2024 Instructional Material Summer Review Institute

Review Team Appraisal of Title

Grades 9-12 Earth and Space Science

This appraisal form is provided for use by educators responsible for the selection of instructional materials for implementation with districts and charter schools across New Mexico to meet the need of their student populations.

NMPED Adoption Information

Text Title	Inspire Science New Mexico Earth Comprehensive Student Bundle with Actively Learn Science, 6-year subscription	Publisher	McGraw Hill LLC
SE ISBN	9781266204319	TE ISBN	9780076884650
SW ISBN		Grade Level/Content	Grades 9-12 Earth and Space Science

Core Instructional Material Designation *(Core Instructional Material is the comprehensive print or digital educational material, including basal material, which constitutes the necessary instructional components of a full academic course of study in those subjects for which the department has adopted content standards and benchmarks.)*

Recommended (90% and above)	☑	**Recommended with Reservations** (80-89%)	☐	**Not Recommended and Not Adopted** (below 80%)	☐

Total Score - *The final score for the materials is averaged between the team of reviewers.*

Average Score
90%

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
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 materials support the criteria for cultural and linguistic perspectives. The materials engage students with phenomena that allow them to see themselves in the material, provide images of a variety of environments and places, and help students to make real world connections to science phenomena they experience in their own lives.

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 include tools and resources to relate content appropriately to diverse cultures and language, and can demonstrate multiple perspectives in specific content. The instructional material do not offer any specific critical reflection about lives and societies relevant to (past and present) New Mexico culture.

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
90%

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

The materials align with the 9-12 earth and space science standards. All standards within Earth's Systems, Engineering Design, and ELA are fully aligned in the materials. The materials partially align with the standards within Earth's Place in the Universe, Earth and Human Activity, and math.

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 materials align with the earth and space science performance expectations. Materials lack information about some required aspects of the composition of matter in the universe, including the formation of the elements between He and Fe, and the conservation of protons and neutrons. The materials address the lifespan and the role of the sun in providing Earth's energy, provide evidence for the Big Bang Theory and the expansion of the universe, and use mathematical methods to predict the motion of orbiting objects in the solar system. The materials also provide evidence of plate tectonics and evidence used to date crustal rocks to construct an account of Earth's early formation and history.

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 with the earth and space science performance expectations. The materials address modeling Earth's internal and surface processes, including cycling of matter by thermal conduction. The materials also address how changes to Earth's systems can result in positive or negative feedback, model how variations in the flow of energy into and out of Earth's systems result in changes in climate, have students investigate the properties of water and its effects on Earth, and model the carbon cycle. The materials also provide evidence about early life on Earth and its coevolution with Earth's system.

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 with the earth and space science performance expectations. The materials provide evidence of natural resources and hazards influencing human activity, evaluate design solutions for managing energy and mineral resources, and use simulations to illustrate relationships between management of natural resources and sustainability of populations. The materials have students evaluate a solution to reduce human impacts on natural systems, analyze evidence and models to predict changes to Earth's systems, and represent relationships between Earth systems and modifications by human activity. However, the criteria to evaluate moral and ethical implications of resource management and sustainability are lacking and the NM standard regarding NM's role in nuclear science and 21st century innovation is not addressed.

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 with the engineering design performance expectations. The materials provide opportunities for students to analyze criteria and constraints for solutions needed by society; design, evaluate, and simulate a solution to complex real-world problems; and break a larger problem into smaller manageable pieces.

CCSS for ELA and Math in Grades 9-12 NGSS **Materials align to the ELA and math standards identified in grades 9-12 Earth and Space Science NGSS.** *Statements of appraisal and supporting evidence:*
The materials align with the ELA standards and partially align with the math standards identified. The materials support citing textual evidence to support scientific analysis, identify central ideas, summarize complex concepts, evaluate multiple sources of information, evaluate scientific text, and write CERs. The materials provide opportunities to model with math, use units appropriately, and graph. However, graphing equations with 2 variables and relating the domain of a function to its graph are not supported.

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 are aligned with the criteria for phenomena/problem-based and a three-dimensional approach. The materials provide phenomena with DCIs, CCCs, and SEPs that correlate; support discourse with peers; and provide lessons that are driven by the presented phenomena, which engage students with real world problems.

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 are aligned with the criteria for three-dimensional assessment. Students are provided meaningful tasks and multiple options for formative assessment as they learn about each phenomenon. As students work, they have opportunities to interact with their peers and get feedback from their teacher(s) on formative assessments.

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

The materials are aligned with the criteria for teacher supports. The materials provide lab supply lists and lab safety guidance. The materials also provide videos and suggested uses of virtual simulations to support teachers with the use of technology. Teachers are provided with support to differentiate materials to different levels of learners and with answer keys, suggested answers, or rubrics to assist with student feedback, guidance, and remediation.

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

The materials are aligned with the criteria for student centered instruction. The materials present questions to engage students based on their experiences and/or prior knowledge. The materials are presented in such a way that students are introduced to a concept and build upon it in a logical and predictable way.

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

The materials are aligned with the criteria for equity. The materials provide options for extension or modification for all different levels of learners. Students are able to access materials in a paper text, online pdf version of the paper text, and other online resources such as 3d images, interactive diagrams, simulations, and virtual labs.

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
87%

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 encourage appropriate high school level engagement and flow coherently to provide meaningful connections that link the standards within lessons and units. However, some particular New Mexico standards are absent from the material and therefore mastery of each standard is not supported.

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

The teacher edition presents a scope and sequence that is designed to support purposeful teaching and learning expectations. Lessons throughout the material are clear, measurable and aligned with standards, language and content objectives. Content-specific and general academic vocabulary are well resourced. The visual design throughout the printed and digital materials is consistent, support student engagement, and aid students and teachers alike in making meaning of the text.

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 teacher resources to support planning, learning and understanding the standards, which are cross-referenced in the lessons and projects with appropriate instructional time. The materials also provide instructional strategies to help guide students' academic development through analyzing real-world problems, integrating technology and collaboration with peers and experts.

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

The materials provide a variety of assessments that measure student progress, including scoring guides/rubrics for multiple formative and summative assessments, defining standards being assessed. The materials further provide differentiated instruction for diverse learners, remediation, enrichment or acceleration, and modifications, as well as assessing students in their technological skills and self-reflection. However, some New Mexico standards are not addressed, such as the role of NM in nuclear science and 21st century innovations.

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 extensive support. Individual assignments and assessments are provided in an editable format, and teachers have the ability to decide which materials, activities, and assignments students have access to in the online content. The materials also offer options that teachers can use to differentiate learning for the variety of learners they have in class. The materials provide students opportunities to express themselves and engage with the content through interacting with peers and varied types of assignments and assessments. However, the materials do not offer any prepared items that are intended to be used for families or caregivers.

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 support the criteria for cultural and linguistic perspectives. The materials engage students with phenomena that allow them to see themselves in the material, provide images of a variety of environments and places, and help students to make real world connections to science phenomena they experience in their own lives.

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 include tools and resources to relate content appropriately to diverse cultures and language, and can demonstrate multiple perspectives in specific content. The instructional material do not offer any specific critical reflection about lives and societies relevant to (past and present) New Mexico culture.

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 #: 70

Background and experience:

The educator has bachelor's degree in biology and is currently pursuing a master's degree in biology as well. The educator has a Level II New Mexico teaching license with endorsement in 7-12 science. The educator has taught earth and space science, conceptual physics, biology, and AP biology to 9th and 10th grades students for 5 years.

Professional summary of material:

The material offers a variety of resources that can be utilized by teachers and students to build students' knowledge of the criteria included in the standards. Student materials are crafted to be appealing to high school students and are structured such that they receive content in a scaffolded manner, with each concept building upon the last within a unit. Teacher materials provide significant support for planning, preparing, and differentiating such that both new and veteran teachers can feel comfortable using and customizing the content provided. Many hands-on and virtual lab options are included, with guidance for teachers about how they might best be used. However, NM specific criteria, morals, ethics, and awareness that not all trends can be reversed are lacking.

Reviewer #: 71

Background and experience:

The educator has taught physical science, chemistry, physics, and earth science, including online platforms, for 20 years in the Philippines, Mississippi, and New Mexico. The educator has a bachelor's degree in science education in chemistry and master's degrees in science education in chemistry, science teaching in STEM, and educational .leadership. The educator has a Level 3A teaching license with endorsement in 6-12 Science in MS, AZ and NM, and a Level 3B administrative license in New Mexico. Additionally, the educator works closely with special education teachers to support students in science classes. Lastly, the educator is currently pursuing an EDd in curriculum and instruction (instructional design and technology).

Professional summary of material:

The material offers a variety of teaching strategies as well as resources that will allow the students to use their academic and technological skills to analyze and solve real-world problems through creating models and simulations. The materials further provide opportunities for diverse learners to demonstrate their learning in many ways through differentiated instruction, including higher-order thinking skills projects in which they are assessed using appropriate scoring guides and rubrics. However, not all standards are addressed, particularly the NM standards regarding its contributions in the 21st century innovations, and subjects on moral and ethics.

Reviewer #: 72

Background and experience:

The educator is licensed in K-12 health and special education. For the past 6 years, the teacher has primarily served as a science inclusion teacher at a high school. The 17 years prior to that, the teacher served as a regular ed science teacher for grade levels 7-12 and taught about every different junior high and high school science discipline that is offered.

Professional summary of material:

The Inspire Earth Science instructional materials offer a wide variety of standards-aligned teaching and learning resources online and within the textbook. The teacher edition textbook and online resources offer a substantial amount of engaging operations to initiate students, in the classroom and online. Standards are aligned with a scope and sequence that flows seamlessly throughout the material while offering multiple avenues in which to provide instruction. Particular attention needs to be paid to some of the NM STEM ready standards, however, in order to make sure they are implemented in the instruction provided.