2024 Instructional Material Summer Review Institute

Review Team Appraisal of Title

Grades 9-12 Biology

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 Biology Comprehensive Student Bundle with Actively Learn Science, 6-year subscription	Publisher	McGraw Hill LLC
SE ISBN	9781266198472	TE ISBN	9780076884346
SW ISBN		Grade Level/Content	Grades 9-12 Biology

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
82%

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
77%

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 represent a variety of linguistic perspectives and inform culturally and linguistically responsive pedagogy through self-reflection in student discussions and projects. However, they do not affirm students' backgrounds through reflection in the materials themselves (in the graphics used: pictures, location, environment, culture, etc., or in the examples/discussions for the course). The instructional materials address misconceptions in science but do not address stereotypes in science. The materials also lack connections to diverse cultural and linguistic backgrounds.

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 the content area appropriately to diversity in language by providing supports and online resources for the materials. They also engage students in self-reflection about their own lives and societies. However, the materials do not include tools and resources to relate the content appropriately to diversity in culture or address multiple ethnic descriptions or interpretations of science ideas or events. The instructional materials also do not include student reflection in connection to cultures past and present in New Mexico.

Science Standards Review - *Materials are reviewed for alignment with the state adopted content standards, benchmarks and performance standards. The science standards include the performance expectations (PEs), disciplinary core ideas (DCIs), science and engineering practices (SEPs), crosscutting concepts (CCCs), and connections (CONNs) of the Next Generation Science Standards (NGSS). They also include the six NM StemReady! science standards.*

Average Score
80%

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

The instructional materials align with NGSS Standards overall as they are based on the framework of integrating three dimensions (scientific and engineering practices, cross cutting concepts, and disciplinary core ideas), which is evident in the utilization of Investigations, Stem Unit Projects, Technology Integration, Student Discourse, and Applications to Real World Problems. The instructional materials address the majority of the New Mexico STEM Ready Standards to the full extent, from Molecules to Organisms, Matter and Energy in Organisms and Ecosystems, and Inheritance and Variation of Traits. However, the instructional materials do not cover some of the New Mexico STEM Ready Standards to the full extent, including a majority of the Earth standards--Natural Selection and Evolution, Earth's Systems, Earth and Human Activity--and Engineering Design.

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 instructional materials align with the components of from Molecules to Organisms: Structure and Function (utilizing science and engineering practices, disciplinary core ideas, and cross cutting concepts) through STEM Unit Projects, Student Investigations, Interactive Lessons, Teacher Facilitated Presentations, and Student-led Pathways.

MATTER AND ENERGY IN ORGANISMS AND ECOSYSTEMS
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 instructional materials align with Matter and Energy in Organisms and Ecosystems performance expectations, (DCIs, SEPs, CONNs and NM standards). Units and Modules are designed to encounter phenomena, ask questions, claim evidence through reasoning, and activate prior knowledge by students focusing on a STEM Unit Project that incorporates flow and energy in a food web, the cycling of water, biotic and abiotic factors influencing ecosystems, biodiversity, and the impact of invasive species on ecosystems.

INTERDEPENDENCE IN ECOSYSTEMS
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 instructional materials align with Interdependence in Ecosystems performance expectations, DCI, SEP, CCC, CONN,and NM Standards in this focus area through student investigation into ecosystem dynamics, functioning, and resilience developing, understanding of what makes up a biological community with examples of primary and secondary succession. Mastery of performance expectations can be demonstrated through a student project pertaining to local ecosystem dynamics.

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 instructional materials align with the Inheritance and Variation of Traits PEs and related components (DCIs, SEPs, CONNs, and NM Standards). Through the materials, students are given the opportunity to encounter phenomena in genetics through projects that incorporate DNA Structure and function, and applications of genetic engineering. The material supports student learning of Patterns of Inheritance, Molecular Genetics, and Biotechnology.

NATURAL SELECTION AND EVOLUTION
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 instructional materials partially align with the Natural Selection and Evolution performance expectations, DCIs, SEPs, CCCs, CONNs, and NM standards by providing opportunities to support phenomenon-driven, student-led learning focused on why new fossil findings are important and interesting in the science field. However, the instructional materials do not address the emergence of new distinct populations as it pertains to adaptations.

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 instructional materials partially align with the Earth's Systems performance expectations, DCIs, SEPs, CCCs, CONNs, and NM standards. Earth and Space Science is incorporated into Unit 1 Ecology, with 2 lessons (Lesson 1: Earth's Surface Processes, Lesson 2: Human and Earth Interactions) and again in Unit 4 History of Biological Diversity (Lesson 1: Crustal Movement and the Theory of Plate Tectonics, Lesson 2: Earth's Formation and Early History). The lessons do not contain a number of science standards to include: HS-ESS1-1: "Develop a model based on evidence to Illustrate the life span of the sun and the role of nuclear fusion in the sun's core to release energy in the form of radiation", HE-ESS1-2: "Construct an explanation of the Big Bang Theory based on astronomical evidence of light spectra, motion of distant galaxies, and composition of matter in the Universe", and HS-ESS1-3: "Communicate scientific ideas about the ways stars, over their life cycle, produce elements".

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 instructional material partially align with the Earth and Human Activity performance expectations, DCIs, SEPs, CCCs, CONNs, and NM standards. Earth and Space Science is only found using the online textbooks and supplemental materials; they are only mentioned in the print materials. The supplemental materials are added to Unit 1 (Lesson 1: Earth's Surface Processes, Lesson 2: Human and Earth Interactions) and in Unit 3, (Lesson 1: Crustal Movements and the theory of Plate Tectonics, Lesson 2: Earth's Formation and Early History). The NGSS HS-ESS1-1: "Develop a model based on evidence to Illustrate the life span of the sun and the role of nuclear fusion in the sun's core to release energy in the form of radiation", HE-ESS1-2: "Construct an explanation of the Big Bang Theory based on astronomical evidence of light spectra, motion of distant galaxies, and composition of matter in the Universe", and HS-ESS1-3: "Communicate scientific ideas about the ways stars, over their life cycle, produce elements" are not covered in the online material.

ENGINEERING DESIGN
Materials align to the engineering design performance expectations (PEs) and related components (DCIs, SEPs, CCCs, CONNs, and NM Standards) for this focus area.
Statements of appraisal and supporting evidence:

The instructional materials partially align with the criteria for engineering design performance expectations, DCIs ,SEPs, CCCs, CONNs, and NM standards. The instructional materials give students opportunities to analyze major global challenges and create solutions to complex real world problems throughout the unit modules; design and collaborate on solutions; and develop computer simulations to model proposed impacts to problems and solutions. The instructional materials do not prompt students to create a computational model for computational thinking. The instructional materials also do not address how some system changes are irreversible; modern civilization or its major technological systems; or how human endeavors impact and shape science.

CCSS for ELA and Math in Grades 9-12 NGSS
Materials align to the ELA and math standards identified in grades 9-12 Biology NGSS.
Statements of appraisal and supporting evidence:

The instructional materials align with the CCSS for ELA and math in grades 9-12 NGSS. The provided assessments and activities cover ELA standards: summarize; describe; outline; compare and contrast discuss; differentiate, organize, and classify; evaluation of text; the creation of evidence to support ideas or discredit ideas; synthesize information from a range of sources (texts, experiments, simulations, and projects); conduct research; and present claims and results while using technology strategically. The material also shows evidence that the math standards are being met through the following: model with mathematics for projects and simulations (creation of graphs, models, etc.); use units to find a solution for multi-step problems; write and graph functions to show key features of data and graphs; represent data; understand and use statistics; and evaluate reports based on data (evaluations of data based on research conducted by scientists around the world).

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
95%

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 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. For example, each module has DCIs, CCCs, SEPs, and scientific practices to build understanding of the phenomenon. The instructional materials clearly state the NM STEM Ready standards, and propose in what module students should gain mastery of them. The standards are clear and present throughout the materials with clear performance expectations for each module. The standards are aligned with grade appropriate materials to include SEPs, DCIs, and CCCs and are appropriately written at a high school level. The common core math and ELA standards are also listed in connection to the standards. The CCSS are clear and present throughout the materials, and the materials have embedded reading and writing strategies and support throughout the modules. The instructional materials use phenomena that are meaningful to students that drive their learning: they are interesting, engaging, and focus on real-world connections that students can relate to in their own lives in a scientific way.

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 engage students in meaningful tasks as well as various assessment types and opportunities, across all dimensions, in order to make sense of phenomena and/or design solutions to problems. For example, teachers are given tools, such as rubrics and detailed written keys, and guidance and support through supplemental materials, such as numerous resources, that support teachers to collect, interpret, and act on data about student progress towards the learning goals of the 3-dimensional standards. The materials also include opportunities for students to obtain feedback from teachers and peers as well as opportunities for student self-reflection. Materials have student-friendly rubrics for activities that provide students with scores and prompts students to read the rubric and self reflect on their scores. Furthermore, teachers have an opportunity to use interactive performance reports as data to assess if students are performing as expected and are meeting their learning goals. There are embedded remediation sections that offer ideas for struggling students on formative assessment checks.

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 them. The materials offer teachers a wide range of planning tools, including but not limited to module planners w/ pacing guides, program guides, 3-D assessment guides, a remote teacher planner, inspire science teacher community resource, and a McGraw Hill communities resource. The material offers teachers an opportunity to utilize interactive performance data reports to assess if students are not performing as expected and to go back to improve their lesson plans. Also, there are teacher toolbox sections that assist teachers with additional content background that support planning and utilization of materials and allows teachers to customize assessments using the customization tool located in online resources.

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

The materials show evidence that they are designed for each student's regular and active participation in the science content. The evidence that supports this conclusion includes KWL charts and prior knowledge sections throughout the modules. Critical thinking sections, asking guiding questions, focus questions, and encountering the phenomenon questions are listed within the modules. Clarifying preconceptions (misconceptions) sections are used, along with hands-on activities inside of the units. Student relevancy, illustrations, and diagrams prompt student engagement in classroom discussions. Student journaling sections, reasoning sections, and progress checking sections give students direct feedback. Unit activities are used to increase student depth of knowledge.

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

The material partially aligns with Focus Area 5: Equity. The materials provide extensions and/or opportunities for all students to engage in learning grade-level/band science and engineering in greater depth. The materials include tools that help all students, allowing students of all learning levels and any students with special needs to have equity in learning. In addition, the materials are designed to engage all types of learners, such as visual learners, linguistic learners, and auditory learners. The online teacher videos help teachers meet the needs of all students on the social and emotional level, learning the English language, and closing the equity gap in science education. Furthermore, there are differentiated instruction sections throughout the module that address students with special needs, such as deaf or hard of hearing students. Gifted students' needs are met through extension and "go further" sections that extend learning for our advanced students. However, the instructional materials did not address students having multiple opportunities for 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
88%

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 address the majority of the New Mexico STEM Ready Standards to the full extent, including Molecules to Organisms, Matter and Energy in Organisms and Ecosystems, and Inheritance and Variation of Traits. However, the instructional materials do not cover some of the New Mexico STEM Ready Standards to the full extent, including a majority of the Earth standards--Natural Selection and Evolution, Earth's Systems, Earth and Human Activity--and Engineering Design. The instructional materials embed supports for students to master each standard by providing various modes of learning and extension activities. The instructional materials require students to engage with their peers, instructors, community members, and other professionals as they move from lesson information (discussions, debates, and presentations) and activities (online simulations, labs) to major projects found in modules.

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 provide a clear scope and sequence for teachers to use while using the teacher's edition textbook and online resources. Teachers are provided with the performance expectations to be covered in the module, which includes a clear module planner and storyline with labs and investigations. The online resources also include a pacing guide for in-class schools and adjusting the pacing for remote learning if needed. The Module Planner includes the module launch, lessons, and module wrap-ups. The online resources for the instructional materials and the print version for the teacher's edition provide a list of lessons and cross-reference the standards for content, mathematics, and language arts. The time for modules, lessons, and units is given as an estimate (300 minutes for the STEM Project) and can be modified when needed by teachers. There is also a Three-Dimensional Assessment Guide for teachers that includes all performance expectations and evidence of achievement per topic.

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 clear, standards-aligned content objectives within each of the lessons. There are also clear, measurable language objectives tied directly to the content objectives. The literacy handbook found in the online resources ties the language objectives to the instructional materials and content objectives.The instructional materials (teacher's edition and online textbook/online resources) provide instructional strategies to help guide student learning and development, including video resources, writing support sections, graphic organizers, foldables, activities for multiple lessons, and guidance on how to clarify misconceptions. The teacher's edition of the textbook also contains useful annotations and suggestions on how to present the specific content to students. The teacher's edition follows along (page by page) with the student edition and includes information on the left and right sides of the pages for support: activities, reading strategies, demonstrations (which include explanations as well as the estimated time needed), elaborate sections that help guide students to answer the focus question of the lesson/module, writing support, real-world connections, and differentiated instruction tips for advancement, language support, reinforcement, and students with disabilities.

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 resources provide a variety of formative and summative assessments that measure student progress in all strands of the standards to include: quick practices, flashcards, peer discussions, lit circles, debates, and arguments, graphic organizers, Check Your Progress summary questions, online labs and simulations, individual projects (plan, design, present), group projects and presentations, claim evidence and reasoning for phenomenon, construction of graphs, experiment data chart creation, and investigations. The instructional materials provide scoring guides for assessments, and offer teacher guidance in interpreting student performance. The instructional materials provide appropriate assessment alternatives for English learners, culturally and linguistically diverse students, advanced students, and students with special needs.

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 strategies and resources for teachers to inform and engage parents, family members, and caregivers but does not discuss how parents can support student progress and student achievement in the program or class. They provide differentiated strategies and activities that meet the needs of diverse students. The online resources provide the teacher with information on supporting secondary English learners, migrant students, students living in poverty, foster youth, advanced-gifted learners, and students with disabilities. The materials are customizable to meet the needs of diverse student groups as well. They provide appropriate teaching strategies for linguistic support for English learners and linguistically diverse students. The materials also include opportunities for all students that encourage and support critical thinking, inquiry, and problem-solving skills in class discussions, review questions, online labs and simulations, STEM projects, and inquiry-based labs.

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 represent a variety of linguistic perspectives and inform culturally and linguistically responsive pedagogy through self-reflection in student discussions and projects. However, they do not affirm students' backgrounds through reflection in the materials themselves (in the graphics used: pictures, location, environment, culture, etc., or in the examples/discussions for the course). The instructional materials address misconceptions in science but do not address stereotypes in science. The materials also lack connections to diverse cultural and linguistic backgrounds.

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 the content area appropriately to diversity in language by providing supports and online resources for the materials. They also engage students in self-reflection about their own lives and societies. However, the materials do not include tools and resources to relate the content appropriately to diversity in culture or address multiple ethnic descriptions or interpretations of science ideas or events. The instructional materials also do not include student reflection in connection to cultures past and present in New Mexico.

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

Reviewer #: 82

Background and experience:

I am a Level III teacher, and I hold licenses in PreK-8 Elementary Education, PreK-12 Special Education, and Secondary 9-12 with endorsements in science, agriculture, and TESOL (Teaching English to Speakers of Other Languages). I have a master's degree in elementary education and a master's degree in multicultural special education, with minors in biology and ecology. I hold a Bachelor of Science (BS) in environmental science and biology, as well as a Bachelor of Arts (BA) in elementary education with a focus on at-risk youth. I have been a teacher for 27 years in both public and private education, and I work to ensure equity and respect for all students.

Professional summary of material:

I recommend the instructional materials with reservations. The instructional material, McGraw Hill Inspire Science Biology, provides science materials that are laid out in such a way that teachers can locate needed materials, lesson pacing, and performance expectations. They are aligned to NGSS and NM STEM Ready Science Standards. They include EL support and differentiated instruction suggestions. A STEM Unit Project is introduced at the beginning of each unit, accumulating research throughout the unit, and finishes with a student presentation that follows STEM Ready Science Standards. The materials partially align earth and space science standard knowledge acquisition due to the lack of material found in print or within students' online materials.

Reviewer #: 83

Background and experience:

I am a Level III teacher and have been teaching science courses (physical science, biology, chemistry, physics, biomedical science, and medical terminology) for eleven years in person and online. I have a bachelor's degree in secondary science teaching and a master's degree in technology integration in teaching. I am licensed and endorsed in 6-12 science education and hold an 800 License for teaching CTE courses/electives.

Professional summary of material:

I recommend the instructional materials with reservations. The instructional materials (McGraw Hill: Inspire Biology) provide educational material that partially cover NM STEM Ready Science Standards. The standards for Natural Selection and Evolution, Earth Systems, Earth and Human Activity, and Engineering Design partially align due to the lack of material found in both the print and online versions. The instructional materials provide extensive teacher support, pacing guides, resources, and strategies useful for teaching a range of students in class and through online courses. The instructional materials also engage students with their peers, instructor, and community as they move from lesson to lesson completing various learning materials and assessments: CERs, Discussions, Debates, Online Simulations, Vocabulary Flashcards, Scientific Labs, STEM Projects, Real World Connections Activities, Graphic Organizers, etc. The instructional materials are not recognized as culturally or linguistically relevant as they do not address stereotypes in science or present multiple ethnic descriptions or interpretations of science related content. The instructional materials also do not include connections to diverse cultural and linguistic backgrounds or reflections on New Mexico cultures (past and present).

Reviewer #: 84

Background and experience:

I am a level III teacher, licensed for secondary education (6-12) science in regular education with 18 years of experience and endorsements in science and health. I have a bachelor's degree in biology with a minor in English (technical writing) and a master's degree in secondary education. I have taught a multitude of courses in biology, chemistry, health, animal science, anatomy and physiology, physical science, earth and space science, and AVID. Ten years of my teaching was spent teaching in an inclusive classroom, which encompassed students with a wide range of skills.

Professional summary of material:

The vast majority of the NGSS are met within the materials, with the exception of the Earth and Space standards. The use of a 3-D learning model and the use of SEPs and CCCs is clear and evident within each of the units, modules, and lessons. The CCSS ELA/literacy and mathematics standards are also clearly supported throughout the materials. The materials are centered on high-quality scientific phenomena that is interesting, engaging, and promotes active participation from students. The assessments within the material are great for evaluating the depth of student learning that has taken place and takes on a 3-dimensional approach to assessment. Teacher support is readily seen throughout the material. In addition, equity for student learning is clearly demonstrated. I find that the materials are well-designed, organized, and easy to follow for both students and teachers. The units, modules, and lessons are designed with coherence and consistency. Student support is evident throughout the materials. The materials are culturally and linguistically responsive, except for the inclusion of New Mexico's cultural aspects. Societal involvement is included with the science and society sections, but there is little evidence for opportunities to engage families and local community stakeholders in the materials.