

McGraw Hill Texas Science Grade 4

McGraw Hill Texas Science Grade 4 Executive Summary

Section 1. Science-Related Texas Essential Knowledge and Skills (TEKS) and English Language Proficiency Standards (ELPS) Alignment

Grade	TEKS Student %	TEKS Teacher %	ELPS Student %	ELPS Teacher %
Grade 3	100%	100%	100%	100%
Grade 4	100%	100%	100%	100%
Grade 5	100%	100%	100%	100%

Section 2. Instructional Anchor

- The materials are designed to strategically and systematically integrate scientific and engineering practices, recurring themes and concepts, and grade-level content as outlined in the TEKS.
- The materials anchor the learning in phenomena and problems as the key lever for driving learning and student mastery of disciplinary knowledge and skills.

Section 3. Knowledge Coherence

- The materials are designed to build knowledge systematically, coherently, and accurately.
- The materials provide educative components to support teachers' content and coherence knowledge.

Section 4. Productive Struggle

- The materials provide opportunities for students to engage in productive struggle through sensemaking that involves reading, writing, thinking, and acting as scientists and engineers.

Section 5. Evidence-Based Reasoning and Communicating

- The materials promote students' use of evidence to develop, communicate, and evaluate explanations and solutions.
- The materials provide teacher guidance to support student reasoning and communication skills.

Section 6. Progress Monitoring

- The materials include a variety of TEKS-aligned and developmentally appropriate assessment tools.
- The materials include guidance that explains how to analyze and respond to data from assessment tools.

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- The assessments are clear and easy to understand.

Section 7. Supports for All Learners

- The materials provide guidance on fostering connections between home and school.
- The materials include listening, reading, writing, and speaking supports to help Emergent Bilinguals meet grade-level science content expectations.
- The materials include a variety of research-based instructional methods that appeal to a variety of learning interests and needs.
- The materials include guidance, scaffolds, supports, and extensions that maximize student learning potential.

Section 8. Implementation Supports

- The materials include year-long plans with practice and review opportunities that support instruction.
- The materials include classroom implementation support for teachers and administrators.
- The materials provide implementation guidance to meet variability in program design and scheduling.

Section 9. Design Features

- The visual design of materials is clear and easy to understand.
- The materials are intentionally designed to engage and support student learning with the integration of digital technology.
- The digital technology or online components are developmentally and grade-level appropriate and provide support for learning.

Section 10. Additional Information

- The publisher submitted the technology, price, professional learning, and additional language supports.

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Indicator 2.1

Materials are designed to strategically and systematically integrate scientific and engineering practices, recurring themes and concepts, and grade-level content as outlined in the TEKS.

1	Materials provide multiple opportunities for students to develop, practice, and demonstrate mastery of grade-level appropriate scientific and engineering practices as outlined in the TEKS.	M
2	Materials provide multiple opportunities to make connections between and within overarching concepts using the recurring themes.	M
3	Materials strategically and systematically develop students' content knowledge and skills as appropriate for the concept and grade level as outlined in the TEKS.	M
4	Materials include sufficient opportunities, as outlined in the TEKS, for students to ask questions and plan and conduct classroom, laboratory, and field investigations and to engage in problem-solving to make connections across disciplines and develop an understanding of science concepts.	M

Meets | Score 4/4

The materials meet the criteria for this indicator. Materials are designed to strategically and systematically integrate scientific and engineering practices, recurring themes and concepts, and grade-level content as outlined in the TEKS.

Materials provide multiple opportunities for students to develop, practice, and demonstrate mastery of grade-level appropriate scientific and engineering practices as outlined in the TEKS. Materials provide multiple opportunities to make connections between and within overarching concepts using the recurring themes. Materials strategically and systematically develop students' content knowledge and skills as appropriate for the concept and grade level as outlined in the TEKS. Materials include sufficient opportunities, as outlined in the TEKS, for students to ask questions and plan and conduct classroom, laboratory, and field investigations and to engage in problem-solving to make connections across disciplines and develop an understanding of science concepts.

Evidence includes but is not limited to:

Materials provide multiple opportunities for students to develop, practice, and demonstrate mastery of grade level appropriate scientific and engineering practices as outlined in the TEKS.

- Grade 4 materials provide multiple opportunities for students to develop, practice, and demonstrate mastery of grade-level appropriate scientific and engineering practices as outlined in the TEKS. For example, in Chapter 4, Lesson 4.1, the Energy at Work section, students read to collect information, observe and evaluate data based on energy transfers, and form a conclusion to the essential question “What energy forms are transferred into sound at a barbershop?” based on TEKS 4.8A.
- In Chapter 5, Lesson 5.2, grade 4 materials include the Build Your Skills segment within the student eBook. In this section, students develop, practice, and demonstrate mastery of science and engineering practices associated with grade 4 TEKS 4.1B, 4.2D, and 4.5B. Students consider materials provided based on their magnetic properties to design an engineering solution based

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on criteria followed by creating a descriptive investigation to test the device for effectiveness based on the understanding of magnetism and force. The materials prompt students in the Explore section to engage in hands-on activities that provide students with opportunities to practice and demonstrate scientific and engineering practices. The materials provide opportunities for students to show mastery both in the Elaborate and Evaluate sections of the student eBook.

- For example, in Lesson 10.1, students complete a Hands-On Investigation where they practice and show mastery of scientific and engineering principles. Students predict and investigate how sunlight, water, and air affect plant growth. Students analyze and interpret data to look for patterns within the investigation. Students reflect on their investigation and how they utilized scientific and engineering principles to guide them.
- The materials provide multiple opportunities to develop grade-level appropriate scientific and engineering practices, as the TEKS outline. For example, in Chapter 2, the materials prompt students to engage in a Hands-On Investigation that provides them with opportunities to practice and demonstrate scientific and engineering practices. Students classify and describe school supplies based on their mass.
- The materials provide multiple opportunities to practice grade-level appropriate scientific and engineering practices, as outlined in the TEKS. For example, materials include opportunities for students to answer questions using evidence from investigations or gathered by others. In the “Student Edition,” after completing an investigation on the matter, students answer questions such as “How can you classify the objects based on mass?” and “How can you describe masks without using tools like the balance or the digital scale?”

Materials provide multiple opportunities to make connections between and within overarching concepts using the recurring themes.

- Grade 4 materials provide multiple opportunities to make connections between and within overarching concepts using recurring themes. For example, in Chapter 4, Lesson 4.1, Hands-On Investigation (Explore activity) and the “Energy All Around” feature (Explain article), students make connections between their observations of energy transfer experienced in the waves investigation and the overarching concepts of motion (waves) results from energy transfer from pushes and pulls.
- Grade 4 materials include the STEM Connection, which provides opportunities to make connections between and within overarching concepts using recurring themes. For example, in Chapter 5, Lesson 5.3 STEM Connection, students are introduced to a spaceflight engineer who utilizes her knowledge of forces and gravity to make and repair tools that can be used in low-gravity environments connecting to the overarching concepts and recurring themes featured throughout Chapter 5.
- Grade 4 materials provide multiple opportunities to make connections between and within overarching concepts using recurring themes. The Engage section of the material includes specific information about when recurring themes are introduced and when they are spiraled back into the program. Grade 4 materials utilize Patterns as a recurring theme in several lessons. For example, Chapter 6, Lesson 2 includes “Identify patterns in how erosion and deposition change the Earth’s surface.” Chapter 8, Lesson 1 includes “identify and analyze patterns to explain seasonal patterns of change in temperature and daylight.” Chapter 8, Lesson 2 uses “to identify and use patterns to predict changes in the observable appearance in the Moon from Earth.” Throughout these lessons, students will use the Patterns graphic organizer to understand that a pattern can exist within an object or in the relationships between many

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objects in a system. The goal of this theme is for students to identify and use patterns they observe relative to a phenomenon or to design a solution.

- The grade 4 materials identify overarching concepts using recurring themes such as stability and change, patterns, and the flow of energy. The materials connect these themes throughout lessons. For example, in grade 4 Lesson 9.1, students identify and investigate how plant structures function to help them survive. The materials provide a graphic organizer to assist with the connection as well. The materials systematically introduce the recurring themes in the Engage section of the Teacher’s eBook.

Materials strategically and systematically develop students’ content knowledge and skills as appropriate for the concept and grade level as outlined in the TEKS.

- Grade 4 materials provide the TEKS at a Glance feature outlining the strategic and systematic approach to developing students’ content knowledge and skills as appropriate for the concept and grade level as outlined in the TEKS. For example, in Chapter 4, TEKS at a Glance highlights the strategic and systematic placement of each grade 3 TEKS associated with Forces and Interactions throughout the chapter to promote student concept knowledge and skill development.
- Grade 4 materials include the 5E model to strategically and systematically develop students’ conceptual knowledge and skills as outlined in grade 4 TEKS. In Chapter 5, grade 4 materials feature “Engage, Explore, Explain, Elaborate, and Evaluate” activities to develop students’ knowledge and skills as directed by TEKS 4.7A.
- Grade 4 materials strategically and systematically develop students’ content knowledge and skills as appropriate for the concept and grade level as outlined in the TEKS. Grade 4 content knowledge and skills are taught using Science and Engineering Practices and recurring themes so students can build and connect knowledge and apply it to new contexts. The materials prompt students to plan and conduct investigations across the year, as well as provide guidance for teachers. For example, grade 4 materials include a Hands-On Investigation in Explore, where students develop and use a model to observe erosion and deposition by water, wind, and ice. This activity builds on previous grade 3 learning about changes in Earth’s surface.
- The materials support teachers in developing student content concepts and skills by giving them resources and cues at varying points in lessons and units throughout the grade level. For example, materials contain a Scope and Sequence that is vertically aligned, allows students to build knowledge throughout the grade level, and provides for teacher understanding of grade-level content above and below the grade they are teaching. Moreover, grade 4 materials provide a more specific TEKS progression in each Chapter Overview for the teacher to review what students have already learned and to help guide their learning.

Materials include sufficient opportunities, as outlined in the TEKS, for students to ask questions and plan and conduct classroom, laboratory, and field investigations and to engage in problem solving to make connections across disciplines and develop an understanding of science concepts.

- Grade 4 materials include sufficient opportunities, as outlined in the TEKS, for students to ask questions and plan and conduct labs and investigations to engage in problem-solving to make connections across disciplines and develop an understanding of science concepts. For example, in Chapter 4: Forces and Interactions, students have access to STEAM Stations providing opportunities such as “Show the Sound” art lab, “School Power Problem,” and “Circuit Galore”

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activities. In the “Math: School Power Problem STEAM Station,” students solve a multi-step problem about energy using tools such as calculators, drawings, and models, and/or using words to help solve the problem (Math TEKS 4.5A, Science TEKS 4.2B). STEAM Stations connect the chapter phenomena to related science, math, technology, art, and engineering explorations.

- Grade 4 materials provide hands-on investigations throughout each chapter to include opportunities for students to ask questions and conduct investigations, engaging them in problem-solving to make connections across disciplines and develop an understanding of science concepts. For example, in Chapter 5, Lesson 1, students explore the “Hands-On Investigation: Finding Felt Friction.” Students use materials such as a smooth surface and felt to predict outcomes, design and conduct an investigation, communicate findings, and make a claim about the patterns of friction observed in objects (TEKS 4.7A). The Hands-On Investigation is located inside the Explore section of each lesson.
- The Hands-On Investigations component has embedded questions such as “How do water, wind, and ice move and drop sand in a new location?” “What questions did you have when you observed the photo of how Earth’s surface changed and formed the canyon?” and “Can your question be investigated through research, observation, modeling, and/or experimentation?”
- The grade 4 materials include sufficient opportunities for students to plan and conduct investigations and ask questions. The Hands-On Investigations in each lesson provide teachers with three options to facilitate the investigation: Structured Inquiry, Guided, or Open. The materials give step-by-step instructions for Structured Inquiry. The materials give a teacher-facilitated question for students to explore for Guided Inquiry. For Open Inquiry, students write their own questions and create their own investigations.
- The materials include sufficient opportunities to engage in problem-solving to make connections across disciplines. For example, the materials include the Claim, Evidence, and Reasoning process throughout the days of the lesson for students to build on. For example, in grade 4, Lesson 2.1, students make their claim on day 1. On day 2, students search for evidence to support their claims. On day 3, students reason whether their claim is valid or not.

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Indicator 2.2

Materials anchor the learning in phenomena and problems as the key lever for driving learning and student mastery of disciplinary knowledge and skills.

1	Materials embed phenomena and problems across lessons to support students in constructing, building, and developing knowledge through authentic application and performance of scientific and engineering practices, recurring themes and concepts, and grade-level content as outlined in the TEKS.	M
2	Materials intentionally leverage students' prior knowledge and experiences related to phenomena and engineering problems.	M
3	Materials clearly outline for the teacher the scientific concepts and goals behind each phenomenon and engineering problem.	M

Meets | Score 4/4

The materials meet the criteria for this indicator. Materials anchor the learning in phenomena and problems as the key lever for driving learning and student mastery of disciplinary knowledge and skills.

Materials embed phenomena and problems across lessons to support students in constructing, building, and developing knowledge through authentic application and performance of scientific and engineering practices, recurring themes and concepts, and grade-level content as outlined in the TEKS. Materials intentionally leverage students' prior knowledge and experiences related to phenomena and engineering practices. Materials clearly outline for the teacher the scientific concepts and goals behind each phenomenon and engineering problem.

Evidence includes but is not limited to:

Materials embed phenomena and problems across lessons to support students in constructing, building, and developing knowledge through authentic application and performance of scientific and engineering practices, recurring themes and concepts, and grade level content as outlined in the TEKS.

- Grade 4 materials embed “Essential Questions” as a guide when performing scientific and engineering practices and recognizing recurring themes across lessons. For example, in Chapter 5, Lesson 1, the essential question “What pattern of friction do you see in objects?” guides the data collection within the following investigations and information gathering in the Explain readings to support students’ ability to develop their knowledge through the authentic application of concepts and grade-level content as outlined in TEKS 4.7A.
- The materials use phenomena as a central anchor that drives student learning across grade-level content in each discipline. Students develop content knowledge as they work to construct explanations of the phenomena and/or solve engineering problems. For example, grade 4 materials embed phenomena across lessons within a matter unit. Students first examine how matter is classified and described by state and temperature. In the investigation that follows, students investigate, and the order is classified based on mass, density, and magnetism. After students have investigated, they ask questions about photos of two different objects (a metal pin in both its solid and liquid form). They are asked to make inferences about the objects’ physical properties. Students work in groups to either produce a video, write a test, or design

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their own infographic to demonstrate their understanding of ways to classify matter. Each chapter has a “Big idea” question, and each lesson has an Essential Question. For example, Chapter 9 focuses on “How can plants survive here?” Lesson 1 asks, “How do plant structures and functions help them survive?” and Lesson 2 asks, “Why are organisms sometimes alike and different from their parents?”

- Materials embed phenomena and problems across lessons to support students in constructing, building, and developing knowledge through authentic application and performance of scientific and engineering practices, recurring themes and concepts, and grade-level content as outlined in the TEKS. The materials use phenomena as a central anchor that drives student learning across each chapter and connects each chapter’s TEKS to the theme. Students return to the chapter’s phenomenon to develop content knowledge as they work to construct explanations and/or solve engineering problems. For example, in Chapter 6, the connecting question across all lessons is, “How can an evergreen tree save the beach?” Lesson 2 opens with a photo of three different award medals and asks, “How do the medals in the photo differ? How are they the same?” Later, the Lesson Review provides a written reflection question that asks students to classify and describe matter based on mass.

Materials intentionally leverage students’ prior knowledge and experiences related to phenomena and engineering problems.

- The materials provide opportunities to leverage students’ prior knowledge and experiences related to phenomena and engineering problems, ensuring that connections are made to previous science TEKS while allowing students to communicate their experiences outside of school. Each lesson begins with a “Page Keeley Science Probe” that presents an opportunity for students to apply their prior knowledge, as well as for teachers to address any misconceptions. For example, in grade 4 materials, Chapter 7, Lesson 1, students discuss why towels might be dry after using them at the pool. This phenomenon is later connected to the water cycle and the sun. Each Chapter Overview contains a summary of Common Misconceptions to help teachers gauge where some students may have inaccurate or inadequate prior knowledge. This section also prepares teachers to provide accurate explanations of scientific content and concepts, as well as respond to students who may have gaps or misconceptions in their prior knowledge. The Chapter Overview also informs teachers of the necessary prerequisite content and skills students will need to be successful in the chapter.
- Grade 4 materials include a phenomena video in the Chapter 5 Preview. After watching the video of a pinball machine, students think about their experiences with forces and motion. Students make a list of past experiences, observations, and questions.
- The Grade 4 student eBook provides opportunities to address potential misconceptions in the Paige Keeley Science Probes section. For example, a conversation between children references a misunderstanding of plant stems and roots. Students explain their own thinking. The materials give teachers guidance on how to address the misconceptions before teaching the rest of the lesson.
- The materials allow for different entry points to the learning phenomena and/or solving problems. Students experience the phenomena through various means, such as teacher demonstrations, hands-on experiences, videos, text, data, and images. For example, grade 4 materials include several shared experiences with a relevant phenomenon, such as watching a video of matter in different states (melted metal, snow, sand on the beach) or the teacher demonstrating ice melting.

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Materials clearly outline for the teacher the scientific concepts and goals behind each phenomenon and engineering problem.

- Grade 4 materials clearly outline for the teacher the scientific concepts and goals behind each phenomenon and engineering problem with the Chapter Overview section. The anchoring phenomenon for each chapter appears next to an outline for each lesson's Essential Question, which provides context for the engineering problems posed throughout the chapter to reach concept goal mastery. For example, in Chapter 2: Properties of Matter, the anchoring phenomenon is "What matters when you are learning about the matter?" and in Chapter 4: Forces and Interactions, the anchoring phenomenon is "How is energy being used at the barber shop?" Both appear next to an outline for each lesson's Essential Question and provide context for the engineering problems posed in the chapter.
- Materials clearly outline for the teacher the scientific concepts and goals behind each phenomenon and engineering problem. Teacher materials provide "TEKS at a Glance" for each chapter, as well as a Lesson Overview for each lesson. These two sections describe the scope and sequence inside each chapter and lesson and support teachers with the content background and TEKS alignment.
- Grade 4 materials include the Chapter Resource Snapshot to outline for the teacher the scientific concepts and goals behind the phenomena and engineering problems investigated throughout Chapter 5. In grade 4, a lesson on the properties of matter tasks students with explaining the phenomenon of classifying matter. Materials clearly outline the following lesson goals: "Students will classify and describe the physical state and temperature of an ice cube."
- The materials clearly outline student learning goals behind each phenomenon or engineering problem. Each lesson contains a Hands-On Investigation that clearly outlines its purpose, summary, and expected outcome of the activity. For example, the Hands-On Investigation in Chapter 7, Lesson 2 clearly outlines the following lesson goal: "Students will analyze climate data in a graph to identify patterns."

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Indicator 3.1

Materials are designed to build knowledge systematically, coherently, and accurately.

1	Materials are vertically aligned and designed for students to build and connect their knowledge and skills within and across units and grade levels.	M
2	Materials are intentionally sequenced to scaffold learning in a way that allows for increasingly deeper conceptual understanding.	M
3	Materials clearly and accurately present grade-level-specific core concepts, recurring themes and concepts, and science and engineering practices.	M
4	Mastery requirements of the materials are within the boundaries of the main concepts of the grade level.	M

Meets | Score 6/6

Materials meet the criteria for this indicator. Materials are designed to build knowledge systematically, coherently, and accurately.

Materials are vertically aligned and designed for students to build and connect their knowledge and skills within and across grade levels and units. Materials are intentionally sequenced to scaffold learning in a way that allows for increasingly deeper conceptual understanding. Materials clearly and accurately present grade-level-specific core concepts, recurring themes and concepts, and science and engineering practices. Mastery requirements of the materials are within the boundaries of the main concepts of the grade level.

Evidence includes but is not limited to:

Materials are vertically aligned and designed for students to build and connect their knowledge and skills within and across units and grade levels.

- Grade 4 materials are vertically aligned and designed for students to build and connect knowledge and skills with and across units and grade levels, as evidenced in the provided “Full Scope and Sequence” section of the Program Overview teacher ancillary resource. For example, the content and skills progression is outlined for teacher support for Grades 3–5.
- Grade 4 materials include the TEKS Progression visual guide in the Chapter Overview, which displays the vertical alignment and intentional design of content and skills to build and connect student knowledge and skills within and across units. The materials present content in a way that builds complexity within and across units and grade levels. At the beginning of Chapter 7, the Chapter Overview outlines student knowledge and skills learned in the previous grade levels, broken down into grade-level TEKS, and summarizes the progression from grades 2 through 5 regarding that specific lesson and standard.
- In the Teacher eBook, the Chapter Launch page reminds teachers to refer to the “TEKS Refresh” guide if students need support on background knowledge and offers resources for reteaching. This item was not available for review. The materials also include “LearnSmart” review assignments for students to complete. This resource is an adaptive reading tool with scaffolded question prompts and built-in remediation resources. This item was not available for review.

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Materials are intentionally sequenced to scaffold learning in a way that allows for increasingly deeper conceptual understanding.

- Grade 4 materials are intentionally sequenced to scaffold learning in a way that allows for increasingly deeper conceptual understanding, as seen in the “Chapter Resource Snapshot” of each chapter. For example, in Chapter 5, Resource Snapshot, Lesson 1 begins with observation of an investigation video, progressing to student investigation followed by students applying newly attained knowledge in skills within the “Interactive Infographic” activity and “Claim, Evidence, and Reasoning” exercise. Additionally, in Lesson 10.1, students answer an engaging Essential Question to activate prior knowledge and then create an investigation to explore the Essential Question. On Days 2–4, students read and discuss infographics, articles, and other materials to learn about the material. Then, students assess their understanding of the content on Day 5.
- Grade 4 materials include a scaffolded progression of targeted vocabulary to promote student acquisition of conceptual understanding. Each chapter includes the “Science Language and Content Acquisition” page highlighting the scaffolding of content vocabulary from prior knowledge through each lesson and the relationship of those terms to the applicable scientific and engineering practices and themes. The materials include interactive notebook activities to assist students in documenting their findings during investigations.
- The materials sequence instruction in a way that activates or builds prior knowledge before explicit teaching occurs, allowing for increasingly deeper conceptual understanding. The materials utilize a 5E model: engage, explore, explain, elaborate, and evaluate. Every lesson starts engaging students by watching a video presenting a concrete phenomenon. Then, students explore the phenomenon or concepts with hands-on investigations. After that, the teacher explains the concept or phenomenon. Afterward, the students build their skills by elaborating and writing about what they have learned. Finally, the students are evaluated on all parts of the lesson.

Materials clearly and accurately present grade level specific core concepts, recurring themes and concepts, and science and engineering practices.

- The materials clearly present grade-specific core concepts, recurring themes and concepts, and science and engineering practices. The materials provide teachers with a clear and concise “Correlations: Grade 4” document that leads students to learn via science instruction. Within these correlations, documents are important course-specific concepts and recurring science and engineering practices. The materials also include resources for differentiating lessons for a variety of learners. The materials include student-driven conceptual learning strategies, concrete mathematical applications, and hands-on practice.
- The materials accurately present core concepts, recurring themes and concepts, and science and engineering practices (SEPs). Across lessons, units, and grade levels, materials are free from scientific inaccuracies. Materials present scientific content that is current and reflects the most current and widely accepted explanations. For example, grade 4 student materials present accurate information about fossil fuels, including their advantages and disadvantages. The materials include information about the limited supply of fossil fuels on Earth.

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- The materials clearly present grade-level specific core concepts, recurring themes and concepts, and science and engineering practices. For example, the materials provide a TEKS Correlation document that clearly outlines the core content that students will be learning.
- The materials include a “Plan Your Lesson” page that summarizes the 5E instructional model. Each day is broken into the daily lesson cycle “GET READY,” “TEACH,” and “ASSESS.” Each section is then broken down into each step of the lesson. The lessons are free from inaccuracies. The content is aligned with fourth-grade standards.

Mastery requirements of the materials are within the boundaries of the main concepts of the grade level.

- Grade 4 materials include a variety of formative and summative assessments to evaluate student mastery of requirements within the boundaries of the main concepts of the grade level. For example, in the Chapter 4 Resource Snapshot, mastery requirements are outlined by various assessments on the right-hand side of the table, which are aligned to the TEKS 4.8A, 4.8C, and 4.8B on the left-hand side.
- Grade 4 materials include Essential Questions at the beginning of each lesson, forming boundaries of the main concepts of the course aligned with grade-level TEKS. In Essential Question Check-ins, students demonstrate mastery requirements as outlined by the TEKS. The materials provide a “Quick Check” at the end of every day to assess what students are learning and where misconceptions may be. The materials provide teachers with a guide of questions to ask and how to reinforce learning.
- The materials are within the boundaries of the main concepts of the grade level, as stated in the Corrections: Grade 4 document. At the beginning of every chapter, the Chapter Overview provides chapter objectives for each chapter and student learning objectives for each lesson. At the end of each lesson, the “Evaluate” section provides a formative assessment for students to demonstrate growth and mastery of that lesson’s TEKS. Also, at the end of each chapter, the Chapter Wrap-Up offers a summative assessment for students to demonstrate their growth and mastery of all the concepts developed in that chapter.
- The materials include specific learning targets for each grade level. For example, materials include a chapter overview that outlines the TEKS, chapter objective, and common student misconceptions for each lesson within the chapter. The Chapter Launch page in the Teacher eBook includes a section titled “Introduce the Big Idea” that directs the teacher to write the Big Idea statement on the board.

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Indicator 3.2

Materials provide educative components to support teachers' content and knowledge coherence.

1	Materials support teachers in understanding the horizontal and vertical alignment guiding the development of grade-level content, recurring themes and concepts, and scientific and engineering practices.	M
2	Materials contain explanations and examples of science concepts, including grade-level misconceptions, to support the teacher's subject knowledge and recognition of barriers to student conceptual development as outlined in the TEKS.	M
3	Materials explain the intent and purpose of the instructional design of the program.	M

Meets | Score 6/6

The materials meet the criteria for this indicator. Materials provide educative components to support teachers' content and knowledge coherence.

Materials support teachers in understanding the horizontal and vertical alignment guiding the development of grade-level content, recurring themes and concepts, and scientific and engineering practices. Materials contain explanations and examples of science concepts, including grade-level misconceptions, to support the teacher's subject knowledge and recognition of barriers to student conceptual development as outlined in the TEKS. Materials explain the intent and purpose of the instructional design of the program.

Evidence includes but is not limited to:

Materials support teachers in understanding the horizontal and vertical alignment guiding the development of grade level content, recurring themes and concepts, and scientific and engineering practices.

- Grade 4 materials include a "Full Scope and Sequence" document to support teachers in understanding the horizontal and vertical alignment guiding the development of grade-level content, recurring themes and concepts, and scientific and engineering practices. For example, in the Scope and Sequence document, teachers' attention is brought to the topics of Forces and Interactions (Chapter 4) and Forces and Patterns (Chapter 5) while this same document references similar topics in Grades K-5, supporting teachers' awareness of content and skill progression. The Teacher eBook has a TEKS at a Glance chart, which lists the TEKS relevant to that particular chapter. In addition, the Pacing Guide incorporates the TEKS, showing the order in which knowledge and skills are taught and built in the course materials. This Pacing Guide is a TEKS-aligned scope and sequence that contains the TEKS taught within each chapter and a year-long plan that is easily accessible within the course for Fourth Grade.
- Grade 4 materials provide the TEKS Progression visual aid supporting teachers' understanding of vertical and horizontal alignment to grade-level TEKS. In Chapter 4, Chapter Overview, the TEKS Progression for the fourth grade Forces and Interactions topic outlines the connection for content, recurring themes, and scientific and engineering practices for grades 4 and 5.

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- The materials include guiding documents that support teachers in understanding how new learning connects to previous and future learning across grade levels. The materials contain a "Chapter Overview" at the beginning of every chapter that showcases which skills and standards students should have mastered in previous grades and how learning will progress in the subsequent grades. The "Program Overview" provides a broad overview for the teacher that explains how science concepts build over time from kindergarten through grade 5. Materials state that students in the early grades begin looking at typical weather and seasons. In early elementary grades, students start looking for patterns in observable weather. Then, in later elementary grades, students begin to grasp that weather has a relationship with Earth's relative position in its orbit around the Sun, which helps them to develop more sophisticated causal explanations of the phenomena observed in early grades.
- The materials include guiding documents that support teachers in understanding how new learning connects to previous and future learning across grade levels. For example, the materials include the "TEKS Progression" page in each Chapter overview that details the progression of TEKS from previous and future learning. The materials include a "TEKS at Glance" page at the start of each chapter that notes horizontal TEKS alignment and which is addressed in each lesson. The materials include guiding documents that explain how content and concepts increase in depth and complexity across lessons and units within the grade level. For example, in the EXPLORE phase of the lesson, the Hand-On Investigation pages provide detailed instructions on conducting lab investigations and experiments to guide student development of content, concepts, and SEPs.

Materials contain explanations and examples of science concepts, including grade level misconceptions to support the teacher's subject knowledge and recognition of barriers to student conceptual development as outlined in the TEKS.

- Grade 4 materials contain explanations and examples of science concepts, including grade-level misconceptions, to support teachers' subject knowledge and recognition of barriers to student conceptual development as outlined in the TEKS. For example, in Chapter 4, Chapter Overview, the material explains a common misconception among students involving Lesson 2: Electrical Energy Travels, including students' inability to realize that devices do not "use up" energy rather, devices are a part of the closed path needed for electrical energy to travel through and be converted into other forms as related to TEKS 4.8C.
- Grade 4 materials contain a Teacher Explanation excerpt within the Page Keeley Science Probes pages. In Chapter 4, Lesson 1, the Teacher Explanation offers a content reference for teachers supporting subject knowledge and recognition of barriers to student conceptual development as outlined in TEKS 4.8A. This resource also provides rationales for student answer outcomes, including areas of common misconception.
- The materials include a "Lesson Overview" with a "Science Background" section at the beginning of each lesson. The "Science Background" provides background information for teachers with explanations and examples of science concepts. This section prepares teachers to provide accurate explanations of scientific content and concepts, as well as support for teachers to develop their own understanding of more advanced, grade-level concepts.
- Materials contain explanations and examples of science concepts including, grade-level misconceptions, to support the teacher's subject knowledge and recognition of barriers to student conceptual development as outlined in the TEKS. The materials include a "Chapter Overview" with a summary of "Common Misconceptions" to help teachers gauge where some

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students may have inaccurate or inadequate prior knowledge. This section also prepares teachers to provide accurate explanations of scientific content and concepts, as well as respond to students who may have gaps or misconceptions in their prior knowledge. For example, in the “Chapter Overview” of each chapter, the materials identify each lesson, the objective, and “Common Misconceptions,” along with guidance on how to address the misconception. At the beginning of a grade 4 matter unit, materials emphasize where student thinking may be inaccurate about mixtures, such as students may think matter forms new substances when it is combined in a mixture, or that a substance like salt or sugar is added to water that it disappears or melts thereby losing its identity.

- The materials identify common grade-level misconceptions students may have about science concepts. For example, at the beginning of a grade 4 matter unit, materials provide teachers with a “Common Misconceptions” section in the chapter overview. Materials emphasize where student thinking may be inaccurate about mixtures, such as students may think matter forms new substances when it is combined in a mixture, or that once a substance like salt or sugar is added to water, it disappears or melts, thereby losing its identity.

Materials explain the intent and purpose of the instructional design of the program.

- Grade 4 materials include the “Supporting All Learners” document explaining the intent and purpose of the instructional design of the program. The concepts of Universal Design for Learning, Texas Science Instructional Model, Multi-Tiered System of Supports, Supporting Students Experiencing Difficulty with Literacy in Science and Engineering, including Strategies for Students with Special Instructional Needs, Library Media Centers and Information Literacy Skills, and Talk About It: Student Discourse are featured within the Supporting All Learners document.
- Grade 4 materials contain “Chapter 1: Onward We Go”. This targeted introduction chapter exposes teachers and students to the intent and purpose of the instructional design of the program. For example, instructional activities to master TEKS, including content knowledge, recurring themes, and scientific and engineering practices, are introduced, and opportunities to practice are provided.
- The materials provide a purpose or rationale for the program's instructional design. Materials offer an explanation for why materials are designed using the "Universal Design for Learning. The materials highlight that this framework gives individuals with different abilities, backgrounds, and motivations equal opportunities to learn. The materials provide a framework explaining the main intent or goals of the program. Materials provide a "Program Overview" that thoroughly describes the program's instructional approaches and references the research-based strategies present in each unit. The "Program Overview" describes that the goal is to "empower students to ask questions, pose hypotheses, conduct hands-on investigations, and communicate their findings on paper and in person." The materials provide a rationale for using the 5E model for learning, the Universal Design of Learning, along with the other components such as MTSS and Literacy connections. The materials explain that they focus on a Student-Centered approach to guide students into a deeper level of learning. The materials provide a rationale for using the Universal Design for Learning (UDL) framework for curriculum development, stating that it “gives individuals with different abilities, backgrounds, and motivations equal opportunities to learn...By incorporating many aspects of UDL, the Texas Science curriculum accommodates diverse learners and maintains high expectations for all learners www.udlcenter.org.”

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Indicator 4.1

Materials provide opportunities for students to engage in productive struggle through sensemaking that involves reading, writing, thinking, and acting as scientists and engineers.

1	Materials consistently support students' meaningful sensemaking through reading, writing, thinking, and acting as scientists and engineers.	M
2	Materials provide multiple opportunities for students to engage with grade-level appropriate scientific texts to gather evidence and develop an understanding of concepts.	M
3	Materials provide multiple opportunities for students to engage in various written and graphic modes of communication to support students in developing and displaying an understanding of scientific concepts.	M
4	Materials support students to act as scientists and engineers who can learn from engaging in phenomena and engineering design processes, make sense of concepts, and productively struggle.	M

Meets | Score 4/4

Materials meet the criteria for this indicator. Materials provide opportunities for students to engage in productive struggle through sensemaking that involves reading, writing, thinking, and acting as scientists and engineers.

Materials consistently support students' meaningful sensemaking through reading, writing, thinking, and acting as scientists and engineers. Materials provide multiple opportunities for students to engage with grade-level appropriate scientific texts to gather evidence and develop an understanding of concepts. Materials provide multiple opportunities for students to engage in various written and graphic modes of communication to support developing students and display an understanding of scientific concepts. Materials support students to act as scientists and engineers who can learn from engaging in phenomena, the engineering design process, make sense of concepts, and productively struggle.

Evidence includes but is not limited to:

Materials consistently support students' meaningful sensemaking through reading, writing, thinking, and acting as scientists and engineers.

- Grade 4 materials consistently support students' meaningful sensemaking through reading, writing, thinking, and acting as scientists and engineers. For example, in Chapter 4, the materials include the STEM Connection feature, which prompts students to read and think about a Rube Goldberg machine from a scientific approach, followed by students describing the forces interacting within a cartoon featuring a Rube Goldberg machine.
- Materials consistently support students' meaningful sensemaking through reading, writing, thinking, and acting as scientists and engineers. Each lesson contains an "Explain" section that promotes students thinking and acting like scientists and engineers. Teacher materials include the routine "Claim, Evidence, Reasoning" in every lesson to combine reading, writing, thinking, and acting like scientists and engineers. For example, in Chapter 8, Lesson 2, students complete an investigation about how the appearance of the Moon changes. Then, they use the guided

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"Claim, Evidence, Reasoning" graphic organizer to write about their thinking as scientists and engineers.

- In Chapter 1, the materials introduce students to the scientific practices, themes, and routines they will use throughout the curriculum for meaningful sensemaking. This is done through reading, writing, thinking, and acting as scientists and engineers. Each Lesson includes a "Page Keeley Science Probe" to support reading and thinking like scientists or engineers. The Hands-On Investigations engage all students in acting and thinking like scientists or engineers. Writing like scientists and engineers is supported in the "Claim, Evidence Reasoning" lesson component and "Write About It" segments of the lessons.
- The materials include additional sidebars to support scientific and engineering practices. In Chapter 2, after investigating what kinds of objects sink or float, a sidebar called "Guided and Open Inquiry" provides teachers with questions to support both types of inquiry. In the Guided Inquiry section, the materials direct the teacher to ask, "What kinds of objects sink and what kinds of float? In the "Open Inquiry" section, the materials direct teachers to ask, "What questions did you have when you observed the photo of that aquarium?" Students can record their questions in their science notebooks.

Materials provide multiple opportunities for students to engage with grade level appropriate scientific texts to gather evidence and develop an understanding of concepts.

- Grade 4 materials provide multiple opportunities for students to engage with grade-level appropriate scientific texts to gather evidence and develop an understanding of concepts, including the "Claim, Evidence, and Reasoning" prompts throughout each chapter's "Explain" feature. For example, in Chapter 4, students are asked to consider ways electrical energy is demonstrated at a barbershop or hair salon, followed by reading the provided article to collect evidence to support their claim and denote the evidence by using annotation tools and partner sharing.
- Grade 4 materials include the "Observe Your World" section within the "Elaborate" activity to provide students with an opportunity to engage with a grade-level appropriate scientific text to gather evidence and develop an understanding of concepts. Following the reading of the "Electrifying Electric Eels" article, students are expected to showcase the evidence collected by answering a writing prompt. The opportunities for students to engage with scientific texts include activities, such as pre-reading and vocabulary, to help them develop an understanding of concepts. During the Elaborate phase of the lesson, the student edition includes a "Stem Connection" text. These texts feature a diverse group of real scientists, engineers, and STEM professionals.
- The materials provide multiple opportunities for students to engage in purposeful and targeted activities with grade-level appropriate scientific texts. Each lesson provides an "Explain" section that contains scientific texts written at grade-level appropriateness for students to use to gather evidence and develop an understanding of concepts, as well as supports pre-reading with an "Interactive Word Wall" activity. The Interactive Word Wall contains helpful graphics and sidebars. In Chapter 2, during the Explain phase of the lesson, the student edition lists words to support the understanding of physical states of matter (which can be added to the interactive word wall), such as gas, liquid, matter, physical property, physical state, solid, and temperature. Then the materials include a prompt to make a claim about the different physical states they observed for ice and water during their investigation, followed by nonfiction text, which students can use to gather evidence to support their claims.

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- The materials provide a Lexile level for each “Explain” passage in the “Plan Your Lesson” section under “Text Complexity”. Each chapter also provides a ‘Hook Them With Books’ section with different texts available for book clubs and other uses.

Materials provide multiple opportunities for students to engage in various written and graphic modes of communication to support students in developing and displaying an understanding of scientific concepts.

- Grade 4 materials provide multiple opportunities for students to engage in various written and graphic modes of communication to support students in developing and displaying an understanding of scientific concepts, including the “Word Lab” student resource designed for student practice of vocabulary words. Through these interactive word wall opportunities, students are encouraged to continuously update a vocabulary graphic organizer to display an understanding of scientific terms and concepts developed throughout the lessons.
- Grade 4 materials include “Create Your Foldables,” which provides students with opportunities to utilize various written and graphic modes of communication to support students in developing and displaying an understanding of scientific concepts. For example, in Chapter 5, students create a trifold foldable chart for their chapter study guide to display how friction, magnetism, and gravity interact with objects.
- Materials provide multiple opportunities for students to engage in various written and graphic modes of communication to support students in developing and displaying an understanding of scientific concepts. Materials include the routine “See, Scan, Analyze” that promotes students’ visual literacy practice to develop an understanding of scientific concepts. The routine is first introduced in Chapter 1 and then revisited in every “Explain” section that contains pictures as visual literacy to support students’ understanding of scientific concepts. This section allows students to display their understanding of scientific concepts, either in writing or using a graphic organizer. The materials provide opportunities for students to write to display their understanding in the “Elaborate” and “Evaluate” sections of each lesson. In Elaborate, students analyze data and write a response. In Evaluate, students answer multiple-choice and open-ended questions to show their understanding.
- In Chapter 2, as students learn about Matter, a “Read the Photo” activity shows a steaming cup of hot chocolate surrounded by chocolate bars and cocoa beans. Students are tasked to find three states of matter in the photo, discuss them with a partner, write about them in their science notebook, and state a claim using the following sentence frame, “I think _____ because _____.” They can then practice vocabulary words in the word lab online or update their graphic organizer with their interactive word wall.

Materials support students to act as scientists and engineers who can learn from engaging in phenomena and engineering design processes, make sense of concepts, and productively struggle.

- Grade 4 materials support students to act as scientists and engineers who can learn from engaging in phenomena and engineering design processes, make sense of concepts, and productively struggle using the “Hands-On Investigation Library.” For example, in Chapter 5, Lesson 2, students investigate the “Rocking and Rolling Down the River” phenomenon to learn more about patterns of magnetism. The materials include the “Descriptive Investigations” section of Chapter 1, introducing students to the concepts necessary to act as scientists and engineers who can learn from engaging in phenomena and engineering design processes,

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including criteria, discovery, innovation, prototypes, and other terms. Within this activity, students ask questions, plan and conduct investigations of a given phenomenon, record observations and data, and communicate results and findings to peers, acting as scientists and engineers.

- The materials support students as “practitioners” while they are sensemaking and productively struggling. Every other chapter concludes with a “STEM Project” that supports students as scientists and engineers as they use scientific practices and engineering principles to complete the activity. The materials also support teachers in understanding the common setbacks and where students may productively struggle. For example, the STEM Project at the end of Chapter 8 is “Meet the Moon Night,” where students apply what they learned in this chapter about the Sun, Moon, and Earth Systems. The materials create transfer opportunities for students to take what they have learned and use it in different situations in the “STEM Station Options” in each lesson. For example, in Grade 4 materials Lesson 9.1, students use their knowledge of plant structures to research online, create an input-output table, and make connections to a book to further show their understanding.
- The materials provide authentic student engagement and perseverance of concepts through productive struggle. For example, in the “Explore” section of each lesson, students plan and create an investigation to answer the essential question (when using the open inquiry option). Students also act as scientists when they use the “Claim, Evidence, Reasoning” routine to investigate concepts.
- The materials provide authentic student engagement and perseverance of concepts through productive struggle while acting as scientists and engineers. The “Show What YOU Know” projects for each chapter allow students to showcase how they made sense of the science concepts. For example, after investigating the properties of matter in Chapter 2, the “Show What YOU Know” activity asks students to produce a video, write a test or design an infographic about the matter. Questions to answer include: “How would you explain matter to a younger family member? What did you learn about matter that surprised you? and How do the properties of matter affect your life?” The rubric for scoring includes the following categories: shows an understanding of scientific knowledge, correct use of vocabulary, makes connections to everyday life, and activity is of high-quality writing, has clear organization, and shows creativity. In Chapter 3, after investigating mixtures and solutions, a technology station called “It Matters to All Ages” directs students to create a short video explaining the conservation of matter to a younger audience.

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Indicator 5.1

Materials promote students' use of evidence to develop, communicate, and evaluate explanations and solutions.

1	Materials prompt students to use evidence to support their hypotheses and claims.	M
2	Materials include embedded opportunities to develop and utilize scientific vocabulary in context.	M
3	Materials integrate argumentation and discourse throughout to support students' development of content knowledge and skills as appropriate for the concept and grade level.	M
4	Materials provide opportunities for students to construct and present developmentally appropriate written and verbal arguments that justify explanations to phenomena and/or solutions to problems using evidence acquired from learning experiences.	M

Meets | Score 4/4

Materials meet the criteria for this indicator. Materials promote students' use of evidence to develop, communicate, and evaluate explanations and solutions.

Materials prompt students to use evidence to support their hypotheses and claims. Materials include embedded opportunities to develop and utilize scientific vocabulary in context. Materials integrate argumentation and discourse throughout to support students' development of content knowledge and skills as appropriate for the concept and grade level. Materials provide opportunities for students to construct and present developmentally appropriate written and verbal arguments that justify explanations to phenomena and/or solutions to problems using evidence acquired from learning experiences.

Evidence includes but is not limited to:

Materials prompt students to use evidence to support their hypotheses and claims.

- The materials prompt students to use evidence to support their hypotheses and claims. The student materials provide opportunities for students to develop how to use evidence to support their hypotheses and claims in the "Claim, Evidence, Reasoning" (CER) routine. The materials consistently present this routine in each lesson inside the "Explain" section. For Example, in Chapter 5, students are asked to answer how friction was affected by the surface using evidence to support their claims and build reasoning.
- Materials specifically prompt students to use evidence when supporting their hypotheses and claims. Each lesson contains a "Hands-On Investigation" in the "Explore" section. At the conclusion of the investigation, the activity prompts students to use evidence to explain whether their results support their initial prediction. Students are encouraged to develop claims to predict investigation outcomes, followed by collecting data and information to support these claims to develop reasoning to come to conclusions.
- Materials provide opportunities for students to develop how to use evidence to support their hypotheses and claims. For example, in each lesson, the students follow the Claim, Evidence, Reasoning (CER) format to answer the essential question. The student materials encourage students to use the text to find evidence to back up their claims. They are also encouraged to

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create an investigation to explore their claim and find evidence as well. The materials specifically prompt students to use evidence when supporting their ideas or claims. For example, in Hands-On Investigations, students answer questions about their investigation but must use evidence from the investigation to support their answers. A sentence frame is also provided for this step. In step three, students write the reason why their claim is valid, and they can also use a provided sentence stem.

Materials include embedded opportunities to develop and utilize scientific vocabulary in context.

- Grade 4 materials include the “STEM Connection: Write About It!” section, offering an embedded opportunity for students to develop and utilize scientific vocabulary in context. For example, in Chapter 3, students choose a prompt and then utilize vocabulary to develop a claim, provide evidence, and support their answer with scientific reasoning by applying content and skills. This is located in the “Elaborate” section of the materials.
- The materials include opportunities to develop and use vocabulary after having a concrete or firsthand experience to which they can contextualize new terms. The materials list scientific vocabulary at the beginning of the "Explain" section. Then, each word is embedded and highlighted in the text, where the vocabulary word is used in context. Students can then use the context to develop an understanding of each new term. For example, in Chapter 5, the terms contact force, force, and friction are bolded and used in context within the articles and investigation stations to support student learning of vocabulary in an authentic manner.
- The materials include an online interactive resource, "Word Lab," to help students master vocabulary. Students explore the word's meaning with definitions, pictures, and examples. Students then participate in "Practice It" activities by choosing from multiple-choice or drop-down menus. There are also digital flashcards available to support students as well.
- Grade 4 materials include embedded opportunities to develop and utilize scientific vocabulary in contexts such as the bolded interactive word wall terms featured throughout the Explain articles and other activities. For example, in Chapter 5, the terms contact force, force, and friction are bolded and used in context within the articles and investigation stations to support student learning of vocabulary in an authentic manner.
- Grade 4 materials include the STEM Connection: Write About It! section, offering an embedded opportunity for students to develop and utilize scientific vocabulary in context. For example, in Chapter 5, Lesson 3, students choose a prompt and then utilize vocabulary to develop a claim, provide evidence, and support their answer with scientific reasoning by applying content and skills.
- The materials include opportunities to develop and use vocabulary after having a concrete or firsthand experience to which they can contextualize new terms. The materials list scientific vocabulary at the beginning of the "Explain" section. Then, each word is embedded and highlighted in the text, where the vocabulary word is used in context. Students can then use the context to develop an understanding of each new term.
- The materials provide opportunities for students to apply scientific vocabulary within context. Inside each lesson, there is an "Elaborate" section that contains an activity called "Write About It!". This activity allows students to utilize the new scientific vocabulary in context as they apply what they have learned in the previous "Explain" section to new situations.
- Materials include opportunities to develop and use vocabulary. For example, the student materials include definitions and pictures of academic vocabulary with embedded online supports. The materials encourage students to utilize the vocabulary at various parts throughout the lessons when they are responding to question prompts. The chapter 3 opener has a picture

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of a rocky ocean shoreline. The opening video for the chapter “Mixing Materials” shows water rolling onto the same rocky shoreline. The materials direct the teacher to ask students what matter they observe and describe what is mixing on the beach.

- The materials include an online interactive resource, "Word Lab," to help students master vocabulary. Students explore the word's meaning with definitions, pictures, and examples. Students then participate in "Practice It" activities by choosing from multiple-choice or drop-down menus. There are also digital flashcards available to support students as well.

Materials integrate argumentation and discourse throughout to support students' development of content knowledge and skills as appropriate for the concept and grade level.

- Grade 4 materials include the “Talk About It” icon throughout chapters to integrate argumentation and discourse to support students' development of content knowledge and skills as appropriate to both concept and grade level. In the Teacher Resource Chapter 1, “Onward We Go”, the materials explain that students will see the Talk About It icon and should take a moment to talk with a partner or small group regarding the content, vocabulary, or skill being discussed. This prompt type is used across the lessons as an opportunity to discuss what is observed, as well as to argue from evidence about the "Essential Question" and phenomenon being investigated. The materials guide the teacher in introducing the prompt, encouraging discussion, supporting with sentence stems, and providing possible answers.
- The materials integrate argumentation and discourse within stages of the learning cycle. For example, each lesson includes a "Science Mindset" prompt inside the "Explore" section. This prompt educates students on the correct etiquette when discussing with a peer, as well as provides sentence frames to support the initial student argumentation. For example, in Chapter 5, Lesson 3, students are prompted to discuss how it might be beneficial to have different perspectives when trying to solve a problem.
- STEM Projects include opportunities for discourse, as students report their progress and results to teachers and classmates.
- The materials provide opportunities for students to develop how to engage in the practice of argumentation and discourse. Materials introduce students to constructing an argument for their own interpretation of the phenomena they observe. Materials provide instructional support to help students go beyond simply making claims. Students learn the Claim, Evidence, and Reasoning Routine in Chapter 1. This routine is used to practice verbal and written arguments for making claims about their scientific findings.

Materials provide opportunities for students to construct and present developmentally appropriate written and verbal arguments that justify explanations to phenomena and/or solutions to problems using evidence acquired from learning experiences.

- Grade 4 materials provide opportunities for students to construct and present developmentally appropriate written and/or verbal arguments that justify explanations of phenomena and solutions to problems using evidence acquired from learning experiences within the “Claims, Evidence, and Reasoning” (CER) activities throughout the chapters. The materials consistently present this routine in each lesson inside the "Explain" section. This framework comes back in each Lesson when students write their own claims for each essential question. After students read and underline parts of the shared reading text, they use the worksheet with sentence

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stems to organize their text evidence and write a supported claim. For example, in Chapter 5, students are allowed to construct and present arguments relating to the question: How was friction affected by the surface?

- The materials provide students with the opportunity to justify explanations of phenomena in their “Hands-On Investigations”. The materials guide students in the investigation and in answering questions with evidence from the investigation to show their understanding of the phenomena.
- The materials include “Show What You Know” activities that provide students the opportunity to construct and present written and verbal arguments to justify explanations of phenomena and solutions to problems using written and verbal arguments to problems using evidence acquired from learning experiences. The student checklist and rubric remind students to show their understanding by including science knowledge, and vocabulary words from the chapter, and making connections to their everyday life. Students use this checklist to construct things like posters, infographics, journal entries, or videos. In Chapter 5, students design a board game, debate with a partner, or create a brochure to showcase their argument related to forces and patterns.

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Indicator 5.2

Materials provide teacher guidance to support student reasoning and communication skills.

1	Materials provide teacher guidance on anticipating student responses and the use of questioning to deepen student thinking.	M
2	Materials include teacher guidance on how to scaffold and support students' development and use of scientific vocabulary in context.	M
3	Materials provide teacher guidance on preparing for student discourse and supporting students in using evidence to construct written and verbal claims.	M
4	Materials support and guide teachers in facilitating the sharing of students' thinking and finding solutions.	M

Meets | Score 4/4

The materials meet the criteria for this indicator. Materials provide teacher guidance to support student reasoning and communication skills.

Materials provide teacher guidance on anticipating student responses and the use of questioning to deepen student thinking. Materials include teacher guidance on how to scaffold and support students' development and use of scientific vocabulary in context. Materials provide teacher guidance on preparing for student discourse and supporting students in using evidence to construct written and verbal claims. Materials support and guide teachers in facilitating the sharing of students' thinking and finding solutions.

Evidence includes but is not limited to:

Materials provide teacher guidance on anticipating student responses and the use of questioning to deepen student thinking.

- Grade 4 materials include "Ask" prompts throughout chapters and lessons to provide guidance of questioning to deepen student thinking. For example, in Chapter 4, the "Interactive Word Wall" feature uses the blue font to prompt teachers to "Ask" questions to help students build authentic connections to scientific terms and build upon current background knowledge and experiences.
- The materials provide teacher guidance on anticipating student responses and using questioning to deepen student thinking. In the Teacher eBook, every "Explore" section provides sample student answers, as well as guided questions to help students make their predictions, conduct their investigations, communicate their findings, and make their claims. In the "Interactive Word Wall" sidebar, teachers ask questions from the guide to facilitate discussion and deeper levels of thinking.
- The materials provide questions with possible student responses in every "Evaluate" section. The teacher eBook supports anticipating student responses, including correct, incorrect, and partially correct responses, along with teacher guidance to help identify what the students understand and may not understand by their given responses. For example, in grade 4 Earth's processes and resources lesson, materials introduce students to erosion and deposition. One of

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the questions the materials provide to help assess students at the end of the lesson in the "Evaluate" section is "Which process most likely formed the canyon?" The students have four possible choices. The teacher materials provided the correct and incorrect choices, as well as an explanation of what students understand and do not understand by their chosen option. Such as, "A. Correct. The fast-moving water in the river can carry away weathered rocks and sediment." and "B. Incorrect. Wind does not play a major role in forming canyons." The materials include questions for the teachers to ask and possible student sample answers in pink text.

- The materials include support for teachers to deepen student thinking through questioning. The materials provide questions throughout many parts of the lesson. For example, in grade 4, materials provide questions with possible student responses. In a unit on matter, materials list questions such as "Why does the river look muddy?" with the possible response that it is carrying sediment. Materials follow up with the question, "Where did the sediment come from?" with a sample response, "The sides of the river." For an open-ended question like "How do erosion and deposition connect to the idea that the weathering, erosion, and the use of natural resources can change the environment and impact our lives?" The materials state that students should recognize that ocean waves can add sand to a beach by deposition and remove sand by erosion.

Materials include teacher guidance on how to scaffold and support students' development and use of scientific vocabulary in context.

- Materials include teacher guidance on how to scaffold and support students' development and use of scientific vocabulary in context. Inside the "Science Language and Content Acquisition" section, the materials provide teachers with a chapter overview that previews for the teacher the vocabulary that will be used in that chapter. Materials state that the teacher will introduce vocabulary words strategically within the learning sequence. Materials also include a vocabulary prioritization section that breaks down each term by level of importance for student understanding during the chapter, such as "Lesson Vocabulary," "Supporting Vocabulary," and "Prior Knowledge [vocabulary]."
- The materials provide guidance for the teacher on how to support students' use of scientific vocabulary in context. For example, materials provide an "Interactive Word Wall" note to support the lessons in the Teacher's eBook. The note alerts teachers of exclusive opportunities for students to use scientific vocabulary in context. Such as, when grade 4 students engage in a hands-on investigation about erosion and deposition from water, wind, and ice, materials stated in the "Interactive Word Wall" note that students can review and use the terms "model", "collect," and "evidence" when describing their own model. The materials include Word Wall strategies such as context, word origin, related words, total physical response scenarios, cognates, word parts, and multiple meanings examples.
- The materials provide embedded support for the teacher in how to introduce and scaffold students' development of scientific vocabulary. For example, at the beginning of each chapter, there is a "Science Language and Content Acquisition" page. This page details what vocabulary the students should already know, what new words they will be learning, what "Scientific Engineering Practices and Themes" they cover, and strategies to encourage student development of vocabulary.

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Materials provide teacher guidance on preparing for student discourse and supporting students in using evidence to construct written and verbal claims.

- Grade 4 materials provide teacher guidance on preparing for student discourse and supporting students in using evidence to construct written and verbal claims, as seen in the Engage activities throughout chapters and lessons, such as the “Essential Questions” and anchor phenomenon prompts. For example, in Chapter 5, Lesson 1, the anchoring phenomenon includes a picture of a girl ice skating and a video of objects gliding across ice followed by a “Talk About It” prompt guiding teachers on how to start a class discussion in which students form claims to questions supported by evidence.
- The materials provide teacher support to prepare for student discourse. The materials include teacher preparation by setting up and reinforcing a class culture in which students are listening to and evaluating whether they agree with one another’s ideas. For example, each lesson contains a “Talk About It” activity inside the “Engage” section that instructs the teacher to “As students discuss [...], encourage them to share ideas. Use sentence frames to promote independent thinking and respectful listening.”, which is then followed by the sentence frames mentioned. After completing an investigation to observe the changing physical state of ice as it melts in Chapter 2, materials direct teachers to prompt students to use their observations and measurements as evidence to classify and describe how the physical state and temperature change as the ice cube melts.
- The materials provide teacher questions to support discourse and the use of evidence for constructing written and verbal claims. For example, grade 4 materials provide a Claim, Evidence, Reasoning prompt in each lesson. Teachers walk students through the process, and students develop their own claims and support them with evidence. After every “Hands-On Investigations”, the “Claim, Evidence, Reasoning” activity prompts teachers to ask questions, such as “What do you think?”, “Why do you think that?” and “How does your evidence support your claim?”.
- Grade 4 materials include the “Guided and Open Inquiry” teacher guides in the “Hands-On Investigations” to provide teacher support for preparing student discourse and construction of written and verbal claims using the Claims, Evidence, and Reasoning (CER) model. The materials provide teacher questions for supporting student discourse and using evidence in constructing written and verbal claims. In Chapter 1 of the materials, the Claim, Evidence, Reasoning routine is introduced. It is a three-step routine for students to write a claim about their findings from the Hands-On Investigation. In step one, students make a claim and can use a sentence frame such as “I claim that _____.” In step two, students gather evidence for their claim by reading, watching videos, or using their notes from their investigation. A sentence frame is also provided for this step. In step three, students write the reason why their claim is valid, and they can also use a provided sentence stem.

Materials support and guide teachers in facilitating the sharing of students’ thinking and finding solutions.

- Grade 4 materials include the “Hands-On Investigation” summary, expected outcomes, teacher tips, and investigation framework supporting and guiding teachers in facilitating the sharing of students’ thinking and finding solutions. In Chapter 5, materials provide support and guide teachers in facilitating the sharing of student findings and conclusions throughout an investigation of interacting magnets.

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- Grade 4 materials support and guide teachers in facilitating the sharing of students' thinking and finding solutions, as evidenced in the Notebooking feature. This feature supports teachers' efforts to promote the recording and sharing of progressive thinking and problem-solving throughout the content delivery.
- The materials provide teacher support and guidance to engage students' thinking in various modes of communication throughout the year. The materials help teachers facilitate the sharing of students' thinking and finding solutions by using the guided "Claim, Evidence, Reasoning" activities, which provide teachers with the organization and potential student answers for each "Claim, Evidence, Reasoning" activity in the lessons throughout the year.
- The materials provide teacher support for facilitating the sharing of students' finding solutions. Materials provide feedback tips and examples teachers can use to support students throughout the learning cycle. For example, at the end of each chapter, the "Chapter Wrap-Up" includes a "Show What You Know" activity that guides teachers in facilitating the sharing of students' thinking and finding solutions. These activities have suggested ways for students to share their thinking, as well as guiding questions that teachers can use to help students complete it.
- The materials provide projects like the "STEAM Stations" and "STEM Projects." Students have multiple ways to show their thinking and understanding. In Chapter 3, after investigating mixtures and solutions, a technology station called "It Matters to All Ages" directs students to create a short video explaining the conservation of matter to a younger audience.
- The materials provide teacher support and guidance for facilitating the sharing of students' finding solutions. For example, the "Show What You Know" section provides teachers with guidance for facilitating student thinking and finding solutions.
- The materials provide teacher support for facilitating the sharing of students' finding solutions. The "Show What YOU Know projects" for each chapter allow students to showcase how they made sense of the science concepts. For example, after investigating the properties of matter in Chapter 2, the Show What YOU Know activity asks students to produce a video, write a test, or design an infographic about matter. Questions to answer include: How would you explain matter to a younger family member? What did you learn about matter that surprised you? How do the properties of matter affect your life? The rubric for scoring includes the following categories: shows an understanding of scientific knowledge, correct use of vocabulary, makes connections to everyday life, and activity is of high-quality writing, has clear organization, and shows creativity.

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Indicator 6.1

Materials include a variety of TEKS-aligned and developmentally appropriate assessment tools.

1	Materials include a range of diagnostic, formative, and summative assessments to assess student learning in a variety of formats.	M
2	Materials assess all student expectations over the breadth of the course and indicate which student expectations are being assessed in each assessment.	M
3	Materials include assessments that integrate scientific concepts and science and engineering practices with recurring themes and concepts.	M
4	Materials include assessments that require students to apply knowledge and skills to novel contexts.	M

Meets | Score 2/2

The materials meet the criteria for this indicator. Materials include a variety of TEKS-aligned and developmentally appropriate assessment tools.

Materials include a range of diagnostic, formative, and summative assessments to assess student learning in a variety of formats. Materials assess all student expectations over the breadth of the course and indicate which student expectations are being assessed in each assessment. Materials include assessments that integrate scientific concepts and science and engineering practices with recurring themes and concepts. Materials include assessments that require students to apply knowledge and skills to novel contexts.

Evidence includes but is not limited to:

Materials include a range of diagnostic, formative, and summative assessments to assess student learning in a variety of formats.

- Materials include diagnostic assessments for measuring student learning and identifying learning gains in a variety of formats. Each lesson begins with a "Page Keeley Science Probe" that elicits students' misconceptions. Teachers can use this information to inform their instruction. Students revisit the probe to revise their answers and show their understanding. For example, in Chapter 5, Lesson 1, the Page Keeley Science Probe assesses students' ideas about friction.
- Materials include formative and summative assessments in a variety of formats to measure student learning and determine the next steps for instruction. For example, one of the many formative assessments in every lesson is the "Claim, Evidence, Reasoning" activity, in which teachers can evaluate student performance by the sample answers provided with the teacher materials. Also, each lesson ends with a summative assessment in the "Lesson Review," which includes open-ended and multiple-choice questions. The teacher eBooks also provide sample answers to every "Lesson Review." For example, the Chapter 5 Lesson 1 Lesson Review assesses student understanding of patterns of friction before continuing on to Lesson 2 materials.
- Materials include formative assessments for measuring student learning and identifying learning gains in a variety of formats. For example, each lesson contains "Quick Check" and "Check For

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Understanding" sections to assess students' understanding during the lessons. The materials include various ways of showing their understanding, like a graphic organizer or verbally responding.

- Materials include summative assessments in a variety of formats. For example, each chapter contains an "Evaluate" section which includes a post-assessment for the lesson. Students answer multiple-choice and open-ended questions to show their understanding of the lesson. Each chapter also includes a "Chapter Wrap-Up" where students show their understanding of all of the lessons for a Chapter.

Materials assess all student expectations over the breadth of the course and indicate which student expectations are being assessed in each assessment.

- Grade 4 materials assess all student expectations and indicate which ones are assessed as seen in the "Plan Your Lesson" guide. In this section, the materials communicate the expectations for student learning and include the assessment opportunities associated with the content presented in each of the 5 E's (Engage, Explore, Explain, Elaborate, and Evaluate. The expectations outlined in the Plan Your Lesson feature are intentionally aligned with the TEKS and grade-level expectations.
- The materials indicate which student expectations are assessed. Materials provide the TEKS correlation for each assessment item and the answer keys for every assessment. For example, at the end of each chapter, the "Chapter Wrap-Up" includes a summative assessment in which each question is followed by a blue bubble that contains the student expectations assessed. Sometimes, two or three standards are assessed in one assessment question.
- The materials assess all student expectations, as outlined in the TEKS, by the grade level. The K-5 Scope and Sequence is TEKS-aligned and allows students to build background knowledge in a developmentally appropriate way. The Scope and Sequence is meticulously researched with the aid of experts, advisors, and Texas teachers to provide the necessary scope of topics for student success.
- In the "Teacher's Guide," the materials clearly indicate how the materials align with the curriculum for the grade level in a manner easily identifiable by the teachers. The Table of Contents located in the front of the Teacher and Student Edition were researched with the aid of experts and advisors. Every chapter outlines how the knowledge and skills are taught in previous and upcoming grades.

Materials include assessments that integrate scientific concepts and science and engineering practices with recurring themes and concepts.

- Grade 4 materials include assessments that integrate scientific concepts and science and engineering practices with recurring themes and concepts, as evidenced in the "Evaluate Questions" within "Lesson Review" activities. The Lesson Review assessments evaluate students' application and understanding of scientific concepts, engineering practices, and recurring themes. The materials include assessments that require students to integrate scientific knowledge and science and engineering practices with recurring themes. For example, in the Chapter 2 Lesson 3 Review, question 2 is dual coded and covers both the Scientific and engineering practice 4.1A, "ask questions and define problems...", and the content 4.6A, "classify and describe matter using observable physical properties..."
- Grade 4 materials include Claims, Evidence, and Reasoning (CER) writing assessment opportunities which integrate scientific concepts and science and engineering practices with

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recurring themes and concepts. Students apply and communicate scientific concepts, practices, and themes using the CER process throughout the lessons to demonstrate a thorough understanding by the conclusion of a lesson and chapter.

- The materials include assessments that require students to integrate scientific knowledge and science and engineering practices with recurrent themes appropriate to the student expectation being assessed. This assessment is inside each lesson, in the "Explore" section. For example, grade 4 materials include a "Hands-On Investigation" in which students graph average monthly high and low temperatures and precipitation for their area and compare it to a current weather report. Students examine their collected data and compare it to a current weather report. Students analyze both data sets to make a claim about how the two reports can be different, even when the location is the same.
- The materials include assessments that require students to integrate scientific knowledge and science and engineering practices with recurrent themes appropriate to the student expectation being assessed. In each lesson, the "Elaborate" section contains a "Write About It!" assessment that integrates the scientific knowledge acquired during the lesson with the science and engineering practices. For example, in grade 4, a "Write About It!" activity requires students to research the climate in their area and look at the weather patterns over the past decade so they can then make predictions about the weather in the upcoming year. The teacher rubric for this assessment evaluates (1) students make a prediction about the weather for the upcoming year, (2) students base their prediction on weather patterns over the past decade, (3) students include scientific vocabulary, and (4) students use the vocabulary words correctly.
- The materials include assessments that require students to integrate scientific knowledge and science and engineering practices with recurrent themes appropriate to the student expectation being assessed. The questions in the EVALUATE phase of the lesson are clearly labeled with the TEKS that are being assessed. Some EVALUATE questions assess more than one TEKS and are labeled as such.
- Students are provided ample opportunity to engage in problem-solving to make connections across disciplines and integrate science concepts in the STEAM Stations. In Chapter 2, an engineering activity called "Build Your Own Balance" asks students to design a balance to determine the mass of a milk carton. Students can integrate new science learning of how to measure mass.

Materials include assessments that require students to apply knowledge and skills to novel contexts.

- Grade 4 materials include assessments that require students to apply knowledge and skills to novel contexts, as seen in the "STEM Connection Write About It prompts". These prompts present recently learned scientific concepts, practices, and themes in a new context, allowing students to apply acquired knowledge to a new phenomenon or situation.
- Materials include assessments that require students to apply knowledge and skills to a new phenomenon or problem. The start of every lesson begins with an essential question. In the "Explore" section, students conduct a "Hands-On Investigation" where they apply their knowledge and skills to make a prediction about a particular topic related to this essential question. They then conduct their investigations and, after analyzing the collected data, make a claim about this new phenomenon or problem presented by the essential question.
- At the end of every chapter, the "Chapter Wrap-Up" includes a "Show What You Know" activity that requires students to transfer their knowledge and apply their understanding from the context presented in the lesson to a new situation. For example, a grade 4 "Show What You Know" activity requires students to write children's books, create a comic strip or have a puppet

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show for one of the following choices: (1) "How do weather and climate affect your life?", (2) "What did you learn about the water cycle that surprised you?" and (3) "Why do the water cycle, weather, and climate matter?".

- The materials provide assessments that require students to apply knowledge and skills to new phenomena or problems in the STEM projects section. For example, the grade 4 materials include a "Community Lemonade Stand STEM project" where students solve the problem of creating lemonade recipes and apply their new learning to solve the problem.
- Materials include activities that require students to apply knowledge and skills to a new phenomenon or problem. STEAM Projects support students as scientists and engineers as they use scientific practices and engineering principles to complete the activity and deepen their knowledge through experiential learning. In Chapter 3, after investigating mixtures and solutions, a technology station called "It Matters to All Ages" directs students to create a short video explaining the conservation of matter to a younger audience.

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Indicator 6.2

Materials include guidance that explains how to analyze and respond to data from assessment tools.

1	Materials include information and/or resources that provide guidance for evaluating student responses.	M
2	Materials support teachers' analysis of assessment data with guidance and direction to respond to individual students' needs, in all areas of science, based on measures of student progress appropriate for the developmental level.	M
3	Assessment tools yield relevant information for teachers to use when planning instruction, intervention, and extension.	M
4	Materials provide a variety of resources and teacher guidance on how to leverage different activities to respond to student data.	M

Meets | Score 2/2

The materials meet the criteria for this indicator. Materials include guidance that explains how to analyze and respond to data from assessment tools.

Materials include information and/or resources that provide guidance for evaluating student responses. Materials support teachers' analysis of assessment data with guidance and direction to respond to individual students' needs, in all areas of science, based on measures of student progress appropriate for the developmental level. Assessment tools yield relevant information for teachers to use when planning instruction, intervention, and extension. Materials provide a variety of resources and teacher guidance on how to leverage different activities to respond to student data.

Evidence includes but is not limited to:

Materials include information and/or resources that provide guidance for evaluating student responses.

- Grade 4 materials include information and/or resources that provide guidance for evaluating student responses, as seen in the exemplar answers provided for all Student Edition "Lesson Review" and "Chapter Wrap-Up Questions." These sample student answers inform teachers' evaluation of student understanding of content understanding and skill mastery based on the grade-level TEKS.
- Grade 4 materials provide "Show What You Know rubrics" to guide teachers' evaluation of student responses. Rubrics serve as a resource to inform current student understanding of content to inform instruction moving forward or assess mastery of grade-level TEKS expectations.
- Materials include information that guides teachers in evaluating student responses. Materials guide teachers to look for specific components when evaluating student responses. In each lesson, the "Elaborate" section contains a "Write About It!" assessment that includes a teacher rubric. For example, in grade 4 a "Write About It!" activity requires students to research the climate in their area and look at the weather patterns over the past decade so they can then make predictions about the weather in the upcoming year. The teacher rubric for this assessment evaluates (1) students to make a prediction about the weather for the upcoming

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year, (2) students base their prediction on weather patterns over the past decade, (3) students include scientific vocabulary, and (4) students use the vocabulary words correctly.

- Materials guide teachers to look for specific components when evaluating student responses. For example, teachers are provided guidance on partial answers in rubrics for STEM projects. Every other chapter of the materials contains a STEM Project at the end of the chapter, as the project embeds multiple TEKS. Each STEM Project contains its own teacher rubric.
- Materials include information that guides teachers in evaluating student responses. The grade 4 materials include sample student responses and follow-up questions in the “Explain, Elaborate, and Evaluate” sections. The “Lesson Review” in the Evaluate section also includes the rationale for the written answers.
- Materials include information that guides teachers in evaluating student responses. The “Hands-On Investigations” includes sample answers for guiding questions and student activity pages in the teacher edition.

Materials support teachers' analysis of assessment data with guidance and direction to respond to individual students' needs, in all areas of science, based on measures of student progress appropriate for the developmental level.

- Grade 4 materials support teachers' analysis of assessment data with guidance and direction to respond to individual students' needs, in all areas of science, based on measures of student progress appropriate for the developmental level as evidenced in the “Supporting All Learners” document. This document provides a Multi-Tiered System of Supports (MTSS) framework for teachers to guide their use of student performance data to support all learners in achieving content mastery.
- Grade 4 materials provide “Reinforce and Extend” activities with sample answer rationales to support teachers' analysis of data from student responses to evaluate all student needs and inform instruction moving forward based on student progress, including intervention and acceleration as needed. Teachers can view customized progress reports by skill and by student, as well as by class and grade level in the "Interactive Performance Reports" section of the platform.
- Materials provide guidance documents and resources to support teachers' analysis of assessment data. The materials provide on-demand professional development videos to show teachers how to examine data to provide a better understanding of student performance.
- Materials include assessment tools that yield data teachers can easily analyze and interpret. Scores are color-coded and can be sorted by standard. The scores can be shown by class average or by the student. Scores are color-coded to show levels of mastery by skill. For example, 0-59 is red, 60-69 is orange, 70-79 is yellow, 80-89 is light green, and 90-100 is dark green.
- Materials provide guidance and tools to support teachers in responding to data to inform instruction. Every lesson has an ELABORATE phase, which includes a writing prompt (Write About It), with a rubric for the teacher's support. If students struggle to complete the writing prompt on their own, teachers assign the “Guided Write About It” for scaffolded support as a way to respond to individual needs.
- Materials provide guidance documents and resources to support teachers' analysis of assessment data. Materials provide a supplementary guidance document on data-driven instruction in science called “Supporting All Learners,” which provides teachers with guidance and direction to respond to student's needs. Pages 3-6 provide UDL (Universal Design for Learning) information, which details how the program provides flexibility to accommodate individual learning differences.

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Assessment tools yield relevant information for teachers to use when planning instruction, intervention, and extension.

- Grade 4 materials include assessment tools to support teacher understanding of student performance and inform the planning of instruction, intervention, and extension, such as the “Assessment and Reports” module. This tool allows teachers to track student performance based on activities, standards, and progress over lessons and chapters to support teachers' evaluation of student mastery, differentiation, and other supports.
- Grade 4 materials include assessment tools such as the “Page Keeley Science Probes” to support teacher understanding of student performance and inform the planning of instruction, intervention, and extension throughout the chapter. For example, in Chapter 4, Lesson 1, the Page Keeley Science Probe assesses students' ideas about describing light at the onset of the content delivery, followed by ongoing evaluation of student progress culminating in a final check of student understanding at the chapter's conclusion.
- The information gathered from the assessment tools helps teachers when planning differentiated science instruction. The “Standards Performance Report” shows overall and individual student performance data by the standard. On a computer-generated report, students are coded based on their performance. For example, 0-59 is red, 60-69 is orange, 70-79 is yellow, 80-89 is light green, and 90-100 is dark green. In the reports tab, teachers track and analyze data by standard or assessment to understand students' grasp of the concepts. Teachers see overall data and can consider the whole class or small group reteaching or review.
- The materials include “Pretests, Lesson Review assessments, and Chapter Wrap Up” assessments that provide teachers with data and information on what level of review or reteaching is necessary. The materials also provide a “Reinforce” prompt within each lesson where it would be appropriate to review or reteach certain parts of the standard.
- The information gathered from the assessment tools helps teachers plan differentiated instruction. Various differentiation Tips are noted at the Point of Use. “Reinforce” callouts are for targeted instruction and scaffolds for students who may need additional support. “Extend” callouts for students who are ready for acceleration. Fast finisher notes in “Engage” are included. Additional callouts provide support for ESL students.

Materials provide a variety of resources and teacher guidance on how to leverage different activities to respond to student data.

- Grade 4 materials include the “Guided Write About It and Guided Claim, Evidence, and Reasoning” (CER) activities, serving as resources to support teacher response to student data and understanding. Student performance on these tasks can offer insight to teachers on how to best leverage current student knowledge in achieving mastery of TEKS.
- Grade 4 materials include resources to guide teachers' understanding of leveraging different activities to respond to student data, such as the “Text Complexity in Science” document. This document provides an if, then, and monitoring framework to guide teacher efforts in leveraging current student performance in progress toward TEKS mastery.
- Materials provide a variety of student resources for teachers to use in responding to performance data. Materials provide direct instruction of science concepts, followed by reviews and skills practice activities for students.
- Materials provide a variety of teacher guidance for responding to student data. An electronic data entry system provides data reports on grouping students according to assessment results.

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- Materials provide a variety of student resources for teachers to use in responding to performance data. The materials provide direct instruction materials, including visuals, reading passages, hands-on tasks, and many supplemental resources for teachers to use. The materials also provide intervention and reinforcing activities, along with differentiated activities.
- The materials provide a variety of teacher guidance for responding to student data. For example, the materials provide Dr. Fisher's "Text Complexity Strategies," which details many strategies to help students comprehend science texts. The document provides If...Then... scenarios for teachers to reference.
- Materials provide a variety of student resources for teachers to use in responding to performance data. Materials provide direct instruction of science concepts, followed by reviews that include discussions, reading and writing activities, hands-on investigations, and STEAM stations and projects.
- Materials provide a variety of teacher guidance for responding to student data. The Teacher's Edition includes tables that specify which activities in the program to assign students when they have difficulty answering assessment questions. The "Chapter Resource Snapshot" lists the various formative and summative assessments in each lesson and the online differentiation and supports, such as adaptive texts, leveled readers, and vocabulary resources. The "Plan Your Lesson Page" outlines the activities for both teaching and assessment.

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Indicator 6.3

Assessments are clear and easy to understand.

1	Assessments contain items that are scientifically accurate, avoid bias, and are free from errors.	M
2	Assessment tools use clear pictures and graphics that are developmentally appropriate.	M
3	Materials provide guidance to ensure consistent and accurate administration of assessment tools.	M
4	Materials include guidance to offer accommodations for assessment tools that allow students to demonstrate mastery of knowledge and skills aligned to learning goals.	M

Meets | Score 2/2

Materials meet the criteria for this indicator. Assessments are clear and easy to understand.

Assessments contain items that are scientifically accurate, avoid bias, and are free from errors. Assessment tools use clear pictures and graphics that are developmentally appropriate. Materials provide guidance to ensure consistent and accurate administration of assessment tools. Materials include guidance to offer accommodations for assessment tools that allow students to demonstrate mastery of knowledge and skills aligned to learning goals.

Evidence includes but is not limited to:

Assessments contain items that are scientifically accurate, avoid bias, and are free from errors.

- Assessments contain items for the grade level that are scientifically accurate. The materials include assessment items that align with grade-level standards and concepts. For example, in Grade 4, Chapter 9, “Wrap up” accurately uses the words inherited and acquired traits. Assessments contain items for the grade level that are scientifically accurate. A summative assessment item accurately uses the term mass instead of weight. The Chapter 5 Lesson 3 Review assessment accurately evaluates a student's ability to understand that gravity is acting on objects at all times, not just when falling.
- Assessments contain items for the grade level that avoid bias. The materials contain assessments that present content and examples fairly and impartially without impacting student performance based on factors such as a student's home language, gender, race, or ethnicity. For example, in the 9.1 Lesson Review in the Grade 4 materials, students are shown a photograph of a rose bush so they have some background knowledge about it before answering the assessment question. Materials include performance tasks that present individuals of diverse backgrounds as scientists and engineers. A summative assessment uses the gender-neutral term child when showing a picture of a girl eating cereal.

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Assessment tools use clear pictures and graphics that are developmentally appropriate.

- Grade 4 materials provide assessment tools with clear pictures and graphics developmentally appropriate for the grade level, as seen in “Lesson Reviews” and “Chapter Wrap-ups.” For example, in Chapter 5, Lesson 2 Lesson Review assessment, materials utilize images of color-coded magnets to designate north and south poles as stimuli for questions and to evoke student engagement and application of content.
- Grade 4 materials utilize graphics such as a stop sign to signify to a student in a visual, age-appropriate way that they have reached the end of an assessment. Consistent use of familiar symbols, such as a stop sign, can promote student assessment navigation.
- The materials contain assessment materials with pictures and graphics that are developmentally appropriate. For example, in Chapter 8, “Wrap Up,” in the Grade 4 materials, there is a simple, developmentally appropriate bar graph and table to display data for students to analyze. The climate bar graph clearly shows the average monthly precipitation of different locations. A different assessment question on matter shows simple photos of common objects such as a drinking glass, sweater, and brick.

Materials provide guidance to ensure consistent and accurate administration of assessment tools.

- Grade 4 materials include a “Chapter Resource Snapshot” providing guidance to ensure consistent and accurate administration of assessment tools. In the Chapter Resource Snapshot, materials provide teachers with a listing of formative and summative assessments associated with each lesson to promote accurate administration of assessment tools.
- Materials provide clear guidance for teachers to consistently and accurately administer assessment tools. At the start of each lesson, in the “Plan Your Lesson” section, materials include clear guidance for teachers to efficiently administer the assessment, such as reminders or tips that give suggestions for the time allotted to complete the assessment. Grade 4 materials include “Assess” headers, suggested time designations and tips to accurately administer assessment tools. Some Assess tips include scripted prompts to guide administration.
- The materials include detailed information that supports the teacher’s understanding of assessment tools and their scoring procedures. In every lesson, the “Evaluate” section of the Teacher’s eBook includes an assessment overview, an answer key with an exemplar explanation for each choice, a test guide, and the TEKS related to each tested item.
- Materials provide clear guidance for teachers to consistently and accurately administer assessment tools. For example, the materials include on-demand professional development videos for all formative and summative assessments and reporting tools. The videos guide teachers in creating and assigning assessments, as well as how to look at and interpret data.

Materials include guidance to offer accommodations for assessment tools that allow students to demonstrate mastery of knowledge and skills aligned to learning goals.

- Grade 4 materials include guidance to offer accommodations for assessment tools that allow students to demonstrate mastery of knowledge and skills aligned to learning goals, such as scaffolding guidance for Claim, Evidence, and Reasoning (CER) Check for Understanding assessment opportunities. materials utilize sentence stems and other guided writing tools suggested throughout, offering accommodations to CER assessments aligned to the TEKS.

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- Grade 4 materials include “LearnSmart” tips offering accommodations for students who need more practice with concepts before “Chapter Wrap-Up” assessments. Using the LearnSmart feature, teachers assign reteaching resources to support students in demonstrating mastery of knowledge and skills aligned to learning goals stated within grade-level TEKS.
- Materials offer accommodations for assessment tools so that students of all abilities can demonstrate mastery of learning goals. For example, materials provide a text-to-speech feature on the web-based assessment platform, allowing students to hover over the text using a speech symbol cursor and converting it into a digital text read aloud. The materials also include captions under their images to detail what is in the photographs and illustrations. In Grade 4 assessment items where students must use vocabulary from a word bank to complete sentences, the materials provide visual cues using color-coded text.
- The “Supporting All Learners” document provides teachers with guidance and direction to respond to students' needs. For example , the materials include the “Supporting All Learners” document, which details how teachers can accommodate students on assessments.

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Indicator 7.1

Materials include guidance, scaffolds, supports, and extensions that maximize student learning potential.

1	Materials provide recommended targeted instruction and activities to scaffold learning for students who have not yet achieved grade-level mastery.	M
2	Materials provide enrichment activities for all levels of learners.	M
3	Materials provide scaffolds and guidance for just-in-time learning acceleration for all students.	M

Meets | Score 2/2

Materials meet the criteria for this indicator. Materials include guidance, scaffolds, supports, and extensions that maximize student learning potential.

Materials provide recommended targeted instruction and activities to scaffold learning for students who have not yet achieved grade-level mastery. Materials provide enrichment activities for all levels of learners. Materials provide scaffolds and guidance for just-in-time learning acceleration for all students.

Evidence includes but is not limited to:

Materials provide recommended targeted instruction and activities to scaffold learning for students who have not yet achieved grade level mastery.

- Grade 4 materials provide “TEKS Refresh” recommendations to target instruction and scaffold learning for students who have not reached content mastery. For example, in the “Chapter 5 Chapter Launch,” the materials recommend beginning the chapter with a pretest to assess understanding and utilize the TEKS Refresh as needed to support students requiring scaffolded learning to be successful.
- Grade 4 materials include the “Reinforce” feature within various activities to provide scaffold learning with targeted instruction supporting students who have not achieved mastery. In Chapter 5, Lesson 1 Explain Activity Day 2, the materials recommend teachers assign students who require additional support with the “Science Literacy Essentials” activity scaffolds student learning.
- The materials provide recommended targeted instruction and activities to scaffold learning for students who have not yet achieved mastery. Every lesson includes teacher guidance in the “Reinforce” section, embedded in the “Elaborate” portion of the lesson. This teacher guidance helps when scaffolding instruction and differentiating activities for those students who have not yet achieved mastery.
- Materials provide additional resources for targeted instruction and differentiation to support students who have not yet achieved mastery. Materials include a PDF document containing Dr. Fisher's “Text Complexity in Science”. This document provides targeted instruction to scaffold learning for students not yet at grade-level mastery. Pages 6-8 of this document include multiple strategies for teachers to choose from when scaffolding and differentiating scientific content for students. For example, if a text has multiple levels of meaning, the teacher can model a think-aloud of how they notice the various levels. If the organization of the text shifts focus, the

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teacher can use graphic organizers with students to track how the information is organized. If the graphics are complex, the teacher can model how to extract information or use specific focus questions to reduce distractions.

- The materials include teacher guidance for scaffolding instruction and differentiating for students who have not achieved mastery. For example, in each lesson, the materials provide the teacher with multiple "Reinforce" points that they can use to reteach concepts throughout the lesson. Chapter 2, includes prompts to assign additional support, such as the Science Literacy Essentials or the Claim Evidence Reasoning graphic organizer. For example, in a Check for Understanding, the materials state, "If students are unable to classify matter by magnetism, have them watch What Magnets Attract again."
- The materials provide additional resources for targeted instruction and differentiation for students who have not yet achieved mastery. For example, the materials include scientific texts at different Lexile levels, in the "Literacy Essentials" online resources.

Materials provide enrichment activities for all levels of learners.

- Grade 4 materials provide enrichment activities for all levels of learners, including "STEAM Station Options" designed to offer differentiated enrichment for all learners and incorporate STEAM activities connected to TEKS. For example, in Chapter 5, Lesson 1 STEAM Station Options, materials provide 4 optional enrichment materials to engage students in the discovery of the concept of patterns of friction. The STEAM Stations provide teachers with an "Extend" option to further student's understanding. For example, in Chapter 2, after reading about mass, the materials include probing questions to extend learning, "Do words such as big, small, tiny, and huge describe mass?"
- Grade 4 materials provide enrichment opportunities to all learners by incorporating a tiered approach to "Hands-On" investigations ranging from structured for students needing additional support to guided and open investigations for students capable of accelerated learning.
- The materials provide enrichment activities that account for learner variability. For example, each chapter includes a list of suggested readings called, "Hook Them with Books!" to encourage all students to make connections, learn about the unit concept and standards, and integrate mathematical practice where applicable. The list includes titles in the "Leveled Reader Library" as well as titles of popular trade books.

Materials provide scaffolds and guidance for just in time learning acceleration for all students.

- Grade 4 materials include scaffolds and guidance for just-in-time learning acceleration for all students through "Anytime Investigation Videos." These videos are available for student use as an early finish option to visually extend various concepts discussed such as forces.
- Grade 4 materials provide "Extend" recommendations within lessons to scaffold and accelerate learning for all students. For example, in Chapter 4, Lesson 3, materials guide teachers to challenge students who finish early by encouraging them to research different materials clothing manufacturers use to make winter clothing and explain how the materials keep us warm. "Extend" notes can be found in multiple locations across each lesson, such as in the "Engage," "Explore," and "Explain" sections.
- The materials include recommendations for just-in-time scaffolds to develop productive perseverance in learning at the moment. The "STEAM Stations" sections embedded in every lesson include flexible options to provide acceleration activities for all learners, as well as support and resources for students who are ready to accelerate their learning. "Fast Finisher"

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notes in the “Engage” section of the lesson are included, along with various differentiation tips noted throughout the teacher edition.

- The materials provide recommendations for just-in-time scaffolds to develop productive perseverance in learning at the moment. For example, in the “Engage” section of the lesson, the materials provide teachers with question prompts, sentence stems, and other guidance to support them throughout the lesson. The materials also provide fast-finisher options as well.

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Indicator 7.2

Materials include a variety of research-based instructional methods that appeal to a variety of learning interests and needs.

1	Materials include a variety of developmentally appropriate instructional approaches to engage students in the mastery of the content.	M
2	Materials consistently support flexible grouping (e.g., whole group, small group, partners, one-on-one).	M
3	Materials consistently support multiple types of practices (e.g., modeled, guided, collaborative, independent) and provide guidance and structures to achieve effective implementation.	M
4	Materials represent a diversity of communities in the images and information about people and places.	M

Meets | Score 2/2

Materials meet the criteria for this indicator. Materials include a variety of research-based instructional methods that appeal to a variety of learning.

Materials include a variety of developmentally appropriate instructional approaches to engage students in the mastery of the content. Materials consistently support flexible grouping (e.g., whole group, small group, partners, one-on-one). Materials consistently support multiple types of practices (e.g., modeled, guided, collaborative, independent) and provide guidance and structures to achieve effective implementation. Materials represent a diversity of communities in the images and information about people and places.

Evidence includes but is not limited to:

Materials include a variety of developmentally appropriate instructional approaches to engage students in the mastery of the content.

- Grade 4 materials include a variety of developmentally appropriate instructional approaches to engage students in the mastery of content, including the Interactive Word Walls. This feature engages students in mastering grade-level appropriate vocabulary, leading to the understanding of concepts and skills when students click on the icon opening the term, definition, and visual representation.
- Materials include a variety of developmentally appropriate instructional approaches to engage students in the mastery of the content. For example, the beginning of each lesson includes a "Page Keeley Science Probe" that engages students with a scenario that they consider and then return to later in the lesson. Moreover, the materials use the 5E instructional model to structure each lesson so that students are engaged with a phenomenon to observe and wonder about across all sections of each lesson.
- Materials engage students in the mastery of the content through a variety of developmentally appropriate instructional approaches. For example, teacher materials routinely promote the use of the "Claim, Evidence, Reasoning" instructional approach in multiple sections of each lesson to

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engage students in the mastery of the content, as well as the scientific and engineering practices.

- The materials engage students in the mastery of the content through a variety of developmentally appropriate instructional approaches. For example, materials include the 5E instructional model. Lessons contain a phenomenon to observe and wonder about across all sections of each lesson.
- Materials engage students in the mastery of the content through a variety of developmentally appropriate instructional approaches. For example, materials include opportunities for students to engage in inquiry-based learning activities through the “Hands-On Investigations” in each Chapter. These authentic tasks require students to use tools to measure and collect data. Lessons include video clips to introduce and reinforce specific science concepts. Also, lessons present opportunities for student-led investigations, questioning, and discussions related to the student’s course level.

Materials consistently support flexible grouping (e.g., whole group, small group, partners, one on one).

- Grade 4 materials support flexible grouping options within the “STEAM Station Options” activities throughout all chapters. Materials suggest teachers utilize a range of groupings for these activities, from whole group introductions to small group or partner pairings and independent discovery followed by peer collaboration. Materials consistently suggest a variety of groupings, such as whole group, small group, partners, or one-on-one. The teacher materials include a “Materials List” where “Column H: Grouping” suggests the most appropriate student grouping for each activity in the lesson. Also, inside the Teacher eBook, the “Explore” section always includes a suggestion on the way to organize student groupings.
- The materials provide guidance to teachers on when to use specific grouping structures based on the needs of students. The materials provide suggestions for flexible grouping during instruction and small-group or partner “STEAM Stations” to provide ways for teachers to create the best learning environment for their students.
- The materials support a variety of instructional groupings (e.g., whole group, small group, partners, one-on-one). Lessons on core content and concepts are provided to the whole group. Suggestions are provided for small group or one-on-one practice and activities such as the “Hands-On Investigations,” note taking, and reading activities. Grade 4 materials include the “Short on Time?” feature within each chapter, recommending options for approaching the “Hands-On Investigations” with varying group suggestions based on pacing or time allotment without diluting the students’ experiences.
- The materials provide guidance to teachers on when to use specific grouping structures based on the needs of students. For example, the materials include lessons that the teacher can use to support concept acquisition for students who need additional one-on-one support. “Reinforce” sections are found throughout the Teacher Edition for targeted instruction and act as scaffolds for students who may need additional support. The “Chapter Resource Snapshot” also includes a sidebar titled, “Program-Wide Differentiation,” which lists other program components for acceleration or reinforcement, such as the “LearnSmart” and the “Science Literacy Essentials” reading tools.

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Materials consistently support multiple types of practices (e.g., modeled, guided, collaborative, independent) and provide guidance and structures to achieve effective implementation.

- Grade 4 materials include “Talk About It” features supporting opportunities for teachers to initiate, model, and guide class discussion while promoting independent thinking through collaborative debate. For example, in Chapter 4, Lesson 3, materials guide teachers to start a class discussion by having students consider multiple questions about the concept of materials and warmth, followed by a presentation of sentence stems as examples of how to think and discuss collaboratively and independently.
- The materials provide teacher guidance and structures for effectively implementing practices that require student collaboration. The materials start each lesson with a collaborative, hands-on activity. The teacher edition for this activity includes a note called “Science Mindset” that provides guidance for teachers to help students work both collaboratively and independently.
- Materials include “Hands-On Investigation” activities with flexibility regarding “Open,” “Guided,” or “Structured Inquiry.” The materials provide the teacher options for different structures to achieve effective implementation. Lessons include class discussions with questions and guidance to facilitate. Lessons include opportunities for “Partner Share,” “Think-Pair-Share,” “Confidence Levels,” and various other strategies. Throughout these activities, materials provide examples, possible constraints, and other guidance to support implementation.
- The materials provide multiple types of practices (e.g., modeled, guided, collaborative independent). Lessons include opportunities for students to examine the results of their investigations, and then independently complete a reflection using a Claim, Evidence Reasoning structure.
- Materials include Early in the year, in Chapter 1, “Onward We Go,” materials provide guidance to teachers on how to establish classroom routines that will lead to effective small group and independent work. Each lesson focuses on a key component of the program and lesson structure. Lessons include how to complete “Stem Connection” readings and build the interactive word wall, as well as routines for using science tools safely.

Materials represent a diversity of communities in the images and information about people and places.

- Grade 4 materials represent a diversity of communities in the images and information about people and places, as seen in the student introduction to “Forces and Interactions.” In the Chapter 4 Introduction, students view images of a barbershop featuring a diverse makeup of people, followed by asking students to consider the question, “How is energy being used at the barbershop?” The materials utilize this situation, understanding that most people from varying backgrounds and communities have had an experience with getting their haircut.
- Materials represent a diversity of communities in the images and information about people and places. The materials include a “STEM Connection” in each chapter that features a diverse group of scientists, engineers, and STEM professionals from across the globe. Some examples from the materials are: Chapter 1 features Cai Lun from China, Chapter 3 features Dr. Roselin Rosario-Melendez from Puerto Rico, and Chapter 6 features Dr. Jennifer Stimpson from Texas.
- Materials represent diverse communities using images and information that are respectful and inclusive. For example, the names and ethnicities of individuals throughout the lessons represent people of all diverse backgrounds. The “Page Keeley’s Science Probes” shows cartoon images of individuals of diverse backgrounds. The assessment items and other examples include real-world examples and various ethnicities regarding experiences and names.

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- Information in the Teacher Edition represents diverse people and places. A section called "Multiple Perspectives" creates purposeful dialogue opportunities for students to share elements of their home cultures. For example, in Grade 4, Chapter 5, Lesson 1, students are tasked with thinking of a sport they play at home and explaining how friction affects how they play. Students are encouraged to consider how different people and cultures play sports, even noting that soccer is sometimes called football in some countries.

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Indicator 7.3

Materials include listening, speaking, reading, and writing supports to assist emergent bilingual students in meeting grade-level science content expectations.

1	Materials include guidance for linguistic accommodations (communicated, sequenced, and scaffolded) commensurate with various levels of English language proficiency as defined by the ELPS.	M
2	Materials encourage strategic use of students' first language as a means to linguistic, affective, cognitive, and academic development in English.	M

Meets | Score 2/2

Materials meet the criteria for this indicator. Materials include listening, speaking, reading, and writing supports to assist emergent bilingual students in meeting grade-level science content expectations.

Materials include guidance for linguistic accommodations (communicated, sequenced, and scaffolded) commensurate with various levels of English language proficiency as defined by the ELPS. Materials encourage strategic use of students' first language as a means to linguistic, affective, cognitive, and academic development in English.

Evidence includes but is not limited to:

Materials include guidance for linguistic accommodations (communicated, sequenced, and scaffolded) commensurate with various levels of English language proficiency as defined by the ELPS.

- Grade 4 materials provide guidance for linguistic accommodations for various levels of English language proficiency as defined by the ELPS through the Lesson Differentiation section at the onset of each lesson. The "Lesson Differentiation" includes "Leveled Support" strategies for various activities within the lesson. For example, during the "Elaborate" activity, it is suggested to assist students in comprehending overlapping through a visual of overlapping sheets of paper to provide a concrete example of language meaning to support Emergent Bilingual and English Learner students.
- The materials include linguistic accommodations commensurate with various levels of English language proficiency as defined by the ELPS. The materials include guidance for linguistic accommodations at the beginning of each "Chapter Overview" section. Inside the "Science Language and Content Acquisition" section. In that section, there is a page titled "Emergent Bilingual/English Learner Support" that supports teachers on how to activate students' prior knowledge, what are the transferable and non-transferable skills in the lesson, as well as a list of cognates and false cognates. This section includes a table called "Targeted Strategies" that identifies the ELPS covered throughout the lessons. Additionally, this feature within the materials includes transferable and non-transferable skills and cognates and false cognates to consider during instruction.
- Materials include support in lesson differentiation in each lesson with a teacher guide on how to support students throughout at their various levels (Beginning, Intermediate, Advanced/Advanced High). This includes supports such as photo cards, flow charts, graphic organizers, and other strategies that are aligned with the English level proficiency standards.

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The materials also include callout boxes in purple titled “EB/EL Leveled support.” The boxes clearly demonstrate ELPS connections by summarizing the content of the ELPS and their specific outline location administrative code.

- Materials include teacher guidance for communication with Emergent Bilingual students, with the goal of creating comprehensible input. There are several instances where the materials include additional teacher guidance for linguistic accommodations to help build meaning, support language development, and elicit comprehensible input. For example, each lesson contains an "EB/EL Build Meaning and Support Language Development" in the "Lesson Differentiation" section at the beginning of each lesson. This section provides explicit teacher guidance to provide students with differentiated language support when they use and reuse new scientific terms while speaking and writing about the lesson content in the "Elaborate" section of the lesson.
- Materials include linguistic accommodations commensurate with various levels of English language proficiency as defined by the ELPS. The teacher edition embeds scaffolds for emergent bilingual (EB) students into lessons. Point-of-use Emergent Bilingual/English Learner tips help create an inclusive environment where all students can engage in science and engineering content while providing guidance on linguistic accommodations.

Materials encourage strategic use of students’ first language as a means to linguistic, affective, cognitive, and academic development in English.

- Grade 4 materials encourage strategic use of students' first language as a means to linguistic, affective, cognitive, and academic development in English, including the “Leveled Support” feature in the “Hands-On” Investigations. Materials offer strategies for each language proficiency level student to utilize their first language to synthesize new information throughout each chapter and lesson.
- Grade 4 materials include transferable and non-transferable skills lists as well as cognates and false cognates to encourage strategic use of students' first language as a means to linguistic, affective, cognitive, and academic development in English. For example, in Chapter 4, the materials feature cognates such as circuit/circuito while also bringing teachers' attention to the false cognates (English: rubber- Spanish: goma) (Spanish: chicle- English: gum)
- Materials encourage strategic use of students’ first language as a means to linguistic, affective, cognitive, and academic development in English. At the beginning of each chapter, inside the "Science Language and Content Acquisition" section, there is a page titled "Emergent Bilingual/English Learner Support" that contains guidance for "Spanish Language Transfer." This includes support for transferable skills, non-transferable skills, cognates, and false cognates.
- Materials encourage strategic use of students’ first language as a means to linguistic, affective, cognitive, and academic development in English. Inside each "Explain" section of each lesson, there is a "EB/EL Promote Multilingualism" activity that provides guidance for the teacher to support and encourage the use of students' first languages during instruction, as well as develop, support and expand their acquisition of the English language.
- Materials encourage strategic use of students' first language to support development in English. For example, materials provide an “Interactive Word Wall,” which details Spanish cognates and related words to support vocabulary development. For example, materials include “Lesson Differentiation” support in each lesson where the teacher guides students using strategies such as cognates to further strengthen their English proficiency skills.
- Point-of-use Emergent Bilingual/English Learner (EB/EL) teacher support encourages the use of students' first languages during instruction. Some of these sidebars titled “Promote

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Bilingualism” include tips for teachers about the importance of promoting cooperative work and heterogeneous groups as a linguistic accommodation for EB students. For example, in Grade 4 Chapter 2, this callout box says, “pair native English speakers with non-native speakers... Half pairs practice reading and speaking the word in their non-native language.” and is tagged ELPS 1F.

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Indicator 7.4

Materials provide guidance on fostering connections between home and school.

1	Materials provide information to be shared with students and caregivers about the design of the program.	M
2	Materials provide information to be shared with caregivers for how they can help reinforce student learning and development.	M
3	Materials include information to guide teacher communications with caregivers.	M

Meets | Score 2/2

Materials meet the criteria for this indicator. Materials provide guidance on fostering connections between home and school.

Materials provide information to be shared with students and caregivers about the design of the program. Materials provide information to be shared with caregivers for how they can help reinforce student learning and development. Materials include information to guide teacher communications with caregivers.

Evidence includes but is not limited to:

Materials provide information to be shared with students and caregivers about the design of the program.

- Grade 4 materials include Chapter 1: Onward We Go, providing information to students and caregivers about the design of the program, including sections such as “STEM Connections, Science Notebooks, Learning the Routine, Descriptive Investigations, Science Skills, Tools and Safety, Build Your Skill, Engineering Design Process, Models and Visuals, and Data Literacy.”
- Materials provide information to share with students and caregivers about the design of the program. Each chapter includes a “Letter to Home” with information the teacher can share with their students and their caregivers. Each letter details the standards being taught and how the adult may support that at home. In Chapter 1, the Letter to Home provides information about the design of the program. It begins with, “This program design features a 5E Instructional Model. Each chapter is divided into five sections that provide structure to our daily routine: Engage, Explore, Explain, Elaborate, and Evaluate.” Chapter 4 provides relevant information about the design of Chapter 4 to students and caregivers regarding Forces and Interactions.
- The materials provide information to be shared with students about the design of the program. Chapter 1 explains the different lesson components and activities included within all chapters and lessons, as the reasoning behind the activities themselves. For example, the first "Talk About It" activity explains that this is a partner or small group activity and that "learning from and collaborating with others is important in science."
- In Chapter 1, the materials include information about the program design that is shared with students. Students are introduced to the “Talk About It” icon and the “Notebook” icon to learn what to expect each time they see them in the Student Edition. They connect the visual cue of the Talk About It icon to opportunities for student discourse. They connect the visual cue of the Notebook icon to opportunities to record their observations in their Science Notebook.

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Materials provide information to be shared with caregivers for how they can help reinforce student learning and development.

- Grade 4 materials include a reminder for “School-to-Home Resources,” such as the “Letter to Home,” which provides information to be shared with caregivers in regard to current content to reinforce student learning and development. For example, in Chapter 4, “Chapter Overview,” materials prompt teachers to distribute the Letter to Home to support caregivers with conversation starters, games, or other ways to engage families in content. The first page of each letter details the standards being taught and how the adult may support that at home.
- Materials provide resources and strategies for caregivers to help reinforce student learning and development. Teacher materials include a "Letter to Home" for each chapter of the materials with information the teacher can share with their students' caregivers. The second page of each letter details both sample "Conversation Starters" as well as a "Family Activity" for caregivers to help reinforce student learning and development. In the chapter 2 letter about matter, conversation starters include, “How is matter classified and described by state and temperature?” "How is matter classified and described based on relative density?"
- The Grade 4 materials provide at-home prompts and activities for caregivers to reinforce student learning and development. For example, the materials include the EB/EL Engage “Home to Enrich Instruction” within the lessons to give Emergent Bilingual students reinforcement at home.
- Materials provide at-home activities for caregivers to help reinforce student learning and development. Each letter includes activities that a family could do together to reinforce learning. For example, in Chapter 2, families can do an activity to help students discuss the classification of matter. The family makes soup together while the child describes the state of matter during temperature change, the mass and density of the soup, and the changing states of matter as it cooks.

Materials include information to guide teacher communications with caregivers.

- Grade 4 materials include information to guide teacher communication with caregivers as seen in the “STEM Project” Teacher resource pages, which include a “Home Connection” suggestion. In the “Recycled Robot Races STEM Project,” teachers are guided to communicate to parents that students can gather recyclable materials where they live and find ways to reuse the materials instead of putting them in the trash. All chapter materials include a grading rubric with student reflection for each STEM Project that can be sent home after the completion of the project.
- Grade 4 materials include Emergent Bilingual/English Learners teacher prompts to guide teacher communication with caregivers. For example, in Chapter 4, Lesson 2, teachers are encouraged to ask students to repeat some fun facts to somebody at home and any new English words or expressions they were introduced to in the process of learning the day's content in the EB/EL “Engage Home to Enrich Instruction” notes.
- The materials include teacher guidance for communicating with caregivers. For example, in the EB/EL Engage Home to Enrich sidebars, the materials include guidance for teachers to facilitate conversations and reinforce instruction at home. These sidebars include a related activity students can complete at home, such as observations or family interviews, which involve families in the current science topics.

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- The materials include teacher guidance for communicating with caregivers. For example, the "Letter to Home" printouts in each chapter are written easily for all caregivers to understand. The letter includes guidance for conversation starters at home.

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Indicator 8.1

Materials include year-long plans with practice and review opportunities that support instruction.

1	Materials are accompanied by a TEKS-aligned scope and sequence outlining the order in which knowledge and skills are taught and built in the course materials.	M
2	Materials provide clear teacher guidance for facilitating student-made connections across core concepts, scientific and engineering practices, and recurring themes and concepts.	M
3	Materials provide review and practice of knowledge and skills spiraled throughout the year to support mastery and retention.	M

Meets | Score 2/2

The materials meet the criteria for this indicator. Materials include year-long plans with practice and review opportunities that support instruction.

Materials are accompanied by a TEKS-aligned scope and sequence outlining the order in which knowledge and skills are taught and built in the course materials. Materials provide clear teacher guidance for facilitating student-made connections across core concepts, scientific and engineering practices, and recurring themes and concepts. Materials provide review and practice of knowledge and skills spiraled throughout the year to support mastery and retention.

Evidence includes but is not limited to:

Materials are accompanied by a TEKS aligned scope and sequence outlining the order in which knowledge and skills are taught and built in the course materials.

- The grade 4 materials include a full Scope and Sequence that shows the chapter titles in materials in grades K–5, outlining the order in which knowledge and skills are taught. Grade 4 materials include a “TEKS at a Glance” within the Teacher’s eBook that outlines the year-long plans for content instruction. Vertical alignment considerations of knowledge throughout the year based on previous and subsequent grade-level TEKS are included. The grade 4 Student eBook includes an overview of the science objectives at the beginning of each chapter.
- Materials include a year-long scope and sequence within the "Pacing Guide." Materials guide teachers with suggested time-frames for units and lessons and their TEKS alignment.
- Materials provide a TEKS correlation document and TEKS-aligned scope and sequence that includes a detailed list of investigations and activities that align to each standard both in teacher and student-facing materials

Materials provide clear teacher guidance for facilitating student made connections across core concepts, scientific and engineering practices, and recurring themes and concepts.

- Grade 4 materials include a Chapter Language and Content Acquisition to offer guidance for facilitating student-made connections across core concepts, scientific and engineering practices, and recurring themes and concepts. Grade 4 materials provide teacher guidance with an Emergent bilingual support component, facilitating student learning. Materials guide teachers to facilitate connections of SEP and content with Interactive Word Wall and cognitive verbs. The

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materials provide guiding questions to provide students with opportunities to make connections. Students can explore patterns using a graphic organizer provided in Lessons 2.4, 5.1, and 6.2, among others.

- The Chapter Overview includes a TEKS progression chart that reviews what students have already learned in the two previous grade levels and how it will connect to one grade level ahead. The materials provide teacher guidance to help students make connections between units over the course of the year. Materials provide embedded notes in the Teacher’s Guide with questions teachers can ask students to help them make connections, such as “What are some examples of energy transfers around you?” “How is temperature related to energy transfer?”
- Grade 4 materials include an Interactive Word Wall feature that spirals content vocabulary. The Interactive Word Wall connects core science ideas from investigations to vocabulary for a deeper understanding of the TEKS. The practice opportunities build on previously taught science knowledge and skills. In Chapter 6, Lesson 2, students apply previous learning of erosion and weathering to develop and use a model to observe erosion and deposition by water, wind, and ice.
- The grade 4 Chapter Overview includes a chart depicting the TEKS Progression across grade levels. This demonstrates opportunities to build on previously taught science knowledge and skills. In grade 4, the “Get Ready” section includes a chart depicting the progression of the TEKS across grade levels. It also contains a Chapter Pretest that demonstrates intentional practice and spiraling of previously taught knowledge and skills from earlier grade levels.
- The grade 4 Teacher eBook includes a chart with a list of “Prior Knowledge” at the beginning of each chapter. This list intentionally connects previously taught knowledge to the current chapter’s science knowledge and vocabulary. There is an Interactive Word Wall in each lesson throughout the year. The materials provide teachers with opportunities for extension activities with the STEAM Stations. For example, in the stations in Lesson 9.2, students use their knowledge of inherited and acquired traits to grow bean sprouts for an investigation and build a solution to save sea turtles from light pollution.

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Indicator 8.2

Materials include classroom implementation support for teachers and administrators.

1	Materials provide teacher guidance and recommendations for use of all materials, including text, embedded technology, enrichment activities, research-based instructional strategies, and scaffolds to support and enhance student learning.	M
2	Materials include standards correlations, including cross-content standards, that explain the standards within the context of the grade level.	M
3	Materials include a comprehensive list of all equipment and supplies needed to support instructional activities.	M
4	Materials include guidance for safety practices, including the grade-appropriate use of safety equipment during investigations.	M

Meets | Score 2/2

The materials meet the criteria for this indicator. Materials include classroom implementation support for teachers and administrators.

Materials provide teacher guidance and recommendations for use of all materials, including text, embedded technology, enrichment activities, research-based instructional strategies, and scaffolds to support and enhance student learning. Materials include standards correlations, including cross-content standards, that explain the standards within the context of the grade level. Materials include a comprehensive list of all equipment and supplies needed to support instructional activities. Materials include guidance for safety practices, including the grade-appropriate use of safety equipment during investigations.

Evidence includes but is not limited to:

Materials provide teacher guidance and recommendations for use of all materials, including text, embedded technology, enrichment activities, research based instructional strategies, and scaffolds to support and enhance student learning.

- Grade 4 materials provide relevant teacher guidance and recommendations for use of all material components within the Product Overview feature found under Getting Started. The materials also include PDFs of a pacing guide, along with a “Supporting All Learners” document. The pacing guide includes a chart of the recommended sequence and length of chapter implementation. This component specifically supports teachers and administrators by including visual displays of material contents with descriptive captioning describing options for implementation and has an explanation of the different sections of the lessons. For example, there are at-a-glance suggestions of how to incorporate Interactive Word Walls, a research-based instructional strategy, within the physical classroom environment as well as digital experience options.
- Grade 4 materials include the “Plan Your Lesson” component that offers teacher guidance and recommendations for using all materials within each lesson throughout the year and supports making connections within and between the weeks of instruction. This component includes

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recommendations for incorporating texts, enrichment activities, embedded technology, and scaffolds, among other indicator requirements.

- The grade 4 materials include enrichment activities and scaffolds in the sidebars. These include Emergent Bilingual supports, STEAM stations for enrichment, and cognates and graphic organizers in the Interactive Word Walls.
- The materials include overview documents to support teachers in understanding how to use all materials and resources. For example, materials contain links to embedded technology in the Teacher’s eBook as options for teachers to use to support and enhance student learning of science concepts that show concrete alignment to the appropriate TEKS.

Materials include standards correlations, including cross content standards, that explain the standards within the context of the grade level.

- Grade 4 materials include a “STEAM Stations Options” section within the Teacher’s eBook that provides cross-content standards, explaining those standards in the context of the grade level. For example, a “Speed of Light Read Aloud” activity includes a standard correlation between Science TEKS 4.3B and Technology TEKS 4.11A.
- Grade 4 materials include a “Correlation to TEKS” document that provides TEKS correlations pertinent to the context of the grade level. This document anchors TEKS connections to the material’s activities throughout the year and outlines in which investigations these TEKS are utilized.
- Materials include teacher guidance for use of all materials and sections in the Program Overview PDF online under Getting Started. The materials also include PDFs of a pacing guide, along with a “Supporting All Learners” document. Included in the pacing guide is a chart of the recommended sequence and length of chapter implementation.
- The materials include science standards correlations for lessons units, lessons, or activities within the context of the grade level or course in teacher guidance documents and online resources.
- Grade 4 materials include cross-content standards for ELA, Math, Art, and Music. The Teacher Planning Resources include a comprehensive list of all the cross-content standards within the materials, as well as their location both in the Teacher’s eBook and the Student eBook. For example, the ELAR standards are embedded within the “Launch with Literature,” “Book Clubs,” “Guided Write About It,” and “Spotlight on Reading” sections within the chapters.
- Grade 4 chapters are organized in lessons. The chapters include a Chapter Overview that showcases how lessons are organized by phenomena and problems. The Teacher’s eBook for each lesson presents a question, a description of the lesson objective, and common misconceptions students might show in their explanations or solutions. The Teacher’s eBook also includes the grade-level standards that correlate with learning within the chapter, the standards from earlier grades that provide a foundation for the unit, and the standards for subsequent grades for which the concepts being learned are foundational for vertical alignment.
- The grade 4 materials include TEKS correlations for each lesson, outlined in the “TEKS at a Glance” section at the beginning of each chapter. This section details what TEKS are covered within each lesson throughout the chapter. The materials also show the teacher the TEKS vertical alignment and prior knowledge the student should have with the “TEKS Progression” section at the beginning of each chapter.

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Materials include a comprehensive list of all equipment and supplies needed to support instructional activities.

- Grade 4 materials include a “Get Ready” component at the beginning of each 5E section of the lesson. In the Get Ready component, all equipment and supplies, including texts, videos, graphic organizers, and other supplies, are clearly listed to support all instructional activities.
- Grade 4 materials include an appendix with a comprehensive list of all hands-on investigations in each chapter and lesson. This appendix, “Hands-On Investigation Library,” supports students, teachers, and administrators during investigations by including a list of the equipment and supplies necessary for each investigation throughout the year under “Investigation Support and Projects.” This is located within the Hands-On Investigations Library.
- The Grade 4 materials include a comprehensive list of all materials needed for Hands-On Investigations, including the quantity needed and whether materials are consumable. When the Hands-On Investigation is presented in both the Teacher’s eBook and student eBook, a list of what materials and technology are needed for the activity is included. The materials include a “Chapter Resource Snapshot” in the Teacher’s eBook that provides teachers with a list of equipment and supplies needed for instructional activities. For example, the Chapter 9 Snapshot details that green fabric, paper towels, wax paper, and photo cards, among many other materials, will be needed for the investigations.

Materials include guidance for safety practices, including the grade appropriate use of safety equipment during investigations.

- Grade 4 materials include a “Safety Symbols” one-page document featuring pertinent symbols and meanings in a grade-level appropriate way. For example, a scissor symbol represents a sharp object hazard. This document offers a specific hazard consideration and a precautionary measure for each symbol in a grade-level appropriate language. The PDF includes step-by-step reminders about safety practices and “Dos and Don’ts” with engaging graphics for proper use of safety equipment. Grade 4 materials provide each student with a Safety Symbols PDF reference sheet that can be found online under “Investigation Support.” The symbols are referenced in the investigations throughout the lessons. For example, for investigation in chapter 9, the “Scissors” symbol is provided as a reminder to be careful with scissors.
- The grade 4 materials provide each student with a “Tools and Safety Handbook” as an eBook online. The Handbook includes step-by-step instructions and videos that demonstrate how to use the tools to provide a visual reference for students. Grade 4 materials provide teacher guidance for safety practices and grade-appropriate use of safety equipment during investigations, in accordance with Texas Education Agency Science Safety Standards. The Teacher’s eBook also includes a safety routine Tools and Safety Handbook. It directs teachers to review all information prior to beginning the investigation. The handbook includes images of each tool and a video of how it is used. It also includes definitions of the safety symbols that are used to complete investigations. The top of the page directs learners as follows: “Do not begin any investigation without the proper protection equipment,” and directs learners to wear goggles, wash hands, and wear gloves.
- Grade 4 materials provide student guidance for safety practices and grade-appropriate use of safety equipment during investigations, in accordance with Texas Education Agency Science Safety Standards.

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Indicator 8.3

Materials provide implementation guidance to meet variability in program design and scheduling.

1	Materials support scheduling considerations and include guidance and recommendations on required time for lessons and activities.	M
2	Materials guide strategic implementation without disrupting the sequence of content that must be taught in a specific order following a developmental progression.	M
3	Materials designated for the course are flexible and can be completed in one school year.	M

Meets | Score 2/2

The materials meet the criteria for this indicator. Materials provide implementation guidance to meet variability in program design and scheduling.

Materials support scheduling considerations and include guidance and recommendations on required time for lessons and activities. Materials guide strategic implementation without disrupting the sequence of content that must be taught in a specific order following a developmental progression. Materials designated for the course are flexible and can be completed in one school year.

Evidence includes but is not limited to:

Materials support scheduling considerations and include guidance and recommendations on required time for lessons and activities.

- Grade 4 materials include the “Plan Your Lesson” component. This pacing guide includes specific time parameters for each activity, supporting scheduling considerations and recommendations for time when planning. The materials provide realistic timeframes for activities and routines within each lesson, as well as options for a variety of scheduling considerations, such as “Short on time?” or “Have 15 minutes?” The materials provide scheduling recommendations for each part of the lesson throughout all of the chapters. For example, Chapter 7, Lesson 1, Day 1 allots 45 minutes for the entire lesson: 35 minutes for the teaching portion, which breaks down into smaller chunks of 2–3 minutes, and 10 minutes for assessing.
- Grade 4 materials provide a “Chapter Resource Snapshot” outlining the pacing of content delivery. This feature supports scheduling considerations for each lesson of the chapter, providing day ranges and minutes included within lesson outlines. The Chapter Resource embeds acceleration and extension options, allowing students to learn at an accelerated pace.
- Grade 4 materials provide “Key Moments” throughout the lessons. If the teacher is short on time, it gives guidance on the main parts of the lesson to focus on.

Materials guide strategic implementation without disrupting the sequence of content that must be taught in a specific order following a developmental progression.

- Materials provide guidance for strategic implementation that ensures the sequence of content is taught in an order consistent with the developmental progression of science. Grade 4 materials include a complete Table of Contents to guide the strategic implementation of content

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in an appropriate sequence without disruption. The Table of Contents clearly displays the intended order of content delivery aligned with grade-level TEKS.

- Grade 4 materials provide a “Chapter Launch,” including strategic implementation without disrupting the sequence of content following developmental progression. For example, in Chapter 5, Chapter Launch offers predictable lesson segments such as Get Ready, Teach, and Assess sections to guide strategic implementation and progression of instruction.
- Grade 4 materials provide guidance for strategic implementation that ensures the sequence of content is taught in an order consistent with the developmental progression of science. The Chapter Overview supports teachers in identifying the developmental progression of content and skills across grade levels to ensure that students are supported with instruction organized to optimize their learning. The materials include a TEKS correlation guide that details the implementation of content with a specific order that builds on the standards. Certain chapters are grouped together with similar recurring themes and ideas.
- The “TEKS at a Glance” provides teachers with a brief overview of the sequence of the content in each chapter, including the content TEKS, Scientific and Engineering Practices, and Recurring Themes and Concepts. This resource considers the interconnections between the content standards, the Scientific and Engineering Practices, and the Recurring Themes and Concepts. Materials purposely group lessons together into chapters that have similar recurring themes and ideas, making it easier for students to connect scientific knowledge.

Materials guide strategic implementation without disrupting the sequence of content that must be taught in a specific order following a developmental progression.

- Grade 4 materials provide guidance for strategic implementation that ensures the sequence of content is taught in an order consistent with the developmental progression of science. The Chapter Overview supports teachers in identifying the developmental progression of content and skills across grade levels to ensure that students are supported with instruction organized to optimize their learning. The materials include a TEKS correlation guide that details the implementation of content with a specific order that builds on the standards. Certain chapters are grouped together with similar recurring themes and ideas.
- The “TEKS at a Glance” provides teachers with a brief overview of the sequence of the content in each chapter, including the content TEKS, Scientific and Engineering Practices, and Recurring Themes and Concepts. This resource considers the interconnections between the content standards, the Scientific and Engineering Practices, and the Recurring Themes and Concepts. Materials purposely group lessons together into chapters that have similar recurring themes and ideas, making it easier for students to connect scientific knowledge.
- Materials provide guidance for strategic implementation that ensures the sequence of content is taught in an order consistent with the developmental progression of science.

Materials designated for the course are flexible and can be completed in one school year.

- Grade 4 materials provide a “Key Moment” option within the proposed lesson pacing guides that offers options for adjustment of minutes if needed without impacting content delivery. This feature ensures material content is delivered within the school year.
- Grade 4 materials include a “Pacing Guide” document within the Resources tab to outline the content pacing suggestions as well as noting the total days needed to complete content. This guide also refers to the built-in extension and reduction options for flexibility. The grade 4 materials provide enough lessons and chapters to cover a full school year with 180 days of

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instruction. For example, the Pacing Guide document says it is a general guide, and the number of days may vary. This guide provides a high-level snapshot of completing the course in one school year, with flexibility given for reteaching, projects, and assessments.

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Indicator 9.1

The visual design of materials is clear and easy to understand.

1	Materials include an appropriate amount of white space and a design that supports and does not distract from student learning.	Yes
2	Materials embed age-appropriate pictures and graphics that support student learning and engagement without being visually distracting.	Yes
3	Materials include digital components that are free of technical errors.	Yes

Not Scored

The visual design of materials is clear and easy to understand.

Materials include an appropriate amount of white space and a design that supports and does not distract from student learning. Materials embed age-appropriate pictures and graphics that support student learning and engagement without being visually distracting. Materials include digital components that are free of technical errors.

Evidence includes but is not limited to:

Materials include an appropriate amount of white space and a design that supports and does not distract from student learning.

- Grade 4 materials include an appropriate amount of white space and a design that supports and does not distract from student learning, as seen in the digital student ebook and supporting resources. The digital materials adhere to the guidelines in the TRR Digital Design Guide. For example, in the Grade 3 Student eBook, there is a clear title, subheadings, underlined vocabulary words, hyperlinked definitions for the vocabulary words, and an interactive infographic. The materials include an appropriate amount of white space, and the design does not distract from student learning. The digital content displays well on multiple devices.
- Grade 4 materials are designed to support student learning free of distraction by formatting materials in a strategic way, utilizing headers and imagery to support content delivery. For example, materials include attention-provoking headers such as "Take Note!" to prompt student participation in note-taking and record-keeping during a video presentation.
- Materials include an appropriate amount of white space and a design that supports and does not distract from student learning. Student materials are appropriately designed to support student learning. Student materials include the following: A clear main subject, topic, or purpose; titles and headings are prominent and clear; sections are marked with subheadings. The content is organized in a logical progression.
- The 4th grade Digital Tools for students can annotate text (such as highlight, strikethrough, underlining, boxing text, etc.) and pointers while reading digital text. The materials include read-aloud supports, vocabulary supports, and playable videos. When text is read aloud by the computer, a mark appears next to each sentence as it is read.

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- Teacher guidance materials are appropriately designed with clear, designated places for important information. Teacher’s Guides are designed so that teachers can locate important information easily for planning and implementation.

Materials embed age appropriate pictures and graphics that support student learning and engagement without being visually distracting.

- Grade 4 materials include age-appropriate pictures and graphics throughout the chapters and lessons, supporting student learning and engagement without being visually distracting. For example, in Chapter 4, the materials embed images of barber shops, waves, and other common examples for students to apply their understanding of the concepts of energy transfer. In another example, materials include multiple images to represent how wind changes the surface of the Earth. Materials provide multiple close-up photos of how wind can blow sand and loose soil from one place to another.
- Grade 4 materials embed infographics to extend learning and support engagement during content delivery, as seen in the “Explain” activities and other tasks. For example, in Chapter 4, students utilize an infographic of a hair dryer to apply newly acquired knowledge about the transfer of energy.
- The materials include age-appropriate pictures and graphics that support student learning and engagement. For example, grade 4 materials embed diagrams clearly showing steps to a process, such as how water is stored in aquifers. The materials use a diagram with simple labels to help students see important features of how aquifers collect water that soaks down from the surface.
- The materials embed age-appropriate pictures and graphics that support student learning and engagement without being visually distracting. For example, the Grade 4 Student eBook provides a simple diagram of a closed and open circuit. The visuals are clear and do not include other distractors so that students can focus on the content.
- The materials include age-appropriate pictures and graphics that support student learning and engagement. Grades 3-5 materials embed diagrams that clearly show steps to a process, such as the changing states and comparing densities of liquids. Graphics show a distinct progression from one stage to the next.

Materials include digital components that are free of technical errors.

- Grade 4 materials include the Student ebook, a digital component enhancing student engagement and access to content. Upon review of the student ebook, its functionality was consistent with expectations and free of technical errors.
- Grade 4 materials include digital components such as the “PDF Hands-On Investigation Library,” “Interactive Word Lab,” and other features to maximize student access and engagement during content delivery. Upon review, these components were free of technical errors and successfully displayed materials and features as intended. Student materials include digital components that are free of technical errors:
- The student materials include digital components that are free of digital errors. Materials are free of spelling, grammar, and punctuation errors. The materials are free of inaccurate content materials or information. The materials are free of wrong answer sheets to problems.
- The teacher materials include digital components that are free of digital errors. Materials are free of spelling, grammar, and punctuation errors. The materials are free of inaccurate content materials or information. The materials are free of wrong answer sheets to problems. Materials

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are free of spelling, grammar, and punctuation errors. Materials include accurate content materials and information. Teacher materials are free of wrong answers to discussion questions, worksheets, and writing prompts.

- The materials state the program was written by expert authors based on the TEKS, reviewed and proofread by internal teams, then quality assurance and fact-checked by subject matter experts. It has also been reviewed by advisory boards with Texas educators.

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Indicator 9.2

Materials are intentionally designed to engage and support student learning with the integration of digital technology.

1	Materials integrate digital technology and tools that support student learning and engagement.	Yes
2	Materials integrate digital technology in ways that support student engagement with the science and engineering practices, recurring themes and concepts, and grade-level content.	Yes
3	Materials integrate digital technology that provides opportunities for teachers and/or students to collaborate.	Yes
4	Materials integrate digital technology that is compatible with a variety of learning management systems.	Yes

Not Scored

Materials are intentionally designed to engage and support student learning with the integration of digital technology.

Materials integrate digital technology and tools that support student learning and engagement. Materials integrate digital technology in ways that support student engagement with science and engineering practices, recurring themes and concepts, and grade-level content. Materials integrate digital technology that provides opportunities for teachers and/or students to collaborate. Materials integrate digital technology that is compatible with a variety of learning management systems.

Evidence includes but is not limited to:

Materials integrate digital technology and tools that support student learning and engagement.

- Grade 4 materials include digital components such as “Personalized Learning” tools like the “LearnSmart” reading library and the “WordLab” to build vocabulary. The materials include digital word labs embedded within student ebooks to promote student learning and engagement. Students click on the “Word Lab” icon to directly access interactive features that connect terms found within the “Explain” articles with images and definitions to support student understanding of scientific vocabulary throughout the materials.
- Grade 4 materials include digital options for administering assessments integrating digital technology and tools that support student learning and engagement. For example, Chapter 5, “Wrap-Up,” is featured in the “Digital Spotlight,” recommending teachers assign the same Wrap-Up assessment online to promote student engagement, customization, and use of digital grading tools.
- The materials provide a Teacher's Guide, which details all activities and lessons with optional time for pacing purposes. The Teacher's Guide also contains a sidebar, “Digital Spotlight,” which shows teachers what they can assign students through online platforms to further their learning. The Grade 4 materials provide teacher guidance including suggestions for time and pacing, as well as ways to assist students with making observations, asking questions, collecting data, and participating in discussions.

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- The materials integrate digital technology and tools that support student learning and engagement. For example, Digital technology and tools enhance student learning through such features as “Chapter Launch Videos,” Lesson “Engage” videos, “Anytime Investigation Videos” and “Recurring Theme and Concept Music Videos.” The student eBook contains embedded tools such as read-aloud, variable font size, built-in dictionary, and highlighting. The embedded technology within materials supports the print and does not replace it.

Materials integrate digital technology in ways that support student engagement with the science and engineering practices, recurring themes and concepts, and grade level content.

- Grade 4 materials provide students access to virtual simulations to directly observe content and recurring themes "in action." By incorporating digital technology such as virtual simulations, materials support student engagement with the science and engineering practices, recurring themes and concepts, and grade-level content aligned with TEKS. For example, grade 4 materials provide real-life photographs of time-lapse progressions of how seasons have changed the shape of landscapes. Students analyze the differences observed and discuss the causes and effects of daylight and temperatures and how they affect the time-lapse progressions to support their explanations.
- The materials integrate digital technology in ways that support student engagement with science and engineering practices, recurring themes and concepts, and grade-level content. For example, in Grade 4 materials, a simulation is provided for students to learn about energy in a food web. Students complete the simulation, observe the changes, and record and analyze the data.
- Yes, the materials provide digital tools for students to engage with recurring themes and concepts. For example, grade 4 materials include a video, "Life As A Plant," to show the life cycle of a plant. The students watch the video then answer questions regarding the recurring theme, Energy and Matter, and use a graphic organizer to assist them.
- Yes, the materials integrate digital technology in ways that support student engagement with science and engineering practices, recurring themes and concepts, and grade-level content. The materials have embedded multimedia digital resources such as interactive eBooks, “Investigation Simulations,” “Virtual Field Trips,” interactive infographics, and videos.

Materials integrate digital technology that provides opportunities for teachers and/or students to collaborate.

- Grade 4 materials include “Engage” videos to introduce a scientific phenomenon featuring scientific principles aligned with the content learning goals as outlined in the TEKS. These videos serve as a digital technology tool providing opportunities for teachers and/or students to collaborate.
- Grade 4 materials include digital technology such as the provided “Presentation Slides,” providing opportunities for teachers and/or students to collaborate regarding visual stimuli and/or guiding questions within presentations.
- Materials integrate digital technology that supports teacher-to-student collaboration. Materials provide an online collaborative platform in which teachers and students can post assignments, and give immediate feedback to students.
- Yes, materials integrate digital technology that provides opportunities for students to collaborate. The materials provide interactive materials for the students to work collaboratively in pairs or teams. The materials provide "Talk About It" prompts that encourage students to talk

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to their group or partners. For example, in Lesson 9.1 in the Grade 4 materials, students watch a video, think about the essential question and then are given a "Talk About It" prompt to discuss with their classmates. Materials provide interactive activities and quizzes students can complete collaboratively in pairs or teams.

- The materials integrate digital technology that provides opportunities for teachers and/or students to collaborate. Materials provide interactive games and quizzes students can complete collaboratively in pairs or teams. The publisher has collaborated with the online quiz site, Kahoot!, to enhance learning with premade activities and topic reviews. Materials will support other collaborative tools that the district utilizes through an LTI (Learning Tools Interoperability) integration, such as Google.

Materials integrate digital technology that is compatible with a variety of learning management systems.

- Grade 4 materials integrate digital technology compatible with a variety of learning management systems (LMS) such as Google, Classlink, Canvas for SSO, and other commonly used educational platforms.
- Student and teacher digital materials are accessible and compatible with multiple operating systems and devices. The materials are accessible online through any device with internet access.
- Materials are accessible and compatible with multiple operating systems and devices. For example, the materials are accessible and compatible with Chromebooks, iPads, Android Tablets, PCs, and Apple Computers. The operating systems needed are Windows 10+, Mac OS X v12+ (Monterey), Chrome OS v104+ (4 GB RAM), iOS 15+, and Android 13+ (Tiramisu). Mobile devices require iOS 15+ or Android 13+ (Tiramisu).
- To use all functions of digital programs effectively, you must use an updated web browser. The materials currently support the following browsers and versions: Google Chrome 104+, Mozilla Firefox 104+, Apple Safari 15+, and Microsoft Edge 104+.
- Digital materials are accessible with or without internet access. Students log in to access materials when they have an internet connection. If there is no internet access, materials can be downloaded beforehand so they are still accessible.

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Indicator 9.3

Digital technology and online components are developmentally and grade-level appropriate and provide support for learning.

1	Digital technology and online components are developmentally appropriate for the grade level and align with the scope and approach to science knowledge and skills progression.	Yes
2	Materials provide teacher guidance for the use of embedded technology to support and enhance student learning.	Yes
3	Materials are available to parents and caregivers to support student engagement with digital technology and online components.	Yes

Not Scored

Digital technology and online components are developmentally and grade-level appropriate and provide support for learning.

Digital technology and online components are developmentally appropriate for the grade level and align with the scope and approach to science knowledge and skills progression. Materials provide teacher guidance for the use of embedded technology to support and enhance student learning. Materials are available to parents and caregivers to support student engagement with digital technology and online components.

Evidence includes but is not limited to:

Digital technology and online components are developmentally appropriate for the grade level and align with the scope and approach to science knowledge and skills progression.

- Grade 4 materials include digital technology and online components developmentally appropriate for the grade level and align with the scope and approach to science knowledge and skills progression, as evidenced by the incorporation of basic click icons to access digital components embedded within student materials. The materials also provide the "Cross Curricular Correlations" document, which details the digital technology standards that are aligned with the program. The materials include rationale within the "Program Overview," which details what is included and why.
- Grade 4 materials include online assessment components with age-appropriate navigation guidance to support students in demonstrating mastery of grade-level content and skills aligned with TEKS. Materials provide a rationale for the age-appropriateness of digital and online components in the document "Supporting All Learners: Equity and Access in Science."
- The digital technology and online components are aligned with the grade-level scope and approach to science knowledge and skills progression. Materials provide information that identifies how online and digital components align with grade-level science knowledge and skills. The materials provide related TEKS for online and digital components within the Teacher's eBook in the "TEKS at a Glance." The materials provide related TEKS and ELPS for online and digital components within the Teacher's Guide.

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Materials provide teacher guidance for the use of embedded technology to support and enhance student learning.

- Grade 4 materials provide teacher guidance for the use of embedded technology support such as "how to" videos. For example, a Page Keeley Video is featured in a "Digital Spotlight" offering guidance to best implement a particular strategy. Also included are the "Digital Spotlight" sidebars, which guide teachers in assigning or showing online materials. The sidebars continue throughout the lessons with optional resources based on how much time the teacher has.
- The materials support teachers to successfully integrate the technology within the program. Materials include professional development videos, tutorials, and bite-size, on-demand support for teachers to continue to develop their skills and knowledge in using the embedded technology to support and enhance student learning.
- The materials provide specific teacher guidance for embedding the technology within lessons and assessments. Materials include best practices for using embedded technology for differentiating instruction, using technology to promote collaboration, and incorporating multimedia resources into lessons. Materials include a rationale for balancing paper-and-pencil activities for fine motor skills development with technology use.
- The materials provide specific teacher guidance for embedding the technology within lessons and assessments. For example, the materials provide teacher guidance for digital and online assessment tools within each "Evaluate (Day 5)" day. The guidance includes how teachers can review and assess within the digital platform.
- The materials provide specific teacher guidance for embedding the technology within lessons and assessments. The materials provide recommendations for teachers on which days to use technology with students and if there is a time during lessons when the technology would enhance or support student learning. Materials outline recommendations in the "Chapter Resource Snapshot" and the "Lesson Overview Pages."

Materials are available to parents and caregivers to support student engagement with digital technology and online components.

- Materials provide teachers with the Communicating with Caregivers Guide. This resource provides a letter to families that advises them to use McGraw Hill's Digital Technical Support for accessing and engaging with digital content.
- Online materials include a section specifically for families with information about science objectives, conversation starters, and family activities, but it does not contain any links or online resources.
- Materials include resources for parents and caregivers on supporting student engagement through a letter to families for each unit, including a family activity they can choose to complete. Parents can also access digital student resources using their student's credentials.