2024 Instructional Material Summer Review Institute

Review Team Appraisal of Title

Fourth Grade 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	Amplify Science Grade 4 Student Book (6 Pack) Bundle	Publisher	Amplify Education, Inc.
SE ISBN	9781644828281	TE ISBN	979885700276
SW ISBN	9781643330631	Grade Level/Content	Fourth Grade 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
92%

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
95%

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 represent a variety of cultural and linguistic perspectives by making connections to real-life experiences through the Family Homework letter, where students discuss personal and family connections to the problems and phenomena being addressed in the classroom. The materials provide texts like Sunlight and Showers, which show and explain real-life issues in other parts of the world (Guatemala) and how scientists have worked towards designing solutions to the problem.

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 and texts highlight diversity and culture by showing ethnically diverse individuals and places, including India, Guatemala, Japan, and California. Daily reflection pieces and family homework allow opportunities to make personal connections to the issues being presented in the texts. While New Mexico's past and present culture is not specifically addressed, opportunities exist to discuss personal and home connections.

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:

Overall, the materials align with science standards through investigations in which students observe, ask and answer questions, construct explanations with evidence, and use their understanding. The lessons provide students with opportunities to use the engineering design process to plan, design, and test possible solutions to real-world problems and reflect on their learning. The materials allow collaboration with peers to examine and make sense of scientific phenomena.

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 and related components. Lessons offer suggestions to teachers to take students through investigations in which they explain how things happen through observations, ask and answer questions, construct explanations, and use evidence to show an understanding of energy and how it is transferred between objects.

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 physical science performance expectations and components through many interactive lessons. These activities include opportunities to build and revise simulation models to construct explanations demonstrating their understanding of waves, including differences, similarities, and motion patterns.

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 life science performance expectations and related components through instructional materials that describe systems and give students opportunities to construct arguments and explanations regarding the structure and function of internal and external structures. Lessons include activities for building models, discussing and critiquing solutions, formulating explanations, and supporting claims with evidence concerning the function of natural and manufactured systems.

EARTH'S PLACE IN THE UNIVERSE
Materials align to the earth and space science performance expectations (PEs) and related components (DCIs, SEPs, CCCs, CONNs, and NM Standards) for this focus area.
Statements of appraisal and supporting evidence:

The materials align with the earth and space science performance expectations and its components by asking students to discuss patterns to support explanations about fossils and rock formations and their development over time. There are opportunities for students to construct explanations with evidence and carry out hands-on simulations where they examine patterns in rock formations and the forces that create them.

EARTH'S SYSTEMS
Materials align to the earth and space science performance expectations (PEs) and related components (DCIs, SEPs, CCCs, CONNs, and NM Standards) for this focus area.
Statements of appraisal and supporting evidence:

The materials align with the earth and space science performance expectations and related components through lessons and activities in which students investigate and analyze data and patterns of erosion over time to examine how a canyon develops. The instructional materials provide opportunities to make observations and adjust variables within simulations to collect evidence, examine cause-and-effect relationships, and make sense of their findings.

EARTH AND HUMAN ACTIVITY
Materials align to the earth and space science performance expectations (PEs) and related components (DCIs, SEPs, CCCs, CONNs, and NM Standards) for this focus area.
Statements of appraisal and supporting evidence:

The materials align with earth and space science performance expectations and related components through investigations that examine the patterns, causes, and effects of natural hazards (like tsunamis) and phenomena, including power outages and blackouts. The instructional materials use the engineering design process to evaluate the problem, examine design solutions, and share, evaluate, and critique peer solutions.

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 and related components through collaborative and independent investigations into real-world phenomena. The instructional materials provide opportunities to investigate, plan, design, test, and construct explanations using evidence and gathered and collected data. The instructional materials provide opportunities to evaluate and critique peer design solutions.

CCSS for ELA and Math Grade 1 NGSS
Materials align to the ELA and math standards identified in the first grade NGSS.
Statements of appraisal and supporting evidence:

The materials align with ELA standards identified in the 4th grade NGSS with lessons that offer opportunities to infer, explain, and interpret information. Through conducting short research projects, the materials offer the ability for students to integrate information from two texts on the same topics and write opinion and informative pieces. Regarding math, the materials partially align to the standards identified through lessons and activities that have students reasoning about science abstractly and quantitatively by examining models and analyzing the reasonability of solutions based on cost and the effectiveness of solutions. However, the materials do not address multi-step word problems, some geometry concepts (like symmetry), or multiplication concepts. Furthermore, the materials do not offer activities that suggest students complete mathematical computations.

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 materials are centered around real-world phenomena and problems, such as blackouts, and offer suggestions to make sense of phenomena and consider possible solutions using the engineering design process. The instructional materials provide opportunities to observe, plan, design, test, revise, and reflect both collaboratively and independently.

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 provide teachers with tools and guidance, including assessment options like embedded formative assessments, "on the fly" assessments, and pre-and post-assessments. The instructional materials provide consistent opportunities for self-reflection opportunities. Furthermore, teachers have access to documents like the "cross-cutting concepts tracker", which allows them to make observational notes about how students are progressing toward NGSS mastery.

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

The materials provide supply lists and safety guidelines for teachers to use. Additionally, the resource includes embedded technology to enhance student learning, differentiation options, and feedback suggestions for students who are at, approaching, and exceeding expectations through options like voice-to-text, drawing and writing options, and "Flextension" activities.

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

The materials are designed to encourage active participation through activities and lessons that activate prior knowledge through reflection and school-to-home connections. This resource provides teachers with unit maps explaining how knowledge builds within each unit. Unit content and skills build as students progress through the unit. However, it is not evident how units connect to each other.

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

The materials are designed for all learners by providing extension opportunities, like "Flextension", for the opportunity to delve deeper into concepts. Additionally, materials and assessments can be adapted for ELs and students nearing proficiency, and many types of assessments are available to teachers with possible feedback suggestions. Within each unit, students build and reflect on knowledge through end-of-unit projects in which students collaborate and reflect on all knowledge gained throughout.

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
97%

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 because they address the NGSS through science and engineering practices, disciplinary core ideas, and cross-cutting concepts. The materials include robust lessons and activities that make meaningful connections through grade appropriate topics and phenomena. The lessons provide opportunities for students to work towards mastery through various activities and investigations that use observation, planning, reflecting, and collaboration.

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

The materials are structured using a logical progression of skills and content objectives. The visual design of the materials is consistent with both teacher and student materials and contains ongoing review and practice throughout each unit. The pacing is clear, with listed time recommendations and "Progress Build" information for teachers about how skills build on each other within each unit.

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

The materials provide teachers with support through both online and printable teacher editions. Teacher guidance is evident through a variety of resources, including differentiation recommendations, annotations, scientific explanations for teachers, technology options, and assessment support (including interpreting students' responses).

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 offer teachers choices and resources for assessments within the teachers edition. Within the "Assessment Systems" guide, the materials provide teachers with formative and summative assessment options and support for each standard. Suggestions are given for alternative assessments for ELs. However, little support is given to teachers regarding alternative assessment options for special needs and advanced students.

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 all students with opportunities to explore concepts. For example, the Family Homework printable part of the resource allows teachers and students to connect school and home. The materials include creative and critical thinking activities like the Town Hall Meeting (Energy Conversions), in which the activity offers students the opportunity to present design solutions for a real-world problem.

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 represent a variety of cultural and linguistic perspectives by making connections to real-life experiences through the Family Homework letter, where students discuss personal and family connections to the problems and phenomena being addressed in the classroom. The materials provide texts like *Sunlight and Showers,* which show and explain real-life issues in other parts of the world (Guatemala) and how scientists have worked towards designing solutions to the problem.

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 and texts highlight diversity and culture by showing ethnically diverse individuals and places, including India, Guatemala, Japan, and California. Daily reflection pieces and family homework allow opportunities to make personal connections to the issues being presented in the texts. While New Mexico's past and present culture is not specifically addressed, opportunities exist to discuss personal and home connections.

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 #: 13

Background and experience:

I am a 5th grade teacher in New Mexico and I have been in the elementary education field for the last eleven years. I am a Level III educator for the State of New Mexico. I hold an endorsement in social studies. I hold a Bachelor of Arts Degree in History and a Master's Degree in Literacy.

Professional summary of material:

The Amplify Science 4th grade material is aligned with the NGSS. It incorporates crosscutting concepts, science and engineering practices and disciplinary core ideas within the materials. Each unit focuses on investigations that center on a real-world phenomena and promotes inquiry-based learning and the development of problem solving skills using science content. The materials provided to teachers give differentiation guidance and annotations for remediation. There are digital components for teaching and learning, including simulations, and materials that promote collaboration among students through a variety of activities like town halls and evidence circles. However, this material does not address all math standards for 4th grade. Additionally, the instructional materials have minimal support for advanced students. Extension activities, called Flexstensions, only occur once every unit and there are no recommendations for assessment modification or alternatives for advanced learners.

Reviewer #: 14

Background and experience:

I am an elementary teacher in New Mexico, surpassing my 10th year as a teacher. I have a Bachelor's in Elementary Education and a Master's of Arts in Education/Administration and Supervision. I hold my level three licensure and am working on my National Board Certification.

Professional summary of material:

The Amplify Science 4th grade materials closely follow the Next Generation Science Standards (NGSS). The materials comprehensively cover vital aspects. Performance expectations (PE) are addressed through activities and assessments that address fundamental scientific concepts and skills. Disciplinary core ideas (DCIs) are addressed through in-depth content with comprehensive explanations and hands-on activities. Science and engineering practices (SEPs) are facilitated by active learning through scientific approaches such as modeling, synthesizing, and investigation. Crosscutting concepts (CCCs) are systematically integrated through various scientific applications across disciplines, helping students connect and understand relationships between different scientific domains. Connections (CONNs) are established between science and other disciplines and real-world contexts. However, the material does not present evidence to interpret a multiplication equation as a comparison, solve multistep word problems posed with whole numbers, or provide opportunities for the students to recognize a line of symmetry.

Reviewer #: 15

Background and experience:

I am a level lll licensed teacher with endorsements in the areas of language arts, social studies and TESOL. I am currently the Instructional Support Specialist at an elementary school in rural New Mexico. I have taught grades first through fifth and have 18 years of teaching experience. I hold a Bachelor's Degree in Elementary Education and a Master's Degree in Curriculum and Instruction with an emphasis in Literacy Studies.

Professional summary of material:

The Amplify Science 4th Grade Instructional Materials are aligned with the NGSS and they also support CCSS language arts and some math standards. Within the instructional materials, the performance expectations are present and the disciplinary core ideas, science and engineering practices and crosscutting concepts are covered in four different instructional units. Each unit focuses on a specific topic, such as Energy Conversions, Vision and Light, Earth's Features, and Waves, Energy, and Information. The four units engage students in creative and critical thinking skills through hands-on activities, demonstrations, engaging nonfiction texts, and lessons that build up to an end of unit project. The nonfiction texts that accompany the instructional materials engage students in meaningful discussions and conversations. The instructional materials provide support for all learners, including English learners, students below grade level, culturally and linguistically diverse students and advanced students. The Amplify Science 4th Grade instructional materials integrate language arts standards in various ways but only offer minimal opportunities for the students to engage in meaningful math concepts.