

**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	New Mexico Miller & Levine Experience Biology: The Living Earth 3-Course Model -- Hardcover Student Edition with 6-Year Digital License	Publisher	Savvas Learning Company, LLC.
SE ISBN	9798213046632	TE ISBN	9798213046625
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

86%

**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 provide, through digital resources, many analyzing activities using graphs, equations, and data, which supports the use of math throughout the lessons. The teacher and student materials provide In the Checkpoint, Lesson Review, Performance-Based Assessment and Three-Dimensional Assessment items that require writing explanations or arguments, which supports language arts through the lessons. The materials lack specific examples affirming students' 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 materials provide various places where questions are asked of students to write about solutions to problems but there are multiple solutions that they could come up with. The materials provide an Extend the Case Take it Local section in every chapter of the teacher materials that have critical reflections about their own lives and societies past and present in New Mexico. The anchor phenomenon and case studies address ethnic descriptions, interpretations, or perspectives of events and experiences. All activities and texts take students back to the phenomenon. The material does not have diversity in culture and language supports.

**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

85%

#### OVERALL ALIGNMENT

**Materials align with the science standards overall.**

*Statements of appraisal and supporting evidence:*

The instructional materials are aligned with the science standards including the state adopted standards, benchmarks, and performance standards. Some of the content presented in the material does not align to the performance expectations to the depth and complexity of the standard when students are asked to make a claim or use mathematical models. In some content areas of the materials, student understanding relies heavily on the teacher's ability to create student connection with the standard.

#### 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 overall with the life science performance standards and the related components for this topic. The content readings include interactivity, engaging illustrations and diagrams of scientific processes with online video interactions and connections, and labs (guided and independent) enrichment activities. In various areas throughout the text, there are assumptions made about students' prior knowledge of the concept, and reliance is placed on the teacher to bridge the connections and fill in gaps in prior knowledge. The content occasionally does not address the specific student skills that are referred to in the disciplinary core idea, like creating a model.

#### 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 materials align overall with the life science performance standards and the related components for this topic. The content reading includes anchoring phenomena to engage the students in the core idea, includes lesson reviews for each section of the chapter, and has quick labs and analyzing data sections that allow students to interact with the concept and demonstrate their understanding. The resource content occasionally does not address the specific student skills that are referred to in the disciplinary core idea, like creating a model or using mathematical representations of the concept being addressed. It occasionally does not provide students with specific content that aligns to the depth and level of complexity of the standard.

#### 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 materials align with the interdependence in ecosystems science performance standards and related components. The materials provide opportunities for researching, providing evidence, designing solutions, analyzing the cause and effect to problems, and engaging in arguments about real-world problems and scenarios. The materials use empirical evidence to make claims and provide many opportunities for students to explore human impacts on the biodiversity of earth systems.

#### 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 all inheritance and variation of traits content standards about growth and development of organisms, structure and function of DNA/Genes/Proteins, and variation of traits. The materials provide text and digital resources for learning the material through labs, diagrams, interactivity, vocabulary building, and models found in every lesson. The materials allow for engagement in the content in a variety of ways to demonstrate an understanding of the concept through direct content reading, labs, making models, creating solutions for real-world problems, and case studies. These resources provide ways to engage in learning the core content, science and engineering practices, crosscutting concepts, and connections to the NGSS and New Mexico Stem Ready! standards.

**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 materials align with all natural selection and evolution content standards. The materials task students to communicate that a common ancestry and evolution are supported by various lines of evidence and explain the process of evolution/natural selection using evidence. The materials provide text and digital resources through which students can learn the material, such as through labs, diagrams, interactivity, vocabulary building, and models found in every lesson. These resources provide ways to engage in learning the core content, science and engineering practices, crosscutting concepts, and connections to the NGSS and New Mexico Stem Ready! standards.

**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:*

Materials align with earth and space science standards by using a model to describe how variations of the flow of energy into and out of the earth's systems result in changes in climate. The flow of energy is shown through hands-on labs, models, digital resources as simulations, virtual labs, and interactive videos. Many of the activities are guided and addressed only through the instructional material suggestions and the student materials guide students in creating written arguments but does not address the skill of oral arguments.

**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 partially align with earth and space science by using real world-problems. There are a variety of activities given throughout the textbook and digital resource to build on student knowledge to solve these real-world problems. There are parts of one or more of the DCIs, SEPs, CCCs, CONNs, and New Mexico standards that are not completely addressed in the text or activity.

**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 partially align with the engineering design performance expectation by developing, evaluating models, revising models, and communicating about models throughout each chapter. Standards require students to develop a model, and activities ask students to make observations of models or draw conclusions about models. The instructional materials do not require students to develop a model.

**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 materials align with CCSS for ELA by writing claim evidence and reasoning for case studies that are given in each chapter. The materials align with math standards for analyzing data, modeling mathematical representation, using calculations and plotting data, and creating graphs from the data. The instructional material does not require the use of statistics as a process for making references.

**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
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87%
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**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 provide high-quality phenomena through an anchoring phenomenon for the chapter and a daily phenomenon for each lesson. The phenomena require a three-dimensional approach to make sense of them by using evidence from different activities related to the phenomena.

**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 material has three-dimensional assessments at the end of each chapter. These assessments evaluate students' ability to apply their understanding to the DCIs, CCCs, and SEPs.

**FOCUS AREA 3: TEACHER SUPPORTS**

**Materials include opportunities for teachers to effectively plan and utilize materials.**

The instructional material in the teacher edition has a pacing guide to help guide teachers in how long a chapter/lesson will take to teach. At the beginning of each chapter, there is a scope and sequence of skills and concepts given along with the standards that are being addressed. At the beginning of every lesson, there is a lesson plan overview and pacing for that lesson to help the teacher plan and utilize the materials.

**FOCUS AREA 4: STUDENT CENTERED INSTRUCTION**

**Materials are designed for each student's regular and active participation in science content.**

The instructional material is designed for students' participation. There are engaging activities, including reading the text, building models, labs, digital simulations, interactive videos, and a digital notebook. Each chapter has student checkpoints, evaluation rubrics, and assessment on the spot suggestions for the teacher to interact with students.

**FOCUS AREA 5: EQUITY**

**Materials are designed for all learners.**

The instructional materials provide ideas for differentiated instruction, ELD, CLD, and struggling and advanced students for each chapter.

**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

92%

**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 provide many opportunities in each chapter for students to engage fully in the content standards through case studies, labs, and three-dimensional assessments. The materials have the standards referred to throughout every chapter and lesson in order to remind students of the topics they are to use when completing the lesson activities. College and career readiness standards are addressed in every chapter as students are asked to research, evaluate, and communicate about the chapter case study. Students also engage in exploring careers and societal concerns that are relevant to the case study.

**FOCUS AREA 2 WELL-DESIGNED LESSONS:**

**Instructional materials take into account effective lesson structure and pacing.**

*Statements of appraisal and supporting evidence:*

The materials provide a pacing guide at the start of every lesson which states how long the lesson should take to complete. The materials provide objectives with clear, measurable standards-aligned content objectives. The organizational design of every chapter and lesson of the instructional material (print and digital) has a consistent layout to support student engagement with the subject.

**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 printed and digital materials provide useful annotations and suggestions about how to present the content, through sections in the margins such as Use Visuals, Build Science Skills, Case Study Connections, ELD Support, and Differentiated Instruction. The materials provide a list of objectives and a way to connect them to the standards. The teacher edition provides a pacing guide and science standards correlation organized by science concepts and includes where to find the following: Performance Expectations (PEs), Disciplinary Core Ideas (DCIs), Science and Engineering Practices (SEPs), Crosscutting Concepts (CCCs), throughout both the teacher and student edition resources.

**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 ways for educators to assess students' progress toward mastery of all content standards that are found throughout each chapter. In every chapter, learning progress can be obtained through quizzes that can be edited in the digital resources, checkpoint questions, lesson review, and three-dimensional assessments.

**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 differentiated instruction sections that support struggling and advanced students and ELD supports for ELs at different levels of language development to ensure all students can actively participate in learning the content. Digital resources can be customized to meet the needs of different student populations. In every lesson review section there is a critical thinking section of questions to answer and/or activities.

**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 provide, through digital resources, many analyzing activities using graphs, equations, and data, which supports the use of math throughout the lessons. The teacher and student materials provide In the Checkpoint, Lesson Review, Performance-Based Assessment and Three-Dimensional Assessment items that require writing explanations or arguments, which supports language arts through the lessons. The materials lack specific examples affirming students' 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 materials provide various places where questions are asked of students to write about solutions to problems but there are multiple solutions that they could come up with. The materials provide an Extend the Case Take it Local section in every chapter of the teacher materials that have critical reflections about their own lives and societies past and present in New Mexico. The anchor phenomenon and case studies address ethnic descriptions, interpretations, or perspectives of events and experiences. All activities and texts take students back to the phenomenon. The material does not have diversity in culture and language supports.

**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 #: R91

*Background and experience:*

I have two bachelor of science degrees, one in marine biology and the other in marine fisheries; and a master's of education in integrated science curriculum. I am certified in both Texas (6-12 life science and 9-12 composite science) and New Mexico (Level III 6-12 science) with 28 years of experience in education. I currently teach 6th-8th science, 7th STEM, biology, and provide support for science, ELA, and math credit recovery/dual credit courses. I have been part of the SAISD district (TX) curriculum and instruction team as a science specialist for 12 years. Throughout my career, I have had the opportunity to take part in several curriculum review teams, assessment design and textbook committees.

*Professional summary of material:*

The instructional materials provide a comprehensive and relevant, real-world view of biology in our everyday lives. Both the teacher and student editions are well laid out and have many components that provide for teacher guidance and student engagement. I particularly like the introduction of each chapter with an anchoring phenomenon for the students to critically think about, along with revisiting the phenomenon at the end through application and discussion. Other sections I thought are engaging and relevant to students include case studies that include careers and societal views on the case and multi-dimensional assessments, which target several performance expectations. Both the student and teacher digital resources include multiple opportunities for students to engage with the standards including quick labs, online animations, study guides with extra practice materials, reading tools with immersive reader options and enriched content like virtual labs and Bio-Interactive videos. As a biology instructor, I would definitely consider this resource because it provides several layers of instructional tools for planning (pacing guide and New Mexico science standards correlations), suggestions for addressing all learning modalities (enrichment, differentiated instruction, and ELD supports), and suggestions and supports for teachers to teach for understanding and deepening of content. The only item of concern that might cause confusion in the instructional materials is that the digital resource chapters do not line up with the textbook resource chapters.

Reviewer #: 92

*Background and experience:*

I have a bachelor's degree in science and a master's degree in secondary education. I am a level II educator with an endorsement in 6-12th science with 10 years of teaching science. I currently teach honors biology and Introduction to Chemistry to 9th graders. I have been part of the district science leadership team. For 3 years I have been part of the biology curriculum redesign team.

*Professional summary of material:*

The instructional materials offer real-world phenomena. There are a variety of activities that align with the NGSS. Students are analyzing data, making models, conducting labs, completing online simulations, engaging with interactive videos, and engaging in collaboration. I like how the end of the chapter brings students back to the anchor phenomenon and how they can solve the problem. The teacher edition gives numerous ideas on how to teach the material and how to differentiate for struggling and advanced students. I especially like the three-dimensional assessments at the end of the chapter. It allows students to be able to demonstrate their understanding of the standards. What the book lacks is how it is not specific to New Mexico, but there are opportunities to do local activities to take the content deeper. I also do not like how the digital resource does not line up with the teacher and student textbook chapters.

Reviewer #: 93

*Background and experience:*

I am a Level 3 teacher with 29 years of teaching experience. I am currently teaching biology and have taught physics, general science, and chemistry. I have written science curriculum for 8th grade life science and 9th grade general science.

*Professional summary of material:*

The materials have a specific design to allow teachers and students to follow a consistent routine to ensure students are able to understand where they are in their learning. There are sections in each lesson for teachers to have an overview of all of the supports needed for all students at many levels of learning. The materials give many ideas about how to teach and conduct lessons. The materials provide clear objectives aligned to the standards and many assessments along the way in order to determine student progress throughout the lessons. The one part that is lacking a little is the culture and language, which must be interpreted from some of the other resources in the materials. I do not like that the digital resources do not line up with the student textbook chapters.