer a comprehensive exploration of weather phenomena and environmental interactions, providing students with opportunities to observe, analyze, and draw conclusions about weather patterns and ecosystem dynamics. Through activities focused on temperature changes, weather tracking, and seasonal variations, students can develop an understanding of how weather occurs in patterns and how organisms adapt to and change their environment. Additionally, the inclusion of design challenges and argument construction tasks fosters critical thinking and problem-solving skills, allowing students to explore the impact of human actions on the environment. Supported by detailed explanations and visual aids, these materials facilitate student engagement and comprehension of complex scientific concepts related to weather and ecosystem dynamics.

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 align to the PEs and related components for this focus area. The materials provide a comprehensive exploration of habitat design, weather patterns, and human impacts on the environment, offering students engaging activities to develop understanding and critical thinking skills. Through habitat design projects, students address the needs of animals while considering ecosystem interactions, fostering comprehension of environmental dynamics. Additionally, weather-related tasks prompt students to analyze hazardous conditions and devise solutions, enhancing hazardous weather preparedness and scientific reasoning. Moreover, activities focused on human impacts encourage reflection on environmental citizenship, prompting students to propose solutions for mitigating negative effects to the environment. By integrating hands-on projects, discussions, and graphic organizers, these materials facilitate student engagement and comprehension of complex ecological concepts.

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 align to the PEs and related components for this focus area. The materials provide a diverse array of hands-on activities and design challenges aimed at fostering students' understanding of environmental concepts and engineering principles. Through tasks such as designing habitats with minimal environmental impact, constructing solutions to protect outdoor toys from hazardous weather, and building models to demonstrate scientific phenomena, students engage in experiential learning that encourages critical thinking and problem-solving skills. Additionally, the incorporation of collaborative discussions and engineering design processes enhances student engagement and comprehension of complex scientific concepts. These materials offer a comprehensive approach to inquiry-based learning, facilitating student exploration and application of scientific principles in real-world contexts.

CCSS for ELA and Math Grade K NGSS

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

Statements of appraisal and supporting evidence:

The materials align to ELA and math standards identified in the kindergarten NGSS. The materials offer an integrated approach to STEM education, blending science and math concepts with reading comprehension activities. Students engage in a range of hands-on experiments, such as researching hummingbird migration patterns and designing fish tanks, while also practicing math skills through tasks like counting and comparing objects and analyzing weather graphs. Reading comprehension is further developed through activities such as reading non-fiction texts on habitats and answering questions about the content. By intertwining scientific inquiry with math and literacy tasks, these materials provide a holistic learning experience that promotes critical thinking and cross-disciplinary understanding.

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 materials offer a comprehensive and well-structured approach to science education, integrating three-dimensional NM STEM Ready! Standards and providing clear alignment with SEPs, CCCs, DCIs, and Common Core Math and ELA standards. Through grade-appropriate discourse opportunities and engaging anchoring phenomena, students are guided through meaningful inquiries that facilitate knowledge acquisition and application. The incorporation of whole-group and small-group discussions, as well as opportunities for sharing evidence and providing constructive feedback, fosters collaborative learning environments conducive to student growth. By centering lessons around anchoring phenomena and driving questions, the materials promote inquiry-based learning and critical thinking skills essential for scientific exploration.

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 offer a comprehensive and varied approach to assessment, encompassing multiple choice, open response, and claim-evidence-reasoning assessments that align with all three dimensions of science learning. Students engage in self-reflection and peer feedback activities facilitated by rubrics, ensuring a thorough understanding of scientific concepts and fostering critical thinking skills. With opportunities for both formative and summative assessments integrated into each lesson, these materials provide robust support for evaluating student progress and promoting continuous improvement in science education.

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

The materials demonstrate a comprehensive approach to supporting teachers, offering detailed lists of physical materials for each activity, safety precautions and resources as well as intervention suggestions. Through a variety of online resources such as videos, simulations, and interactive photos, student engagement and comprehension can be enhanced. Furthermore, the inclusion of scoring rubrics for crosscutting concepts (CCCs) and science and engineering practices (SEPs) in each scope, along with progress tracking sheets, enables effective monitoring of individual student progress and facilitates targeted instruction. While interventions are suggested in most lessons, ensuring inclusivity and support for diverse learners, the provision of rubrics and assessment guidance in the teacher edition ensures clarity and consistency in evaluating student performance.

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

The material places students at the center of learning by providing engaging investigative phenomena and opportunities to activate prior knowledge. With clear pathways outlined from overarching anchoring phenomena within bundle topics to progression through 5E lessons, students are guided through a journey of discovery. Comprehensive planning resources support teachers in creating student-centered experiences, while intervention and acceleration supports provide opportunities to meet all students' needs. Through hands-on activities, students explore scientific concepts and receive meaningful feedback using CCC and SEP scoring rubrics. Overall, the material empowers students to take ownership of their learning journey, fostering curiosity and understanding in science.

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

The materials demonstrate a commitment to equity by providing diverse avenues for all students to engage deeply with the content. Enrichment sections and at-home components provide learning opportunities that extend beyond the classroom, catering to varied interests and learning styles. Facilitating group work and offering support for all learners fosters an inclusive environment where every student feels valued and empowered to participate. Through collaborative projects and self-reflection opportunities, students from diverse backgrounds can contribute their perspectives and experiences, promoting equity and ensuring that all voices are heard in the learning process.

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
91%

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

The instructional materials demonstrate a strong coherence in aligning with NGSS standards while also fostering college and career readiness skills. Through a well-structured framework and clear alignment with performance expectations, science concepts are presented in a cohesive manner, ensuring a seamless progression of learning from one scope to the next. The integration of literacy, math, social studies, and art components further enriches the material, providing students with a well-rounded educational experience that prepares them for future academic endeavors and real-world applications. Opportunities for mastery abound, with diverse assessment options and hands-on activities that promote critical thinking, problem-solving, and collaboration skills essential for success in both college and career settings. Additionally, the inclusion of intervention and acceleration resources ensures that all students, regardless of proficiency level, have the support they need to thrive academically, fostering an inclusive learning environment that promotes equity and access for all.

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

The instructional materials are characterized by effective lesson structure and pacing, providing educators with clear guidance on how to navigate each lesson efficiently. With detailed suggested timelines and lesson plans available in the teacher digital and print resources, teachers can effectively manage the progression of lessons and appropriate pacing. The materials are thoughtfully organized to maintain a balance between different activities, such as exploration, discussion, and reflection, providing structures for student engagement and focus throughout. Moreover, the pacing allows for adequate time allocation to cover essential concepts while also providing opportunities for deeper exploration and understanding.

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 offer comprehensive support for educators in planning, delivering, and assessing instruction aligned with the New Mexico content standards. Evidence indicates that the materials are strategically designed to integrate standards seamlessly into each lesson, with clear cross-references between activities and targeted standards. Additionally, the materials provide detailed lesson plans, instructional strategies, and online resources that facilitate effective planning and implementation. Opportunities for differentiation, intervention, and language acquisition support are embedded throughout the materials, ensuring accessibility for diverse learners. The inclusion of digital learning opportunities further enhances the flexibility and adaptability of the materials, promoting engaging and interactive learning experiences for students.

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

The instructional materials provide a comprehensive array of assessment tools to support teachers in evaluating student progress and understanding aligned with the New Mexico content standards. Evidence suggests that these assessments cover various formats, including multiple-choice, short answer, performance tasks, and claim-evidence-reasoning (CER) assessments, catering to diverse learning needs. Additionally, scoring rubrics aligned with the Next Generation Science Standards (NGSS) ensure consistency and clarity in evaluating student proficiency levels. The availability of assessments in both English and Spanish, along with digital accessibility features, promotes inclusivity and supports emergent bilinguals and students with special needs. Overall, these materials facilitate effective assessment practices to gauge student learning outcomes accurately.

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

The instructional materials provide extensive student support and opportunities to explore the key concepts of the New Mexico content standards. Through evidence-based strategies, they cater to diverse learners, offering intervention and acceleration resources within each scope and comprehensive support for all learners. With customizable online resources and embedded critical thinking activities, these materials foster inclusive learning environments that empower students to succeed.

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

The instructional materials provide comprehensive support for teachers and students, aiming to align with New Mexico content standards while fostering an inclusive learning environment. While they incorporate diverse cultural and linguistic perspectives to some extent, the materials do not include a broader range of demographic groups, particularly those pertinent to southern New Mexico. Although they effectively leverage the 5E Framework to build upon students' backgrounds and prior experiences, there is minimal representation of cultural diversity within the materials, such as in student notebooks and STEMscopedia texts.

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

The instructional materials support teachers in planning, facilitating learning, and adhering to New Mexico content standards while showcasing diversity in culture and language. Engage activities provide multiple entry points for participation and discussion, valuing students' prior knowledge and promoting critical reflection. Accessibility features like text-to-speech and visuals enhance language development and accommodate diverse student backgrounds. Culturally diverse scientists and career connection videos are integrated throughout, offering students varied role models. However, while diverse scientists are highlighted, local cultures and indigenous perspectives have minimal representation within the instructional materials.

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

Reviewer #: 1

Background and experience:

Reviewer 1 is a Level III Master Teacher with 18 years of educational experience ranging from K-8th in a bilingual setting. Holding a Bachelor's in Community Health Education and a Master of Arts in Elementary Education with endorsements in Bilingual, TESOL, Reading, Science, and Health. Currently, Reviewer 1 serves as an Educational Specialist for Early Childhood in the district.

Professional summary of material:

The instructional materials comprehensively cover the NGSS content with a focus on three-dimensional learning, integrating literacy components through the 5E Inquiry-Based Framework. They include a balanced approach with math, social studies, and art elements, supporting students in mastering standards through explicit instruction, hands-on experiences, project-based learning, and various assessments. The materials provide ample visuals, organizers, and technology opportunities to engage students at appropriate grade levels, with resources for intervention and acceleration. The teacher edition and online resources offer detailed timelines, instructional strategies, and assessments aligned with NGSS, along with digital tools for customization and accessibility. The materials encourage critical thinking and problem-solving and include interdisciplinary connections, though the inclusion of diverse and local cultures is minimal. Overall, these instructional materials are well-structured to support teachers and students in achieving educational standards.

Reviewer #: 2

Background and experience:

Reviewer 2 is a Level III Master Teacher with 22 years of educational experience. Holding a Bachelor of Science in Elementary Education degree and a Master of Arts in Teaching with a focus on Curriculum and Instruction degree. Reviewer 2 also has an extensive background in teaching various elementary grades, including Kindergarten, 1st Grade, 2nd Grade, 4th Grade, and a multi-age K-2 classroom. Currently, Reviewer 2 serves as an elementary science content specialist for a school district.

Professional summary of material:

STEMscopes provides a robust educational framework designed to engage students in hands-on, inquiry-based learning aligned with the Next Generation Science Standards (NGSS). The material emphasizes critical thinking and problem-solving through a variety of activities, such as collaborative, hands-on exploration activities facilitated by the teacher and real-world problems requiring students to engage in the engineering design process collaboratively within a small group to design solutions to the problems. Students engage in diverse tasks, including planning and creating models, engaging in science investigations, using evidence to support claims, and engaging in all four language domains throughout each lesson. The material includes comprehensive resources, such as detailed rubrics for self-reflection and teacher feedback, a variety of assessment types, and thorough safety and materials support. It also offers technological features like digital assignments, accessibility tools, and bilingual options, ensuring equitable access to learning.
The instructional materials in STEMscopes support student mastery of standards by providing clear timelines, coherent lesson sequences, and multiple opportunities for practice and extension. Vocabulary and language development are reinforced through explicit instruction and integrated activities. While the program effectively integrates real-life experiences and interdisciplinary connections, it could enhance its cultural representation to better reflect diverse demographics. Overall, STEMscopes is a well-rounded program that supports diverse learning needs and promotes an inquiry-based approach to science education, encouraging students to explore, analyze, and apply scientific concepts through engaging and practical activities.

Reviewer #: 3

Background and experience:

Reviewer 3 is a Level III Master Teacher with 36 years of experience in education. Reviewer 3 holds a Bachelor of Science in Education and a Master of Arts Degree in Teaching with a focus in Curriculum and Instruction. Reviewer 3 has extensive teaching experience in grades K-3, with 30 years spent in a Title I school serving 75% Native American students.

Professional summary of material:

STEMscopes provide a comprehensive approach to teaching science, integrating the Next Generation Science Standards (NGSS) with Common Core Math and ELA standards. Each scope begins with an integration of three dimensions, facilitating a holistic understanding of the topic. The material includes a variety of resources, such as online materials and safety guidelines, ensuring accessibility and safety in the learning environment. Assessments are diverse, including multiple-choice, open-response, and claim-evidence-reasoning assessments, promoting thorough understanding and application of concepts.

Moreover, the materials offer opportunities for differentiation, with interventions and enrichments provided for students at varying proficiency levels. A consistent layout across online and print materials enhances engagement, while activities encourage hands-on exploration and problem-solving. Language objectives are tied to content objectives, supporting language development for all students. Furthermore, the material reflects cultural diversity, featuring scientists from various backgrounds and connecting lessons to real-life experiences and diverse perspectives. However, while efforts are made to represent diverse cultures and backgrounds, there may be room for further inclusion of indigenous perspectives.