**2024 Instructional Material Summer Review Institute**

## Review Team Appraisal of Title

## Grades 6-8 Life Science

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

NMPED Adoption Information

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| Text Title | 1-Year Digital License only—Discipline: Life Science (one per student)<br>Student Digital License (Volume 5-8) | Publisher | Twig Education Inc. |
| SE ISBN | 9798889502616 | TE ISBN | 9781800847040 |
| SW ISBN | 9781800849396 | Grade Level/Content | Grades 6-8 Life Science |

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

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| **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 |
|---|---|
| | 91% |

**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 |
|---|---|
| | 89% |

**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 cultural and linguistic experiences as evidenced by multiple perspectives shown in video content, images, personal interviews and published works. The materials provide opportunities for students to reflect on their personal experiences. The materials provide images and digital interactive opportunities that allow students to make connections to real life.

**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 give suggestions throughout for accommodations for English learners. All materials are also available in Spanish. Videos and articles present multiple perspectives on concepts discussed. The materials provide opportunities for students' reflections and revision of work for improvement that include, but are not limited to, personal and cultural experiences. Perspectives from around the world are presented throughout the 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 |
|---|
| 89% |

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

The materials align with the NGSS for life science overall as seen in the numerous charts, graphs, digital interactives, hands on labs, and engineering design projects with multiple opportunities for reflection and revision of work for content standard mastery. The content design allows for analysis, scaffolding, production, and completion of various assessments.

**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 with the NGSS topic From Molecules to Organisms: Structures and processes by addressing each standard with various approaches to presenting the content. Specific lessons are included for addressing individual components related to performance expectations. For example, in the “Under the Microscope Module”, the 3D interactive guide on cell organelles structures and processes is comprehensive.

**ECOSYSTEMS: INTERACTIONS, ENERGY, AND DYNAMICS**
**Materials align to the life science performance expectations (PEs) and related components (DCIs, SEPs, CCCs, CONNs, and NM Standards) for this focus area.**
*Statements of appraisal and supporting evidence:*

The materials align with the NGSS standard on ecosystems: interactions, energy, and dynamics by detailing various approaches to photosynthesis and cellular processes including the movement of matter and energy through the systems. For example, in the “Future Food Module,” it highlights photosynthesis from elements to energy transfer in animals.

**HEREDITY: INHERITANCE AND VARIATION OF TRAITS**
**Materials align to the life science performance expectations (PEs) and related components (DCIs, SEPs, CCCs, CONNs, and NM Standards) for this focus area.**
*Statements of appraisal and supporting evidence:*

The materials align with the NGSS covering heredity: inheritance and variation of traits by presenting multiple interactions with materials related to genes, traits, alleles, phenotypes and genotypes. For example, in the “North Island Rescue Module”, there are numerous opportunities to use genetic variation models to demonstrate mastery of standards related to inheritance patterns.

**BIOLOGICAL EVOLUTION: UNITY AND DIVERSITY**
**Materials align to the life science performance expectations (PEs) and related components (DCIs, SEPs, CCCs, CONNs, and NM Standards) for this focus area.**
*Statements of appraisal and supporting evidence:*

The materials align with the NGSS covering biological evolution: unity and diversity by presenting lessons that include a variety of hands-on labs and activities, both digital and written. For example, in the “Survival Stories Module”, biological evolution is presented at a micro and macro scale including natural and artificial changes, selective breeding and cross pollination for desired traits.

**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 NGSS engineering design requirements by providing opportunities for students to build, construct, test and revise models both digitally and hands on for greater depth of knowledge. For example, in the “The Bees Needs Module”, students design and build beehives with constraints and criteria that require peer review and critique for improvement and concept understanding.

| **CCSS for ELA and Math in Grades 6-8 NGSS**<br>**Materials align to the ELA and math standards identified in grades 6-8 Life Science NGSS.**<br>*Statements of appraisal and supporting evidence:* |
| --- |
| The materials incorporate CCSS for ELA and math in grades 6-8 NGSS by providing opportunities for students to construct arguments from the text. Students are also provided opportunities for math expression and specific written responses and data analysis from charts and graphs. Students create work in a variety of media that includes visual displays, multimedia, posters to clarify information, strengthen claims and evidence. |

**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 |
| --- |
| 99% |

**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 problems and require a three dimensional approach to make sense of the phenomena or to solve problems, as evidenced by every lesson containing three dimensional components including reflections, assessments, and lab activities.

**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 assessments provide tools, guidance and support for teachers to collect, interpret and act on data focused on student progress toward the learning goals of the 3 dimensional standards with multiple rubrics, assessment guides, teacher look-fors and teacher feedback opportunities. Formative and summative assessments are provided throughout the lessons. Next step actions are available for teacher guidance.

**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 through the use of pacing guides and charts with standards. Standards are cross referenced at the beginning of each lesson through the use of the pre-assessment. The 5E instructional flow is provided, including time required to complete lessons. Many tools are provided in digital materials that include the teacher prep tab and guiding questions with possible student answers. Guidance is given at the beginning of lessons for the distribution and collection of materials.

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

The materials are designed for each student's regular and active participation in science content. Many opportunities are provided for students to produce, engage in and critique and refine their work. Students participate in interactive activities, hands-on labs, digital labs, peer critique and multimedia presentations. Guidance for the various levels of students from diverse populations can be found routinely in both print and digital teacher editions.

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

The materials are designed for all learners from diverse populations. Multilingual materials, scaffolds, pedagogical supports and opportunity for advanced practices are present. The materials offer perspectives in many aspects of each module and lesson, allowing students to get a diverse view of the world and the content. There is also support for English language learners and culturally and linguistically diverse students.

**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 |
| --- |
| 95% |

**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 are coherent and consistent with the New Mexico content standards that all students should study in order to be college and career ready. The material introduces various areas of study and career pathways. Included in the teacher edition is a chart that references and connects prior knowledge to current learning and previews future learning.

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

The materials address effective lesson structure and pacing by including approximate timelines for the completion of lessons. Support for diverse learners is also present. Guidance is given for teachers to help prepare for the lessons and needed materials for the lessons. Graphics in the teacher and student editions are clear, relatable and easy to find.

**FOCUS AREA 3 RESOURCES FOR PLANNING:**
**Instructional materials provide teacher resources to support planning, learning, and understanding of the New Mexico Content Standards.**
*Statements of appraisal and supporting evidence:*

The instructional materials provide teacher resources to support planning, learning, and understanding of the New Mexico content standards. Teacher professional learning is embedded in the materials. Digital and print materials are well outlined with planning strategies needed for content materials and timelines. Teacher resources include looks-fors, the availability of rubrics and pre-planned questioning.

**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 offer teachers a variety of assessment resources and tools to collect ongoing data about student progress related to the standards. The online assessment library is searchable by standard and grade level. Digital materials provide online assignments and an assessment gradebook with assessments embedded throughout the materials. Formative and summative assessments are embedded throughout the student editions. Through the assessment reports tab on the teacher's main page in the digital materials, there are options for assigning and tracking supports for all 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 give all students opportunities and support to explore key concepts. Suggestions are given throughout the text for modifying materials for students of diverse populations, including multiple learning levels. Strategies are presented to modify materials as well as suggestions for accelerating and enriching content. Family outreach letters are provided throughout the materials to engage all stakeholders and inform them about their students' learning. The materials provide opportunities for all students to participate in whole class discussion, small group activities, and peer critique and gallery walks.

**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 cultural and linguistic experiences as evidenced by multiple perspectives shown in video content, images, personal interviews and published works. The materials provide opportunities for students to reflect on their personal experiences. The materials provide images and digital interactive opportunities that allow students to make connections to real life.

| **FOCUS AREA 7 INCLUSION OF CULTURALLY AND LINGUISTICALLY RESPONSIVE LENS:**<br>**Instructional materials highlight diversity in culture and language through multiple perspectives.**<br>*Statements of appraisal and supporting evidence:* |
| --- |
| The materials give suggestions throughout for accommodations for English learners. All materials are also available in Spanish. Videos and articles present multiple perspectives on concepts discussed. The materials provide opportunities for students' reflections and revision of work for improvement that include, but are not limited to, personal and cultural experiences. Perspectives from around the world are presented throughout the 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 #: 58

*Background and experience:*

Reviewer is a level II teacher with 21 years experience and a bachelor's degree in elementary education and background in educational psychology. Reviewer has taught kindergarten, 6th-8th grades all contents, MESA, STEAM, Robotics and was a 4th grade reading specialist. Reviewer has completed NM state standardized test alignments twice. Reviewer was a participant in the Department of Energy Science Outreach program. Reviewer has been an International Science and Engineering Fair judge. Reviewer is currently a multidisciplinary teacher at a public school.

*Professional summary of material:*

Twig Life Science materials are a comprehensive engagement of content for students of a diverse learning community. The materials are present in multiple formats in both English and Spanish, with various assessments, scaffolding for lessons, and modifications for various learning levels. Pacing guides are provided to give teachers full awareness and ability to adjust to student needs. Content is integrated with videos, published work, real-life experiences and allows students to immerse, reflect, modify, critique and explore through collaborative lessons.

Reviewer #: 59

*Background and experience:*

The reviewer is a level III instructional leader with a master's degree and 24 years of teaching experience. The reviewer's experiences span from pre-kindergarten through university level in band, choir, orchestra and general music, and also includes the direction of community theater productions. The reviewer has overseen his school district's social emotional school culture initiative and has a level three administrator's license. The reviewer is currently an assistant principal at a public charter school.

*Professional summary of material:*

Twig Middle School Life Science provides students with multiple opportunities to engage with the NGSS throughout the material. The materials are well laid out and easy to follow. Standards are listed and cross referenced at the beginning of lessons as a pre-assessment. There are online materials, including glossaries, videos, and digital interactives, which enhance engagement throughout the lessons. The materials are presented from multiple perspectives and opportunities exist for students to produce work in many ways. All material is also presented in Spanish and there is support embedded in lessons for English learners as well as support for students of diverse populations. The NGSS are addressed and referenced throughout the material and referenced in assessments. Summative and formative assessments are included throughout the text.

Reviewer #: 60

*Background and experience:*

The reviewer is a level III instructional leader with a master's degree and 18 years of teaching experience, all in middle school science. Reviewer has been a part of district science proficiency scale creation and revision teams. Reviewer has a background in social work and plays an integral part in the district's teacher support programs as a mentor and coach. Reviewer has a level three administrator's license and is currently a science teacher at the middle school level.

*Professional summary of material:*

The NGSS are embedded throughout the material and are referenced in multiple places for teachers and students. The digital and print materials are well organized and present content in an easy to understand manner. Technology connections are present with the use of videos and digital interactives to enhance student learning and understanding of the materials. Various assessments are embedded throughout the materials to allow for student and teacher tracking of learning progression. The materials are presented from multiple perspectives and opportunities exist for students to produce work in many ways. All materials are available in Spanish and there are multiple supports throughout for learners at all levels.