2024 Instructional Material Summer Review Institute

Review Team Appraisal of Title

Grades 6-8 Physical 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	OpenSciEd PHYSICAL SCIENCE BUNDLE Teachers Guides	Publisher	Kendall Hunt Publishing
SE ISBN		TE ISBN	9781792499654
SW ISBN	9781792499647	Grade Level/Content	Grades 6-8 Physical 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
87%

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
46%

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 do not align with the cultural and linguistic perspectives. There is no evidence or guidance in the materials for ways to highlight or include cultural diversity in lessons. In the materials, only Spanish translations are found. Materials do not provide guidance or strategies for diverse home languages. The materials connect to real-life experiences and elicit prior knowledge from multiple perspectives.

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 do not highlight diversity in culture and language. There is no mention of New Mexico in the materials and it does not mention other ethnicities or perspectives of events.

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
91%

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

The materials align with the Next Generation Science Standards (NGSS). The materials include all three dimensions of the standards and explicitly address them. Engineering is well represented as well.

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

The materials align with the physical science performance expectations for matter and its interactions. A phenomenon is investigated through developing and modifying models as the lessons progress. The entire engineering design process is present and carried out through most units. Most Science and Engineering Practices (SEP) are met except for evaluating multiple sources for bias or credibility.

MOTION AND STABILITY: FORCES AND INTERACTIONS
Materials align to the physical science performance expectations (PEs) and related components (DCIs, SEPs, CCCs, CONNs, and NM Standards) for this focus area.
Statements of appraisal and supporting evidence:

The materials align with the physical science expectations for motion and stability. The materials in this section implement active participation through a variety of interactive activities. Planning of investigations and identifying variables are present throughout the lessons. Modeling, argument-making, analyzing cause and effect, and connecting the phenomenon to the entire unit are evident in the TE.

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

The materials align with the performance expectations for energy. Kinetic energy is found in multiple places and is thoroughly addressed. Analyzing data and graphing are well connected to the lessons in the unit. Various iterations of projects are created, tested, and evaluated. However, potential energy is not addressed fully in the materials.

WAVES AND THEIR APPLICATIONS IN TECHNOLOGIES FOR INFORMATION TRANSFER
Materials align to the physical science performance expectations (PEs) and related components (DCIs, SEPs, CCCs, CONNs, and NM Standards) for this focus area.
Statements of appraisal and supporting evidence:

The materials align with the performance expectations for waves and their applications in technology. Waves are modeled mathematically in various representations throughout the units. Most of the disciplinary core ideas are addressed; however, the effects of waves through mediums are not fully present. The phenomenon is well-oriented to the grade level and elicits responses for real-life problems.

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. In the materials, there are opportunities for engineering practices and design. In most units, the process is iterative, and multiple designs are created after feedback and testing. The entire engineering cycle is found across lessons.

CCSS for ELA/Literacy and Math Grades 6-8 NGSS **Materials align to the ELA and math standards identified in grades 6-8 Physical Science NGSS.** *Statements of appraisal and supporting evidence:*
The CCSS literacy standards are found across units. Writing, listening, speaking, and reading tasks are interwoven in lessons. Readings are directly related to the investigations. Writing is found in each lesson in reflections, explanations, and argument forms. Research is conducted but not by self-generated questions. In math, how to reason data abstractly and quantitatively is found. Mathematical models are developed through investigations. Graphs are created and used to analyze results from investigations. The use of integers is alluded to but not expressly taught.

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
93%

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 phenomenon is introduced in all the units in Lesson 1 and intertwined through the entire unit. It is addressed repeatedly in investigations and assessments. The three dimensions of the standards are integrated throughout the unit and in assessments.

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.

Three-dimensional learning and opportunities for assessment are present in various activities in the unit. This includes the DCI, CCC, and SEP specifically addressed in each unit. Progress is monitored in each lesson and suggestions for further monitoring is available. The learning spirals and begins at a lower Bloom's level and builds in complexity until the end of the unit.

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

The materials have planning and assessment supports in every unit. Each unit has a storyline overview as well as materials needed and includes timed lesson plans. Question prompts are available in the TE to help modify the lesson. Guidance is given for accelerating the unit or shortening lessons.

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

Each lesson begins with a review of the previous lesson and ends with a review of that day's lesson. Lessons build on each other, have real world applications, and are task-oriented. There are a variety opportunities for giving and receiving feedback. The lessons lend themselves to self-assessing learning with progress trackers.

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

The materials are partially designed for all learners. There are sections labeled as "Attending to Equity" available in each unit to assist multi-language learners and help engage in planning and carrying out investigations. There are multiple opportunities to access materials by collaborating, giving feedback, and accessing background knowledge.

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
67%

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 align to the NGSS. Every unit is appropriate to the grade level it is intended for. The lessons are rigorous and offer ways of thinking about problems in the materials. The materials also connect lessons to previous learning and direct 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 have well-designed lessons; however, language objectives are not present. The TE outlines the learning progression at the beginning of each unit. The assessments are aligned to the standards. The TE provides strategies for developing a word wall with illustrations of key content-specific vocabulary words. Guides for interacting with the various text are given in the TE. Opportunities for collaboration exist in many configurations to aid in learning.

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:

In each unit, scientific background is provided to guide the unit forward. The section "Where to Go Next" gives an outline of how the lesson should progress. Prompts within the lesson advise corrective action if proper progress is not being made. Simulations and technology are integrated in each unit.

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 assessments, but no alternative assessments are provided and language objectives are not addressed. Formative and summative assessments are embedded in lessons. Summative assessments directly correlate to the content objectives of the lesson.

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, except for Spanish-translated resources, and culturally and linguistically diverse populations are not addressed. The "Attending to Equity" notes in the TE provide different strategies and resources for diverse needs such as IEPs, advanced learners, and EL accommodations. All unit TEs provide a home communication letter that is available in Spanish and English, which informs families of the current learning. Prompts for families to engage with the materials are present as well.

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 do not align with the cultural and linguistic perspectives. There is no evidence or guidance in the materials for ways to highlight or include cultural diversity in lessons. In the materials, only Spanish translations are found. Materials do not provide guidance or strategies for diverse home languages. The materials connect to real-life experiences and elicit prior knowledge from multiple perspectives.

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 do not highlight diversity in culture and language. There is no mention of New Mexico in the materials and it does not mention other ethnicities or perspectives of events.

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 #: 40

Background and experience:

I have 17 years experience in teaching science. I have taught both middle and high school ages. I am a Level III teacher with a BS in Elementary Education with a Science emphasis and a MS in Curriculum and Instruction for Secondary. I have a science content endorsement as well and facilitate Making Sense of Science for the state.

Professional summary of material:

I recommend with some reservations the reviewed material for physical science. The lessons are rigorous and include varied types of activities and skills. Students are often making sense of what they see and ask their own questions. While no material is perfect, this meets most of the standards in a complete way. The material is easy to navigate for new teachers and gives a complete picture of the lessons. I found the student workbooks to be difficult for the students to keep all of their work together and coherent. The only reservation I have is that there are a few missed opportunities for math and cultural and linguistic perspective integration.

Reviewer #: 41

Background and experience:

I have been teaching science for 15 years at both high school and middle school level. My educational foundation includes a bachelor's degree in secondary education, specializing in general science, and a master's degree in biology, enriching my understanding and passion for the subject. Currently, I'm furthering my academic journey with a PhD in special education, driven by a commitment to inclusive teaching practices. I am a Level III teacher with endorsement in science and computer science.

Professional summary of material:

I recommend with reservations the adoption of the OpenSciEd Physical Science materials. The lessons in the materials are well-structured with varied and engaging content activities. The materials incorporate real-world examples and hands-on experiences for deeper understanding and engagement. Various forms of assessment are provided to assess student learning. Most of the science standards are addressed across the units. The material provides teacher support and guidance on how to implement the instructional material in the classroom. However, the materials do not address certain Common Core State Standards in English language arts and mathematics. Inclusion of cultural and linguistic perspectives are not thoroughly represented in the materials.

Reviewer #: 42

Background and experience:

I have been teaching for 20 years at both the elementary and middle school level. The last 10 years have all been in middle school math and science. I am a level III teacher with a masters degree in curriculum and instruction and another in administration and supervision. I hold endorsements in TESOL, Spanish and mathematics.

Professional summary of material:

I recommend adopting the Physical Science OpenSciED materials with reservations. The materials are well-structured and user-friendly, with each unit clearly specifying the required number of days and each lesson broken down into minutes. Most science standards are comprehensively covered throughout the units. The material integrates various assessment opportunities and suggestions, complete with detailed evaluation criteria. Students are offered numerous chances for collaborative work, peer assessment, and feedback exchange. However, it is important to note that the material does not address certain Common Core State Standards (CCSS) in English language arts (ELA) and mathematics. Cultures and linguistic backgrounds are not addressed in the material.