

Studies Weekly Texas Science Grade 2

Studies Weekly Texas Science Grade 2 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 K	100%	100%	100%	100%
Grade 1	100%	100%	100%	100%
Grade 2	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 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 (SEP), recurring themes and concepts (RTC), 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 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.

- In Unit 5, the students use phenomena to connect content standards to engineering practices. In this unit, the students study a golf ball. "A golf ball changes shape when it is hit by a golf club to plan and conduct an investigation to explain how objects push on each other and may change shape when they touch or collide." Phenomena are used to investigate throughout the year.
- Students in kindergarten through second grade ask their own questions about a scientific phenomenon and work with their peers to plan and carry out an investigation to explain phenomena. In Unit 10, Activity 1, the students investigate and describe how wind and water move soil and particles across the Earth's surface. The students create student-driven question

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boards and write a question they find most interesting to investigate. The students also create a hypothesis using their prior knowledge and observations.

- The materials provide multiple opportunities to show mastery of grade-level appropriate scientific and engineering practices. For example, TEKS 2.3.B: “communicate explanations and solutions individually and collaboratively in various settings and formats” aligns with Unit 18. The success criteria for Activity 9 of this unit is “I can present research on an animal’s structures and behaviors that help them find and take food, water, and air.”
- The grade 2 materials introduce the “Phenomenon” comic strip with an engineering design problem. The students read the Phenomenon comic about a girl confusing an apple made of wax that looks so real she bites it and realizes it’s not real. The girl makes a wax apple to replace the one she bites. In collaborative learning groups, students explore real fruit and wax fruits and record their observations in their student editions.

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

- The vertical/horizontal alignment guide includes specific information about when recurring themes are introduced and spiraled back into the program. For example, Grade 2 materials utilize patterns as a recurring theme. In Unit 11, students observe the phenomena. The materials generate questions such as "How is the weather information measured, recorded, and graphed", "Is the weather the same in Texas?" and "What experiences have you had with the weather?" The materials continue to draw students' attention to patterns as a recurring skill that students are developing. Investigations of patterns come up again in Units, 2,8 and 12.
- All units in the materials identify the RTC. For example, in Unit 10, the RTC is 2.5 cause and effect.
- The RTC in each unit are clearly labeled and includes the activities where they are presented. In Unit 4, Activity 1, the materials provide a section titled “Unit Transition.” The teacher is directed to “Explain to students that in the last unit, they learned more about the properties of matter by exploring the changes that items can go through by processes such as cutting, folding, and melting. Tell students that in the next unit, they will look at another property of matter that allows items to be used in a new way.” In their student editions, students read the “Phenomenon” comic strip depicting a scenario where children wonder whether an object they have found may be a bird’s nest.

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

- As students plan and conduct investigations across the year, the materials provide support for increasing complexity in student-led inquiry and investigation, including guidance for teachers to revisit topics with students to review previous learning and revise thinking on topics. For example, in Unit 8, the students learn to design and build a device using tools and materials that use sound. By building this device, the students activate prior knowledge about patterns to describe phenomena or design solutions. The SEP and RTC are clearly outlined in the “Standards Coverage.”
- Grade-level content knowledge and skills are taught using SEP and recurring themes so the students can build and connect knowledge and apply it to new contexts. The lesson in Unit 9 deals with observing objects in the sky using a telescope. The students compare how objects in the sky are more visible and can appear different with a tool than with an unaided eye. The

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materials provide guidance for teachers to elicit students' previous learning experiences, in which they review a prior knowledge article as well as the vocabulary words sun, moon, and stars. In the "Applied Science Writing" section, the students identify tools in their home or community that are available to help them make observations of objects in the sky, such as the sun and moon.

- Materials systematically develop students' content knowledge and skills appropriate for the concept and grade level as outlined in the TEKS. For example, the Teacher's Edition publication, "How to Use Studies Weekly 2-5," explains that the curriculum is structured with an introduction to science and engineering for several weeks, then "Each subsequent unit is anchored by phenomenon-driven inquiry or a problem to solve."
- Each unit integrates both SEP and recurring themes throughout the units and clearly identifies and color codes them throughout the unit's grade-appropriate activities to support and guide teachers through the development of content concepts and skills. For example, in Unit 4, Activity 4, the left-hand side of the lesson plan strategically organizes the materials and resources. This portion also establishes vocabulary with child-friendly definitions; encourages color-coded SEP such as: collecting evidence, collecting and organizing data, developing explanations and purpose solutions, and actively listening and discussing; establishes RTC such as cause and effect, energy and matter, structure, and function. On the right-hand side of the page, the materials provide the Success Criteria that state, "I can collect evidence of where the components of a bird's nest came from to determine its intended purpose and its new purpose."

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.

- The students ask questions and plan and conduct investigations to answer and explain phenomena using appropriate tools and models. This goal is accomplished by connecting to previous learning and making their own conclusions based on evidence. For example, in Unit 5, the questioning is evident before, during, and after the investigation. The teacher prepares students by telling them to observe and read the comic in the student materials independently and then asks them how they think the comic will connect to the phenomena within the unit. The teacher asks the question, "What happens when objects push, touch, or collide with each other?" to guide the investigation. Then, the students create a student-driven question board that guides their hypothesis and research.
- The materials include sufficient opportunities for students to engage in problem-solving to make connections across disciplines and develop an understanding of science concepts. The students make connections between science and math. Students use the bar graph from a previous activity to measure and record the temperature and precipitation.
- The SEPs are listed for every lesson in the "Standards Coverage Chart." Units 3 and 6 both include SEP 2.1.E, "Collect observations and measurements as evidence."
- Unit 15, "Wild Berries and Javelinas," includes the guiding question, "How do animals depend on other living things?" and keywords to support the teacher in creating a Student-Driven Question Board. The materials include a suggested set of questions to support the teacher, including but not limited to, "Which animals eat wild berry plants?" and "Which animals eat javelinas?" In a section titled "Form a Hypothesis," the teacher is directed to "Tell students that they will create a hypothesis about the guiding question, using their observations and/or prior knowledge."

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Students write their hypotheses in their student edition. The materials provide a set of “What can I eat? Game Cards” to support the investigation of food chains.

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

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.

- The materials embed phenomena in each unit with a “Phenomenon” comic strip and guiding questions. For example, in Unit 12, Shopping At The Superstore, after students read the comic strip about a character named Jackson going shopping. His dad sorts items into two bags. Jackson wonders why he sorted them that way and if there is another way to sort the items. The teacher asks, “What is the comic about? What evidence from the illustrations or text supports your response? How do you think the comic will connect to our phenomenon for this unit? Why do you think that?” Then the teacher leads the students in creating a student-driven question board and guides students to form a hypothesis. The guiding question for this unit is “Where do things in a superstore come from?”
- TEKS 2.1.B is “use scientific practices to plan and conduct simple descriptive investigations and use engineering practices to design solutions to problems.” The Teacher’s Edition publication, *How to Use Studies Weekly 2-5*, states “The activities are specially designed to help students make sense of the anchoring phenomenon through the integration of SEP and RTC.” Unit 1 includes the following SEP: plan and conduct investigations, develop and use models, collect and analyze data, and develop explanations.

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- In Unit 7, Activity 2, students use scientific practices to identify what causes sound.
- Students develop, evaluate, and revise their thinking as they engage in phenomena in Unit 10 as they use scientific practices to plan and conduct simple descriptive investigations. The students use engineering practices to design solutions to problems describing how wind and water move soil and rock particles across the Earth's surface, such as wind blowing sand into dunes on a beach or a river carrying rocks as it flows in an authentic application.

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

- Unit 16, the section "Unit Transition" activates students' prior knowledge by directing the teacher to "Explain to students that in the last unit, they created food chains to identify producers and consumers, to see how animals depend on other living things. Explain to students that in this unit, they will be focusing on plants and what they depend on to spread and grow."
- The Teacher's Edition for Unit 6, Activity 1, directs the teacher to not correct any misconceptions at the beginning of the unit, but rather to let the students discuss and then revise their initial ideas throughout the unit as evidence builds on their prior knowledge.
- The materials include a prior knowledge section for the teacher. Opportunities to access prior knowledge are included in the introduction of the phenomenon.
- The "Vertical and Horizontal Alignment" document indicates that the materials intentionally leverage and spiral the content to guide the development of grade-level content, RTC, and SEP.

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

- The grade 2 materials clearly outline for the teacher the scientific concepts and learning goals behind each phenomenon and engineering problem that correspond to content concepts across the grade level. For example, in Unit 6 "Playground Problems", in the Teacher's Edition, the science discipline, the Science Standard 2.7B; Phenomenon; Unit Objectives; SEP, and RTC are all identified for the teacher. The "Activity Summary" clearly outlines all activities for the two-week lesson cycle. The Standards Coverage Chart clearly outlines all standards covered in this unit with bold type font, and SEPs and RTCs are color-coded in the chart and within the lesson plan. The sections "Teacher Support Resources" and "Student Support Resources" clearly label the title, and provide an icon identifying media types and a thorough description. The lesson plans provide a table identifying the students' success criteria and formative assessment evidence.
- The publication *How to Use Studies Weekly* explains how to use embedded technology, *The Background Information Podcast* is described as "a podcast that discusses information to aid teachers in instructional strategies, content, and misconceptions students might have in the unit." Unit 2 includes the "Jiggly Gelatin: Topic Background Information" podcast.
- The materials provide a scope and sequence for grade 2 that outlines the scientific concepts and learning goals behind each phenomenon and engineering problem. The vertical and horizontal chart depicts the recurring concepts and themes for kindergarten – grade 5.
- In Unit 10, students learn about rocks, soil, and water using the following phenomena: "Sandcastles at the beach can get knocked over without people touching them." Students can investigate and describe how wind and water move soil and rock particles across the Earth's surface by doing an authentic application of SEP. Unit objectives, TEKS, SEP, and RTC are clearly identified.

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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

The 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 units and grade levels. 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.

- Each strand is described and explains how each TEKS progresses from kindergarten to grade 5. The materials include knowledge, expectations, spiraling concepts, SEP, RTC, and new vocabulary. For example, the strand: “Matter and Its Properties and Matter and Energy,” includes the TEKS and location of the units in the materials for each grade level. The materials include a TEKS-aligned scope and sequence that shows how to teach science knowledge and skills throughout the year and a side-by-side document showing the TEKS from unit to unit.
- The materials are vertically aligned to build and connect their knowledge and skills within and across units and grade levels. The “Vertical Alignment” document addresses what is taught according to the TEKS. The Earth and Space unit for grade 2 calls for students to describe the sun as a star that provides light and heat and explains that the moon reflects the sun's light. In grade 3, students construct models and explain the orbits of the Sun, Earth, and Moon in relation to each other. In grade 5, students are expected to demonstrate that the Earth rotates on its axis once approximately every 24 hours, and explain how that causes the day/night cycle and the appearance of the sun moving across the sky.
- The teacher edition’s publication “Texas Science Vertical and Horizontal Alignments” uses bolded words to show new concepts based on previous grade levels. For example, the strand

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“Matter and its Properties” connects new learning goals to previous and future learning. For instance, the kindergarten and grade 1 student knows that “objects have physical properties that determine how they are described and classified.” But the statement is bolded only for kindergarten. The grade 2 student knows “matter has physical properties that determine how it is described, classified, and used” with the words *matter* and *used* bolded.

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

- The grade 2 materials sequence instruction in a way that activates or builds prior knowledge before explicit teaching with hands-on learning activities that allow for deeper conceptual understanding. For example, materials introduce units with a real-world phenomenon or engineering problem featuring “Studies Weekly” characters followed by hands-on activities scaffolded through visual aids (i.e., Phenomenon Comic Strip, videos, and interactive Student Edition) and student-driven inquiry. In Unit 6, the students read a comic strip story about Gina and Ms. Garcia, “Gina can’t get Ms. Johnson to move on the swing but Ms. Garcia can.” The teacher shows the “Playground Problems: Phenomenon Video.” The teacher guides the students to form a hypothesis. Students write their hypotheses in their student edition. Throughout the two-week unit, students engage in activities and investigations of cause-and-effect relationships to determine how a push or pull affects the motion of an object.
- The materials include “Studies Weekly Strategies” and “Leveling for the ELPS” which show learning strategies differentiated by level for foundational skills: listening, metacognitive thinking, speaking and problem-solving, speaking and writing, and reading. The materials provide “Sentence Stems/Teacher Prompts for Use” and additional actions.
- The materials include a progression of concrete, representational, and then abstract reasoning when presenting concepts that allow for increasingly deeper conceptual understanding. For example, students in grade 2 collect observations to identify properties of matter in Unit 2, Activity 2. In groups, students explore ways to make gelatin more jiggly by creating their own recipes. After the students make their gelatin, they complete an investigation and record their findings. Next, students share the data they recorded with different classmates that were not in their groups. During the discussion, students talk about how their group modified the original recipe and why.

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

- The “Texas Science Vertical and Horizontal Alignments” publication identifies grade 1 TEKS 2.5B, “investigate and predict cause-and-effect relationships in science,” as an RTC in Unit 7. The Unit 7 students’ success criteria for Activity 2 is “I can demonstrate how a sound is made to collect evidence on what causes sound.”
- Every unit includes “I can” statements to let teachers know exactly what will be mastered. For example, in Unit 2, Activity 3, the success criteria is “I can analyze data to describe cause and effect relationships related to temperature.”
- The materials provide student learning objectives, learning targets, and “I can” statements for each unit. For example, Unit 3 begins with the objective: “Students will be able to ask questions based on observations of phenomena to identify and use patterns to classify matter by observable physical properties.” In this unit, the learning targets/success criteria are: “I can ask questions based on observations of a phenomenon to predict cause-and-effect relationships in

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science. I can collect observations to identify properties of matter. I can analyze data to describe cause-and-effect relationships related to temperature. I can conduct investigations to demonstrate changes in matter. I can develop and communicate explanations to describe how relative temperature can cause changes to properties of matter."

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

- The grade 2 materials clearly define the boundaries of content that students must master for the grade level. For example, the materials provide the teacher with "Success Criteria" and "Formative Assessment Evidence" for each activity. Unit 13, Activity 2, provides the teacher guidance to ascertain student mastery of the "Success Criteria - I can identify and describe ways that trash can impact the environment." The teacher uses the student edition responses as a formative assessment check of student mastery of the content, "Formative Assessment Evidence - Use students' responses to the 'Reflect and Connect' section to check for proficiency of the success criteria." In their student edition, students answer the following question in the "Reflect and Connect" section, "What are some ideas you have about how Texans could limit the amount of trash they send to the landfills each year?"

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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 (RTC), and scientific and engineering practices (SEP). 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.

- The materials include a guiding document for the program called "How to Use Studies Weekly," which explains the core components of the materials and the purpose of the program's instructional design. "Instructional Design Texas Science is built upon the principles of the Framework for K-12 Science Education, published by the National Research Council. This curriculum supports Three-Dimensional Learning. 3D learning means that the SEP, RTC, and TEKS content are integrated into lesson plans when teaching science. This three-dimensional approach to science continues to and through the assessments." Materials highlight critical features of the instructional design.
- The grade 2 materials explain the intent and purpose of the instructional design of the program's "Standards Coverage Chart" included in every unit. For example, the "Texas Science How to Use Studies Weekly" document contains a section titled "Texas Science: Additional Highlights," which explains, "The Standards Coverage Chart shows where the SEP and RTC are covered in the unit. Since the TEKS content permeates the entire unit, you can be assured that it's thoroughly integrated."
- The materials provide a rationale for the instructional design of the program. The Introduction to Science 2-5 gives information on how to use the program. For example, "Studies Weekly

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Online” highlights the platform and includes features such as audio support, annotation abilities, links to Google Classroom, and online support of student performance.

- The “Alignment Chart” includes a vertical alignment of SEP to show how content and concepts increase in depth and complexity across grade levels. The strand “Organisms and the Environment” includes kindergarten SEP “develop explanations and propose solutions supported by data and models;” grade 1 SEP “develop and use models to represent phenomena, objects, and processes;” and grade 2 SEP “develop and use models to represent phenomena, objects, and processes or design a prototype for a solution to a problem. The alignment chart includes a horizontal alignment of SEP for every strand and across units within the grade level.

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 identify common grade-level misconceptions students may have about science concepts. For example, in grade 2, in the “Standards Coverage” section in Unit 15 on food chains, materials identify common misconceptions students have. For example, plant eaters are small and timid, plants don't need food to survive, and birds are not animals.
- In Unit 3, the materials support the teacher by listing the following misconceptions: Wax is made from plastic. Change is random and irregular. Objects’ properties are random and have no use in understanding and explaining the world.
- The grade 2 materials identify common grade-level misconceptions students may have about the science concepts, with an icon of an exclamation point inside a yellow triangle in the lesson activities. The highlighted text provides guidance for the teacher on how to address the misconception within the context of the current activity where the icon is.
- The teacher’s edition includes the publication “How to Use Studies Weekly,” that explains how to use the embedded technology “The Background Information Podcast,” which “discusses information to aid teachers in instructional strategies, content, and misconceptions students might have in the unit.” Unit 4 includes the “Home Tweet Home: Topic Background Information” podcast.

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

- The materials include a guiding document for the program called “How to Use Studies Weekly,” that explains the core components of the materials and the purpose for the instructional design of the program. “Instructional Design Texas Science is built upon the principles of the Framework for K-12 Science Education, published by the National Research Council. This curriculum supports Three-Dimensional Learning. 3D learning means that the SEP, RTC, and TEKS content are integrated into lesson plans when teaching science. This three-dimensional approach to science continues all the way to and through the assessments.” Materials provide an explanation for why materials are designed the way they are. Materials highlight key features of the instructional design.
- The publication “Introduction to Texas Science_2nd-5th Grades” identifies the 5E model as the lesson structure for “Science Weekly.” Figure 1 shows each unit consists of three main sections: the phenomenon or engineering problem, student-led inquiry, and learning activities.
- The materials explain the intent and purpose of the instructional design of the program’s “Standards Coverage Chart” included in every unit. For example, the “Texas Science How to Use Studies Weekly” document contains a section titled “Texas Science: Additional Highlights,”

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which explains, “The Standards Coverage Chart shows where the SEP and RTC are covered in the unit. Since the TEKS content permeates the entire unit, you can be assured that it’s thoroughly integrated.”

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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

The 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 students in developing and displaying an understanding of scientific concepts. 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.

Evidence includes but is not limited to:

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

- All unit overviews consistently include an engineering design scenario, standards coverage, scientific and engineering practices (SEP,) recurring themes and concepts (RTC,) English language proficiency standards (ELPSk), common misconceptions, vocabulary review, wellness connections, math, and English Language Arts and Reading (ELAR) connections. In addition, The "Poster Pal" and the student's materials are labeled "Engineering Design." These use pictures to guide observations and student-generated questions, assist on the identification of problems, build vocabulary, support investigations, help students organize information through graphic organizers and collect data as well as provide science reading materials with writing and reasoning opportunities.
- In Unit 9, Activity 3, in the "Reading to Learn" section, the teacher directs students to an article in the student edition. Prior to reading the article, students highlight or underline the sight words and spelling patterns they already know. The students can read the article independently,

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in pairs, or as a class. Students retell the article to a classmate and the teacher has two or three students retell the article to the class. The class discusses some ways the invention of telescopes has improved the study of science. For example, Unit 2 includes the success criteria for each activity using different language skills. The success criteria in Activity 1 states, “I can ask questions based on observations of a phenomenon to predict cause-and-effect relationships in science,” whereas Activity 5 states, “I can develop and communicate an explanation of the phenomenon with evidence I can develop and communicate explanations to describe how relative temperature can cause changes to properties of matter.”

- The “Phenomenon Introduction” section of Unit 7, Activity 1, asks students to read the phenomenon comic strip, and directs the teacher to, “Show students the screeching cup but do not have it make the sound.” The teacher says, “This cup and string when used just right can make an interesting sound. What sound do you think a string and cup makes? Why?” Students receive an “Asking Phenomenon Questions” printable where they record their predictions. The teacher plays the “Screeching Cup” audio found on Studies Weekly online. The teacher uses the “Phenomenon Questioning Technique” and guides students to create a student-driven question board that guides students to form a hypothesis. The guiding question for this unit is: How is sound made? In the next section titled “Form a Hypothesis” students write their hypothesis in their student edition.

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

- Unit 8 contains eight PDF files: a prior knowledge article, English/Spanish flashcards, word wall cards, a sound code chart, wellness connections, presentation notes, a communicating with visual impairments article, and lower Lexile articles.
- In grade 2, the units include a “Prior Knowledge Review Vocabulary” section. Unit 7 includes vocabulary lessons for Activities 2 and 3. For example, in Activity 2, the focus is on multi-meaning words. The teacher points out that the word *record* has multiple meanings. The teacher provides both meanings.
- Unit 12, Activity 1 of the teacher edition begins with a pre-reading activity “Give students one minute to observe the comic silently;” then “Ask: What do you notice or wonder as you observe the illustrations?” Activities 1-3 introduce new vocabulary: *human-made resources*, *natural resources*, and *resources*. For example, in Unit 7, Activity 2, the teacher is directed to, “Have students read the article independently, in pairs, in small groups, or as a class.” The teacher asks students to summarize the article with a classmate. The article for Activity 2 in the student edition is titled “Sound.” The article includes the following text, “Sound is all around us. Some people hear sounds with their ears, while others feel sounds with their body. Different objects make different sounds. Drums make a banging sound and bells make a ringing sound.” The page shows photographs of a child holding their hand up to their ear, a drum, and a bell. The teacher asks, “How can you feel sound with your body?” and “What are some other ways sound is used in the world to give information?”

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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.

- The Studies Weekly website provides various written and graphic modes of communication, such as pictures, illustrations, and text that include audio to support students in developing and displaying an understanding of scientific concepts. Many articles, activities, and games are interactive to provide opportunities for students' responses and checkpoints for understanding. The "Poster Pal" and the student materials guide observations, build vocabulary, provide science reading materials with writing opportunities and graphic organizers that help students organize information to gather evidence and develop an understanding of concepts.
- In Unit 10, Activity 2, students conduct an investigation to observe how water moves soil. The students draw a model in the chart of each stream table set up and describe their observations to their partners. The students predict the effect the water will have on the soil. The teacher says, "In the chart of your student edition, draw a model of how you think the soil will change once we add water." The teacher checks for understanding by having the students show a thumbs up if they know what to do or a thumbs down if they are unsure. The teacher encourages students to use words to label their pictures as they record their data and predictions.
- The teacher edition publication, *Introduction to Texas Science_2nd-5th Grades*, explains how their curriculum is structured "The first unit of Texas Science consists of several weeks of material as an introduction to science and engineering. These lessons introduce students to the big ideas of scientific thinking and inquiry. Each subsequent unit is anchored by phenomenon-driven inquiry or a problem to solve." Units 2-20 begin Activity 1 with this note to teachers: "The students' initial ideas and understanding may include some misconceptions. However, at this point, do not correct any false assumptions. Rather, let students discuss, and encourage them to revise their initial ideas throughout the unit as new evidence builds on their prior knowledge."
- The grade 2 materials provide opportunities for students to communicate thinking on scientific concepts in written and graphic modes. For example, in Unit 9, Activity 2, the teacher asks, "What makes day and night different?" Students draw the moon and sun side by side in their science notebooks and share their drawings with a partner. Students discuss similarities and differences. Finally, students complete a Venn diagram about the Sun and Moon in the "Independent Work" section of their student editions.

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.

- In Unit 2, students learn how to classify matter by observable physical properties, including texture, flexibility, and relative temperature, and identify whether a material is solid or liquid using the phenomenon, "Gelatin doesn't look and feel the same all the time." and recording observations. The teacher guides the students to ask questions based on what they notice or wonder about and write their observations in the student additions. The students then think about what they want to make sense of or what my questions might be forming in their minds. The materials provide strategies for the teacher to help the students produce their own questions and support struggles. For example, the materials direct the students to look at the comic without reading it. Then, the teacher asks the students what they notice or wonder from the observations of the illustrations. The teacher says, "I noticed that Nuttallia and her mom

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have their hair pulled back from their faces. That’s a great way to stay safe when using hot surfaces like stoves.” The teacher has the students underline or highlight sight words they already know before reading. The teacher continues to guide the students through several other actions before they read the comic and explains how the comic will connect with the phenomenon for the unit. Later in the unit, students conduct an investigation to demonstrate changes in matter. The teacher asks, “To make our gelatin jiggle, do we want it to be liquid or solid? How can we make some matter a solid?” The teacher separates the class into groups and provides them with the needed materials. The teacher asks, “What can we do to make the gelatin solid? How can you cool your gelatin down?” The students follow the directions included with the gelatin to make their gelatin creations. The teacher encourages the students to collaborate and use the new vocabulary in the unit. Students record their observations in their student edition.

- The teacher’s edition publication, *Introduction to Texas Science_2nd-5th Grades*, explains how the Student Edition is structured. First, the phenomenon involves a real-world, relatable experience; second, students learn to ask questions about the phenomenon; then, students engage in activities intentionally designed to help students make sense of the anchoring phenomenon through the integration of SEPs and RTCs. Unit 14, Activity 1, the “Lesson Guide” includes these teacher prompts: “Give students one minute to observe the comic silently.”; “Ask: What do you notice or wonder about as you observe the illustrations? ”; and, “Tip: You may wish to present the phenomenon to students several times while they are producing questions.”
- In Unit 19, Activity 2, students watch the video “Ant Frenzy” before discussing the needs that the ants are trying to meet. The “Collaborative Learning” section directs the teacher to “Explain to students that they will be working together to test their ideas to record data to determine if being in a group can help animals meet their needs to eat.” The teacher divides the class into two groups and assigns each group half the classroom. The teacher asks, “What do your groups represent?” The teacher scatters 20 small items in each half of the space and provides bags for students to gather the items. The teacher asks, “What do these items represent? What do you notice about the amount of food and people looking for food?” If students do not make the connection between the amount of food and people, the teacher is directed not to explain it yet, thus allowing the student time to engage in productive struggle.

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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

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

The 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/or verbal arguments that justify explanations to phenomena and 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.

- In Unit 10, students investigate and describe how wind and water move soil and rock particles across the Earth's surface. Students formulate a hypothesis, conduct an investigation about water, and use evidence to reflect if their thinking has changed:
 1. Explain to students that during the next part of the lesson, they will be conducting a school investigation.
 2. Say: During this school investigation, we will collect observations as evidence of water moving soil.
 3. Stop in various places for students to observe. Some ideas of where students might see water moving soil include gardens, flowerbeds, near drain pipes, or places where puddles form.
 4. Have students follow the directions on their 'Water and Soil Walk' printable to complete the activity.
 5. At each location, after students record, have them share their explanations and descriptions of how water is moving soil. Provide a sentence stem to support the discussion: 'The water in this location caused the soil to...'
- After the students observe the phenomenon in Unit 4, Activity 1, the teacher tells them they will hypothesize how birds decide which materials to use for their nest. The students write their hypotheses in the student edition. The materials guide the teacher to assist students who

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struggle with sentence stems such as, “I think....because...” The teacher calls on students to share their hypotheses.

- The teacher publication, *Introduction to Texas Science_2nd-5th Grades*, states that “many units are framed by a student-driven hypothesis statement, which is scaffolded. This is usually coupled with gathering evidence, making claims, and supporting those claims with reasoning.” In Unit 1, Activity 2, student edition includes the text “Plan and Conduct Investigations,” which explains that scientists and engineers “collect the information they need to answer their questions.”
- Unit 11, Activity 9 directs the teacher to model for students how to record severe weather data evidence on a regional map for tornados in their student edition. The teacher says, “Tell students that after they collect and organize their tornado data evidence on their map, they should analyze their data evidence for patterns and answer the questions in the student edition.” Students work in small groups or pairs. The teacher uses the questions provided to help the students find the pattern for where tornadoes occur and why. In the “Reflect and Connect” section, the students share their answers with the class and discuss any differences. The teacher asks, “Do you think a tornado was occurring in the comic phenomenon like Gina thought? Why or why not? Use evidence from the activity.”

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

- After investigating soil materials, Unit 10 guides the teacher to support students using scientific vocabulary to explain their thinking:
 - Have students share observations about which model seemed to change the most and move the most soil. 2. For each model, have students turn to a partner and share what effect the flowing water had on each model during the investigation. Provide a sentence stem to support the discussion, such as: “The flowing water in this model caused the soil to ...” a. This is an opportunity for students to speak using connecting words. [ELPS 3C]
- In Unit 11, Activities 6-9 of the student edition prompts the students to write or draw the definition for the words *hurricane*, *flood*, *tornado*, and *severe weather*. In Unit 15, Activities 3-4 of the student edition, prompt the students to write or draw the definition for the words *producer* and *consumer*.
- The teacher publication, *Introduction to Texas Science_2nd-5th Grades*, states that the materials “follow a disaggregated approach to vocabulary. This means that students grapple with the science concepts before introducing new science vocabulary.” During the “Collaborative Learning” section of Unit 3, Activity 2, students discuss and explore real and plastic fruit to determine which is real and which is fake before the vocabulary activity in which they discuss the terms *artificial* and *natural*.
- After the phenomenon introduction about the weather in Unit 11, the teacher asks, “When you came to school today, how warm or cold was it? Would you describe it as freezing, cold, cool (kind of warm, kind of cold), warm, or hot?” The teacher continues, “What you just described, how warm or cold it was outside, is called temperature. Temperature is how hot, cold, warm, or cool something is.”

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

- Unit 10, after a “Reading to Learn” activity about rocks, students discuss how rocks change over time:

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Debrief 1. Discuss: Turn to a science partner and share how you think the rock in the article changed over time. (The shape of it might have changed as the wind broke off small pieces and moved them.) 2. Have students describe one way wind or water can move soil or rock using a cause-and-effect statement. a. Students can use the same example they wrote about for “Applied Science Writing” or share something they learned in this unit.

- In the “Reflect and Connect” section of Unit 9, Activity 8, the students respond to the following question in their student editions. They share their responses with a classmate. The students discuss whether they agree and share why.
- The teacher publication, *Introduction to Texas Science: K-1st Grades*, states that the materials develop questioning skills. The “first activity of each unit is for students to study the phenomenon and ask questions about it. Texas Science employs a phenomenon questioning technique to help build students' ability to ask good questions throughout the school year.” The publication then elaborates, “The student-driven question board creates a fertile environment to connect student questions to the unit’s activities.” Unit 1, Activity 5, the student edition includes the text “Develop Explanations,” which states, “Scientists and engineers want people to believe the answers they found. They use the data they collect to support their explanations.” The text elaborates on this idea by stating, “Scientists and engineers may share their explanations alone or in groups,” and “Scientists and engineers ask questions about the world around them.”
- Throughout the lesson cycle, the materials direct the teacher to have students work collaboratively or with a science partner to share evidence and provide their reasoning for their thinking. The materials offer questions for the activities. In Unit 2, Activity 1, the teacher asks, “What do you already know about classifying objects?” In a collaborative learning introductory activity, students work in groups to classify a collection of objects by their properties. After the sorting activity and discussion, the teacher asks, “How has your group chosen to sort materials? Why?” and “Are there any other ways to sort your materials? If so, in what ways? If not, why not?” The teacher has the students sort the materials differently (i.e., color, flexibility, texture). The teacher asks, “How did your sort change? How did it stay the same? What are some other things that can be sorted?” The materials encourage the teacher to provide sentence starters and other grade-level resources, such as word walls and vocabulary lists, to support students in developing their responses.

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.

- In Unit 10, the teacher guides students to share observations for their investigation using student-driven inquiry.
 1. Have students turn to a partner and explain something they observed or learned in the ‘Water and Soil Investigation’ from the previous lesson.
 2. Ask: What changed in the stream tables once we added water? (The water moved the soil to a different place on the stream table.)
 3. Ask: Did any models change less than others? Did the soil move less? (Answers may vary, depending on the investigation, but could include that the flat sand model stayed mostly the same, except for the soil that was moved by flowing water.)
 4. Have students look at the student-driven question board and remind them of the questions they have come up with. a. Guide students toward questions about water

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and soil. b. Examples could include: What types of bodies of water move soil? Where does soil go when water moves it?

- In Unit 10, after investigating soil, water, and rock, students reflect on their learning and understanding of the phenomenon.
 1. Ask: What are the activities or investigations that we have completed that can help you describe how water moves soil? (The water and soil investigation with stream tables, the article, and the school investigation.)
 2. Discuss: How have these activities helped you further your understanding of the phenomenon and phenomenon comic? (We know that the waves could have moved Steven’s sandcastle, but we still do not know about Natalia’s sandcastle.)
 3. Have students write their ‘Reflect and Connect’ responses in their student editions. Remind them to use the evidence collected from investigations and articles to support their explanations and to include review vocabulary in their writing.
- In Unit 9, Activity 10, in “Applied Science Writing,” the students use evidence and models to explain the phenomenon: “Why is it brighter and warmer during the day than at night?” The materials prompt the students to use tools in their homes and communities to help make observations of objects in the sky, such as the sky and the Moon. “How does it change what you see without it?”
- In Unit 1, Activity 5, the student edition expects the students to use what they have “learned about caves and what you know about the sun to explain why the inside of a cave might be cooler than the outside of a cave.” Then they read the text “Develop Explanations,” which states that: “Scientists and engineers do this by developing explanations for their investigations,” “They use the data they collect to support their explanations,” and “They can share their explanations out loud as well. Scientists and engineers may share their explanations alone or in groups.”
- In Unit 18, students research, record, and compare evidence about how the structures and behaviors of animals help them find and take in food, water, and air. During a collaborative learning exercise in Activity 9, the students plan and create a presentation on an animal. The materials provide questions to consider in the group presentation, “How can we best tell the people in our class about the animal you researched? How can we write, show, and tell that? How can we make the presentation look nice and sound good? Who will say/present each part of your presentation? How can we make sure everyone has a job?”

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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.

- The "Discovery Path" section of Unit 10 guides the teacher with discussion:
Use the following questions or questions similar to the ones provided to facilitate discussion and assess student progress to the ideas and concepts listed above. a. What happens to your objects as they collide? (Answers could include that the objects push on each other or that one or both objects move in different directions upon colliding.) b. How is that similar to when they touch? (It's similar because when objects touch, they push on one another, and when they collide, they push on one another.) c. How is that different from when they touch? (When two or more objects touch, the push does not cause the object to move far or at all, but when objects collide, one or both of the objects will move.)
- In Unit 7, "Surprising Sounds," the materials provide questions with possible student answers. The assessment lists questions, "What would make a thumping sound?" and "Study the image of the crowd and the people on the roof. Do the people have to talk loudly so everyone can hear?" The materials provide possible student answers; the books make a thumping sound; yes, people must speak loudly so everyone can hear. In Unit 6, Activity 2, after watching a video about planning an investigation, the teacher asks, "What steps must a scientist or engineer take to

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plan an investigation?” The materials provide possible student answers written in red text and located below the question in parenthesis, “(determine the purpose, choose the materials, write the steps, and decide on the evidence).”

- The teacher publication, *Introduction to Texas Science: K-1st Grades*, states it “employs a ‘Phenomenon Questioning Technique,’ which will help build students’ ability to ask good questions throughout the school year.” The teacher printable “Phenomenon Questioning Technique” includes these instructions for the teacher: “Review and model the questioning rules in student-friendly language. For example: Ask as many questions as you can. Just let them fall out of your mouth,” and “Model: Write the questions exactly as they are said without changing any wording.”

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

- In Unit 10, materials give teachers a preview of vocabulary for the unit and the prior knowledge article. “Review Vocabulary It would be a good idea to review the prior vocabulary before beginning. You may already have these words on your word wall: *motion* and *push*. Prior Knowledge Article It would be a good idea to read the article prior to the unit to cover previously taught concepts and vocabulary.”
- The teacher supports the students’ use of scientific vocabulary in context during Unit 5, Activity 2, as she guides them in an activity using golf balls. “In science, we call this a touch. When moving objects barely come together, they touch. Let’s finish the sentence in our student editions. Make the two golf balls barely come together. The golf balls barely touch. Write the word ‘touch’ in the blank.” The teacher asks, “Where have you heard this word before?” and encourages the students to “Use your prior knowledge and experiences to help you remember the word touch.” In the next activity, students roll their golf balls toward their partner’s golf ball and make it hit hard. The teacher says, “In science, we call this a collision. When moving objects strike each other harder than a touch, they collide.” Students complete the sentence in their student edition with the vocabulary word *collide*.
- The teacher publication, *Introduction to Texas Science_2nd-5th Grades*, states it is “a full-spectrum of vocabulary support. It begins by informing the teacher of the review and new vocabulary for the unit. Teachers can continually build and add to a classroom word wall using the provided Word Wall Cards for each unit.” Materials also state that it “strives to follow a disaggregated approach to vocabulary. This means that students grapple with the science concepts before introducing new science vocabulary.”

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

- The materials provide teacher guidance on preparing for student discourse. Unit 10’s “Discovery Path” contains a “Reflect and Connect” activity that allows students to make a claim.
Discuss: Did we answer the question we chose from our Student-Driven Question Board today? If yes, what did we find out? If not, what can we do to help us find out? (Answers may vary but should match what was discussed throughout the activity.) 2. Discuss: How did this activity help you make sense of the phenomenon? Has your thinking changed at all? Did the activity change or confirm your thinking? (Answers may vary. Example: After this activity, I think an object will only change shape if it collides with another object but not if it only touches another object.)

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- The materials offer team-building activities for students to practice listening to each other and building off one another's ideas in a group discussion. In Unit 11, Activity 10, in the “Collaborative Learning” section, the students explain the phenomenon based on the evidence and patterns. Students share their responses with group members. The teachers provide the students with an anchor chart to record one agreed-upon response to the questions on the anchor chart. The teacher may wish to provide sentence stems: “Our claim is; we think” and “Our evidence is....; we know this because....”
- In Unit 14, Activity 5, the “Whole Group” section includes these guiding questions: “Based on our learning this week, do you think the animals or plants in a tide pool need to move when the water comes in?” The materials provide possible student answers in red print. The teacher continues questioning during the debrief section, “Were you able to answer the questions asked in the phenomenon and comic?”
- After reading the article “Rainforest Experts” in Unit 14, Activity 3, students take turns being an expert. Students get together in groups of four with others who read about the same plant or animal. Students take turns being the expert. The teacher says, “You will teach the rest of the group about your plant or animal, including describing how the physical characteristics of the rainforest ecosystem support it.” The teacher reminds students to use evidence from the reading in their explanations.

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

- In Unit 10, the materials guide teachers to engage student thinking using “Applied Science Writing,” an activity designed for students to apply what they have been investigating to their home, community, or culture. “Ask students to think about a collision they've recently seen in their home or community and write about it in their science notebooks.”
- In Unit 3, Activity 2, the students collect evidence to determine patterns to help distinguish models from their natural counterparts. In the vocabulary section, the teacher asks, “How did you determine which fruits were made of wax and which fruits were real?” “If you pick an apple from a tree, do you think it would be natural or artificial?” and “What is something else artificial fruit might be made of?”
- Unit 1, Activity 2, the “Ideate a Solution” section includes these teacher instructions for prototypes: “Display Unit 1: Engineering Materials and remind students that these will be the available materials to build their models to represent their design solutions.” In activities 3-4, students create and test prototypes. In activity 5, the “Communicate” section includes these instructions: “As you circulate, offer support with the following questions: a. How would you respond if someone were to ask how you know your design will ...?”
- The grade 2 materials support and guide the teacher in facilitating the sharing of students’ thinking in various modes of communication in detailed lesson plans with numbered steps that guide the teacher with questions to ask or things to say to the students to help guide their thinking. The materials remind the teacher when to circulate around the room, take anecdotal notes of students’ understandings, and provide questions to ask or ways to share. The “Collaborative Learning” section of Unit 6, Activity 5, directs teachers to:
 - 1) Have students follow the directions in their student edition to work with a partner and come up with a plan to collect the evidence they need for this investigation. 1a) As students work, pay attention to the range of communication students use to express their ideas and opinions with their peers. 2) As you circulate, use the questions provided

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to facilitate discussion to guide students to get as close to the ideal investigation evidence as possible.

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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 that include formal and informal opportunities to assess student learning in a variety of formats. Materials assess all student expectations and indicate which student expectations are assessed. 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.

- The materials include various assessment tools, such as formative assessment suggestions, reading comprehension multiple-choice assessment items for each nonfiction article, and summative unit assessments using a variety of question types that assess learning of the unit material. The publication contains an assessment map for identifying scientific engineering practices (SEP), recurring themes and concepts (RTC) components, depth of knowledge levels, answer rationale, and remediation or review suggestions. Finally, the materials contain performance tasks and summative assessments designed to test student performance of what was learned in the unit, using a novel context and prompts. For example, in grade 2, Unit 17, “Plant Parade,” the materials provide a reading comprehension assessment that evaluates students’ learning with questions that analyze multiple dimensions of learning.
- The grade 2 materials include formative assessments in various formats to measure student learning and help the teacher plan for instruction with a formative assessment after each activity. The materials provide success criteria for each activity and guidance for collecting “Formative Assessment Evidence” to assess students’ proficiency for each activity. In Unit 2, Activity 2, the success criteria are “I can collect observations to identify properties of matter.” The guidance for the teacher in the “Formative Assessment” section at the end of the activity is, “Use student observations of the gelatin in the beginning, middle, and end of being made to

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check for the proficiency of the success criteria.” Additionally, the online materials contain printable weekly assessments. These include various question types to assess the learning for the week’s activities.

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

- Materials provide students with online assessments for all activities aligned to the scope and sequence and weekly assessment reports. The publication provides complete information for online student activity. The reports show class scores, individual student scores, and cumulative statistics, including progress, customized content reports, and classroom reports. The material bases progress on articles read, crosswords, games completed, questions answered, and assessments. The materials clearly indicate student expectations assessed as outlined in the TEKS. Science Weekly includes all assessments in the unit and the student expectations assessed by each in each unit overview.
- Materials assess all student expectations. The teacher edition Unit 4 includes a chart with three columns that indicate each activity’s title, success criteria, and formative assessment evidence. Activity 2, “What’s in This Nest?” indicates the success criteria “I can collect and organize data on the properties of the materials used to make Cameron’s bird’s nest;” and “Student Edition Response” as formative assessment evidence.
- The grade 2 materials provide lesson plans that clearly identify the standards and student expectations addressed in each activity. Science Weekly guides the teacher on assessment for the success criteria (student expectations) in the formative assessments section at the end of the activity’s lesson plan. The “Texas Science Answer Key” provided in the teacher edition includes a general formative assessment rubric to help assess students’ proficiency in the success criteria provided for each activity.

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

- The materials include assessments that integrate scientific concepts and SEP with RTC. The teacher edition publication, *Introduction to Texas Science_2nd-5th Grades*, includes a “Summative Unit Assessments” chart that “indicates how each assessment item (numbers along the top row) addresses the three dimensions of learning: SEP, RTC, and content.”
- In Unit 3, students conduct simple descriptive investigations and use engineering practices to identify properties of matter and how they can change. A formative assessment states, “Use students’ problem responses to check for the proficiency of the success criteria. Use the ‘Define’ section of the ‘Engineering Design Rubric’ in the Real or Fruit?: Answer Key for guidance.” In Unit 9, Activity 3, the students use the recurring theme of cause and effect to collect observations to determine the effect of using a tool to make observations about day and night.
- The grade 2 materials include assessments requiring students to integrate scientific knowledge and science and engineering practices with recurrent themes appropriate to the student expectations. For example, in Unit 8, “Students will be able to design and build a device using tools and materials that use sound to solve the problem of communicating over a distance.” Materials provide an Engineering Design Rubric to assess students’ proficiency skills with this task. The rubric provides criteria for the following scores, “1) Beginning: Does not meet expectations, 2) Progressing: Partially meets expectations, 3) Competent: Meets expectations, 4) Advanced: Exceeds expectations.”

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

- Materials include assessments that require students to apply knowledge and skills to novel contexts. The teacher’s edition publication, *Introduction to Texas Science_2nd-5th Grades*, states that in the performance task, “Students are assessed by demonstrating their understanding of the science content. The novel situation also reinforces the transfer of science concepts.”
- Each activity in the unit includes success criteria and an assessment to determine the student's success. A sidebar next to each activity identifies RTC. In Unit 18, grade 2 students develop and use a model to identify the body parts of a water strider and what the water strider does to help it survive. Students work in groups to draw their water strider using labels to explain its features and behaviors.
- The grade 2 materials include assessments that require students to apply knowledge and skills to a novel situation in a performance task for Unit 11. The students apply what they have learned about severe weather. In Task 1, students cut out a double-sided spinner depicting weather and temperatures (Above 80 degrees, Below 80 degrees, 60-80 degrees, 40-60 degrees) and use it to complete the weather graph, “Spin the Weather.” Students spin the spinner 20 times and record what it landed on by coloring in the box. In Task 2, students read diary entries and identify which type of severe weather the writer experienced, “What type of severe weather is Kirsten describing? Explain.”

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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.	PM
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.	PM

Partial Meets | Score 1/2

The materials partially meet the criteria for this indicator. Materials partially 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 partially 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 somewhat 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.

- The materials include information and resources that provide guidance for evaluating student responses. The teacher edition publication, "Texas Science Components," states that the unit answer keys are "A teacher tool that provides teacher guidance, support, and suggestions for student work in the student edition as well as the formative assessment."
- The second-grade materials include a "General Formative Assessment Rubric" that guides teachers in evaluating student responses. The rubric suggests proficiency scores of 1-4. For example, a proficiency score of 3 indicates, "Student shows an understanding of the topic with very few errors and misconceptions and can explain their thinking with reasons and evidence."
- "Science Weekly" includes information that guides teachers in evaluating student responses. The teacher edition, Unit 11, assessments section consists of the "Where Did My Rocks and Soil Go?: Performance Tasks Answer Key" with samples of student answers and these instructions: "Kirsten is describing a hurricane. Explanations may vary but should include the following: She lives in the Gulf Coastal Plains. She mentioned the damage from high winds, flooding, and heavy rain. She said that this severe weather starts over a body of water."

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- The Unit 3 overview includes suggestions for assessing student learning during each lesson section. "Formative Assessment: Use students' problem responses to check for the proficiency of the success criteria. Use the "Define Rubric" in the Real or Fruit?: Answer Key for guidance."

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.

- The materials partially provide 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. Materials provide a variety of reports to show student level of mastery of the content and success criteria but lack guidance and direction for teachers to respond to individual student's needs in all areas of science, based on measures of student progress appropriate for the developmental level. However, the materials provide limited guidance for report use, including teacher guidance for analyzing assessment data from the reports.
- There is limited support for analysis of data and guidance for responding to individual needs. The teacher edition publication, *Introduction to Texas Science: K-1st Grades*, states, "Each formative assessment can be used to assess the students' proficiency of the activity's success criteria. Proficiency indicators usually include the key concepts and vocabulary from the activity." This provides very little information to guide teachers in responding to students' needs based on the analysis of assessment data.
- "Science Weekly" provides teachers with a variety of assessments but lacks support for teachers' analysis of assessment data. Teacher edition Unit 4 includes the "Teacher Support Resources Chart" that lists the "Home Tweet Home: Unit Assessment" printable as "A summative assessment that evaluates students' learning from the unit. This assessment uses various question types to analyze multiple dimensions of learning."

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

- The assessment tools yield data teachers can analyze and interpret with the summative unit assessments to measure what the students have learned throughout the unit's activities, including content, scientific engineering practices (SEP), and recurring themes and concepts (RTC.) The "Assessment Map" in the unit answer keys includes suggestions for the teacher to plan remediation or review.
- The information gathered from the assessment tools helps teachers when planning core science instruction by suggesting ways to make instructional decisions (e.g., how to group students who have mastered a concept with one that needs support or pairing students who cannot read with students who can provide reading support to convey meaning.)
- Teachers can use the information gathered from the assessment tools when planning core science instruction. Based on the data, the teacher can decide if activities should be done as a whole class or in pairs. The teacher's training resource video states, "The weekly progress report shows the number of students who have finished, started, and not started each week for the selected publication. Progress is based on articles read, questions read, and assessments. Teachers can also see the list of students in each progress category. The classroom report shows each student's progress for the selected publication." Teachers can sort the data based on

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header categories such as average assessment scores, activities submitted, article comprehension questions answered, and more.

- The second-grade materials provide teachers with feedback for students who struggle with proficiency-level formative assessments. The “Answer Key” document for Unit 4, Activity 4, provides the following guidance, “Feedback: Scaffolded; If students struggled to complete the formative assessment at proficiency level, provide additional time for students to revisit the concept according to the following proficiency levels, Below 50%: One-on-one interventions, Below 80%: Small group interventions, Above 80%: Provide additional extension activities from current or past units.”

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

- The materials provide a variety of resources but limited guidance for teachers to use in planning how to respond to student data. Some resources that teachers can leverage for use with students include: vocabulary cards, pictures, games, videos, readers according to concept categories, and skills for intervention and enrichment for the teacher to support all students’ needs.
- Materials provide some additional student support materials and teacher guidance on using them. For example, the teacher can customize the online activities and content seen by the students, allowing differentiation according to students' needs. Teachers can tailor their instructional materials to suit individual students or groups. Teachers can provide appropriate challenges or support based on students' abilities and preferences By adjusting the complexity, pace, or activity formats. While this is helpful in a classroom setting, this doesn’t provide guidance about which activities would best be leveraged to respond to student data gathered about specific TEKS.
- The materials provide limited guidance on how to leverage activities to respond to student data. While there are formative assessments for each activity, unit assessments, and performance tasks that yield relevant student performance data for each student, there is very little guidance for how to use that information to select activities that will improve student outcomes.. Materials provide teachers with feedback for students in the answer keys for all unit activities and formative assessments based on students’ proficiency levels, but nothing about which activities to use for different students based on data results.

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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

The 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.

- The assessments appear to contain accurate content and information on the assessments reviewed. Answer keys are free of wrong answers to assessment questions. Assessments are free of spelling, grammar, and punctuation errors. The unit tests and test keys are free from omissions, substituting scientific terminology, and spelling.
- The assessments contain items that are scientifically accurate. The teacher edition publication, *Introduction to Texas Science_2nd-5th Grades*, states, “Summative Unit Assessments measure what the student has learned across the three dimensions of learning. A handy assessment chart is available for every assessment. This chart indicates how each assessment item (numbers along the top row) addresses the three dimensions of learning: SEP, RTC, and content.”
- The grade 2 unit assessments contain grade-level items that are scientifically accurate. For example, Unit 15 is a unit on animal food chains and identifying producers and consumers. It includes images of animals and animal food chains aligning with the unit objectives and content taught in the unit. Question 4 is an open-response question and provides an image of a food chain, “Study this food chain. Explain why the snake relies on grasshoppers to survive.” The images show a food chain with a plant, a grasshopper, a mouse, and a snake.

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

- Assessment tools use clear pictures and graphics that are developmentally appropriate. Unit 5’s digital format, student view, and unit assessment include colorful soccer ball and bowling pins

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images. Unit 2's assessment uses an illustration to describe an object and real pictures to clearly show the states of matter.

- Assessment tools use clear pictures and graphics. The Unit 15 assessment includes a food chain diagram showing pictures of food chains, plants, and animals with the following instructions: "Build the food chain. Place the producer on the left." The images show a snail, a sparrow, a hawk, and a dandelion.

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

- The materials include detailed information supporting the teacher's understanding of assessment tools and scoring procedures. The "Core Components Descriptions (Grades K-5)" document explains the purpose of the unit assessment answer keys. "A teacher tool that provides teacher guidance, support, and suggestions for student work in the student edition as well as the formative assessment."
- The "Introduction to Science K-1" guide includes a section on assessments that supports the teacher in understanding the types of informal assessment tools included in the curriculum, such as formative assessments that teachers can use to remediate based on student's needs and a summative unit test that contains suggestions for remediation and review.
- The materials provide guidance to ensure consistent and accurate administration of assessment tools. The "General Formative Assessment Rubric" is included in each answer key for the units and guides proficiency of the success criteria provided in the lesson plan for each activity. In Unit 17, Activity 3, the Formative Assessment section guides teachers to "Use students' responses in the student edition to check for the proficiency of the success criteria."

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

- The materials include guidance to offer accommodations for assessment tools that allow students to demonstrate mastery of knowledge and skills aligned to learning goals. Unit 6, Activity 2, the Formative Assessment is to "Use students' drawings and observations to check for proficiency of the success criteria." The activity includes allergy accommodation instructions for the teacher: "For students with severe food allergies, have your class view the videos of the foods being made rather than having the foods in your classroom."
- Digital 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 teacher can view the unit assessment in student mode. The materials allow the teacher to omit questions while still holding true to the objectives covered as a student accommodation. The teacher goes to the unit of study, clicks on the assessment, and chooses the "Edit" tab. Each question has a red 'x' beside the question, which allows the teacher to delete a question.
- In the training and resources section of the online materials, teachers can find an assessment video that offers a step-by-step tutorial on how to edit and customize the assessments for each unit, including changing question types, adding and deleting questions, and adding articles, media, and games as needed.

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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

The 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 still need to achieve mastery. Materials offer 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.

- Unit 2 makes the following recommendation for developing student mastery: "Pair students needing support with a partner who has demonstrated mastery to help the student complete the work at a proficient level," "Provide scaffolding for students who are still developing the motor skills necessary to cut with precision," and "As the teacher or peer is completing the sentence frames, have the other students use their fingers to write the letters on the floor or desk in front of them."
- The lessons include scaffolds to support students in successful science, learning, and knowledge building. For example, in Unit 7, Activity 1 of the "Optional" section says to read the comic in a small group with students that struggle to read independently. Encourage students to look for sight words and spelling patterns they already know.
- Unit 2, Week 5, Activity 5 includes these lesson instructions "Assess student's listening comprehension by ensuring they complete the task as directed. Provide support to struggling students by repeating the directions and having students restate the expectations back to you in their own words." Unit 18, Activity 8 includes these instructions "Tip: Provide students that could benefit from additional scaffolding with the 'Animal Research Notes' printable."
- Each unit offers an optional "Differentiation" section at the end of the lesson plan after each activity. The "Differentiation" section provides options for students still developing who may need accommodations. In Unit 2, Activity 3 offers several suggestions for the teacher to address instruction for students still developing:
 - Reduce the number of sorting objects students use if needed. Allow students to work with a partner to reduce the workload of writing. Allow students to verbally express their explanations of the phenomenon as you dictate and question, prompting them to

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identify pictures, symbols, and words to represent their thinking. Students can read the lower Lexile measure version of the article ‘Liquids and Solids’ (Lexile measure: 450L; word count 97) in the “Jiggly Gelatin: Lower Lexile Measure Articles” printable.

Materials provide enrichment activities for all levels of learners.

- The materials provide enrichment resources for all students, such as printables for extension activities, games, and videos. The “Training and Resources” section includes videos for virtual field trips, such as “Virtual Field Trip: Dinosaur Valley” and “Virtual Field Trip: NASA,” and a video about weather and climate to encourage further exploration of science concepts, allowing students to make connections and extend the learning for students who have mastered grade-level skills.
- The Teacher Edition publication, *Texas Science Components (Grades K-5)*, includes a variety of materials for all types of learners, such as the student edition, which is “the primary student learning component, provided in weekly consumable newsprint-style printed papers;” the “materials that the teacher can print out to support lesson activities;” “the ‘Poster Pal’ helps students complete select activities;” the unit media “all the videos, pictures, and podcasts that are integral to the unit instructional material;” and, the word wall and flash cards.
- The grade 2 materials provide enrichment with optional wellness activities that are clearly labeled “Optional” in the Teacher Edition with a pink “WELL” icon and a yellow border. For example, in Unit 6, Activity 1, the materials provide the activity “Wellness: What is Resilience?” The students describe the properties of rubber bands and read an article. The materials direct the teacher to “Explain to students that flexibility and being able to recover or bounce back from difficult situations is an important skill to have in science because a task or experiment can be harder than expected or turn out in a way they didn’t plan.” The teacher asks, “Why is a rubber band a good example of resiliency?”

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

- Materials include enrichment activities that contain challenging activities and assignments that extend beyond the regular curriculum and stimulate critical thinking, problem-solving, and creativity. For example, in Unit 4, students look at properties of matter that allow different uses for various items. The unit uses the phenomenon: A northern mockingbird can make its nest out of more than just leaves and twigs. The unit includes the “Tangram Pieces: What’s in a Nest Bird Tangram” activity and a video about Ornithology that instills curiosity and interest in birds.
- Unit 6, Activity 3 includes these lesson instructions: “As you circulate, you may use the following questions to provide scaffolding or to deepen thinking,” along with this more accelerated question for students: “What evidence did he use to know he accomplished his purpose of making a better telephone?” Unit 18, Activity 8 provides a list of questions to expand student learning. Unit 2, Activity 4 includes questions for the teachers to ask to support students, such as, “How can we make some matter solid?” or “To make our gelatin jiggly, do we want it to be a liquid or solid?”
- The grade 2 materials guide just-in-time learning scaffolds for all students in Unit 5, Activity 2, with a printable “Phenomenon Questioning Technique” document that lists steps to follow to support students in producing and improving their investigation questions. The steps are as follows: introduce phenomenon, review, create questions, (optional) improve questions, prioritize/focus questions, (optional) reflect, and next steps.

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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

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

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.

- The materials use collaborative learning and a reading-to-learn approach. Materials build background knowledge using recurring themes and concepts (RTC,) integrate scientific and engineering practices (SEP) based on the phenomenon, and use questioning techniques and a think-aloud model to create a student-driven question board that guides investigations.
- In Unit 9, “Day and Night Difference,” the teacher exposes the students to the phenomenon comic. The students pay attention to what they wonder, their questions, and what they already know about the phenomenon comic. The students record their observations. The students return to the phenomenon in Activity 8 to discuss what they’ve learned about it.
- In Unit 4, Activity 1, “Introducing Phenomena,” engages the students with a comic, whole group discussion, form a hypothesis, and differentiation activities. Activity 2 includes student-driven inquiry, collaborative learning, reading to learn, reflecting and connecting, and independent work.
- Every unit emphasizes collaborative learning activities for exploration structured within the 5E model of instruction. For example, in Unit 12, after the phenomenon introduction (Engage) in Activity 3, Rainforest Ecosystems, students read an article titled “Rainforest Experts” in

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collaborative groups. After this activity, the teacher says, “Now, you will be in a group with three other people who learned about a different plant or animal than you. In these new groups, you will take turns being the expert. You will teach the rest of the group about your plant or animal, including describing how the physical characteristics of the rainforest ecosystem support it” (Explore.) In the “Student-Driven Inquiry” section of Activity 5, based on the learning throughout the unit, students take turns sharing an example of a plant and an animal supported in their environment (Explain.)

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

- The teacher gives lessons on core content and concepts to the whole group. Units include activities for partner, small group, or independent work. The materials contain differentiation considerations for “Developing” and “Advanced” students.
- In Unit 2, Activity 2, students collect observations to identify the properties of matter. During collaborative learning, the students explore ways to make gelatin more jiggly. Students create and produce their gelatin recipes with teammates. The students develop, discuss, and record their initial plans to modify the gelatin recipe. The teacher gives the students the materials to make their gelatin. The materials suggest pairing students who need additional support with a proficient teammate to complete the work proficiently.
- In Unit 4, Activity 1, the teacher introduces the phenomenon in a whole group format and can “have students read the comic independently, in pairs, in small groups, or as a class.” Then, in the whole group, the teacher asks questions to have students share information. In Activity 2, students also have collaborative and independent activities.
- The grade 2 materials support a variety of instructional groupings (e.g., whole group, small group, partners, one-on-one). For example, the materials consistently use sections titled “Whole Group,” “Collaborative Learning,” and “Independent Work” throughout the grade 2 activity lesson plans.

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

- The materials provide teacher guidance and structures for effectively implementing multiple types of practices. For example, the materials state clear success criteria for group and independent practice activities in units to ensure that various practices lead to student mastery.
- Unit 19 includes student-driven inquiry, modeling, collaborative learning, and independent work. For example, Activity 4 begins with a student-driven inquiry. The teacher directs students' attention to the student-driven question board they created during the phenomenon introduction. The teacher asks, “Which of these questions do you already have ideas about? What evidence can you use from your current or previous science lessons to form your ideas? What other ways do animals get food? What might this tiger be about to eat?” The lesson moves into collaborative learning. The teacher explains they will create a model to determine if being a part of a group can help them catch food or protect themselves from being food. Students watch the video “Ant Colony” for independent work and respond to the writing prompt. Students share their responses with their science partners.
- Unit 4, Week 7 activities engage students in reading a phenomenon comic, asking questions, forming a hypothesis, student-driven inquiry, planning an investigation, collaborative learning, connection and reflection, whole group sharing, hands-on activities, read-to-learn, independent work, and discussions and debriefing.

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- The grade 2 materials provide multiple types of practices (e.g., modeled, guided, collaborative, and independent) within each unit. For example, units include guidance for the teacher within the lesson plan for whole group instruction, collaborative grouping, think-aloud modeling, guided instruction, and differentiation for students who are still developing and advanced.

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

- Materials represent a diversity of communities in the images and information about people and places. For example, in Unit 3, a phenomenon occurs in a child's backyard. The characters have different skin and hair colors.
- In Unit 11, Activity 5, students learn about a meteorologist and what they do. The reading also gives information about meteorologist John Freeman. The materials include where John Freeman was born, his career, and a museum named after him because of the research he collected at the Weather Research Center in Houston. The Unit continues to highlight a Nobel Prize Winner, Mario Molina, for his important work in chemistry and his study of the atmosphere.
- The Teacher Edition publication, *Introduction to Texas Science_2nd-5th Grades*, explains that the Student Edition includes relatable characters that guide students through the unit. These caricatured characters have children with black, brown, and white shades of skin tones: black, brown, blonde, red, straight, short, and curly hair, and diverse names such as Aleki, Natalia, and Cameron. Unit 4 of the Student Edition includes caricatures of a diverse group of children, including a child using crutches to walk.
- In Unit 1, Activity 5, students read an article about Marie Daly, a biochemist, the first African-American woman in the United States to receive a doctorate in chemistry. The article states that Marie Daly helped to create programs for minority students in medical school. The student edition features a black and white photograph of Marie Maynard Daly, along with many pictures of scientists and engineers representing a variety of scientific disciplines.

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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

The 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.

- Each Unit Overview in the “Standards Coverage” section includes a description of the ELPS and guidance for linguistic accommodations in listening, speaking, reading, and writing. The materials include a sidebar or footnote demonstrating ELPS connections and the correspondent reference numbers.
- The materials include suggestions at critical points in the main lesson of Unit 16, Activity 9, in the “Reading to Learn” section; the teacher directs the student's attention to the article in the student edition. Before reading the article, the students underline or highlight the sight words or spelling patterns they already know. The students read the article independently, in pairs, small groups, or as a class. The materials suggest allowing the students to read the linguistically accommodated version of the article "Other Pollinators" in the lower Lexile articles as needed to enhance their understanding.
- The Teacher Edition publication, *Introduction to Texas Science_2nd-5th Grades*, states, “The Texas English Language Development or ELD slides, customized for each unit, provide additional linguistic support for the whole class or small groups.” The ELD Week 1, Student Edition includes strategies such as a picture walk and framing our thinking for beginners, exploring words and ideas and unpacking text for intermediates, and close reading for advance, framing our learning for advanced high.
- The “Standards Coverage Chart” identifies the ELPS integrated into every unit and lists the activities within the lesson plan. The “Teacher Support Resources” section of the lesson plan contains a resource titled the “English Language Development (ELD) Lesson” with the following

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description, “Differentiated language scaffolds that can be projected to students and taught before or after the core science activities.” The materials customize the presentation slides for each unit.

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

- The “Training and Resources” section includes the “Primary Source Analysis Tools” used in the units in English and Spanish and multiple graphic organizers in both languages. The “Training and Resources” section also includes instructional strategy templates used in the units in English and Spanish, including the 5E template, the Frayer Model, the Inquiry Planning template, the Know, Want to Know, and Learn template, the One-Sentence Summary template, the See, Think, Wonder template, and more.
- The materials encourage strategic use of students' first language in Unit 7, Activity 3 in the “Vocabulary” section. The students collect evidence to determine the effects a sound makes. The teacher explains the word vibration. The materials suggest supporting Spanish-speaking students in acquiring this new vocabulary word by connecting it to the cognate “vibracion” in their native language.
- The Teacher Edition publication, *English Language and Proficiency Standards (ELPS) Strategies and Leveling*, includes teacher guidance for learning strategies. For K-1 grades listening as a beginner, the text recommends, “Preteach unit vocabulary and concepts using flashcards with accompanying visuals and the word in the student’s first language.” For speaking K-1 intermediate, the publication states to “Provide students with a version of the anchor chart to keep at their desks that contains their first language and English.” For reading in K-1, the text recommends that the teacher “Provide one-on-one instruction using the unit’s ELD lesson with extensive linguistic supports, such as flashcards with visuals and students’ first language.”
- In the “Studies Weekly Strategies and Leveling for the ELPS” guidance document, teachers are encouraged to allow students to express their understanding in their first language, especially students working at the beginning and intermediate levels: “Beginner: Model the strategy using words familiar to the students. Show visuals of examples and non-examples labeled in the student’s first language. Allow students to describe in simple words and phrases. Have the students repeat and mimic the vocabulary.” Then, “Have the students describe in their first language and attempt to describe in English. Model a description in one to three simple words and have students repeat.”

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Indicator 7.4

Materials guide fostering connections between home and school.

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

Meets | Score 2/2

The materials meet the criteria for this indicator. Materials guide fostering connections between home and school.

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

- The "Teacher Resources" section includes tools to help the teachers communicate with parents and caregivers about the curriculum. This document contains a one-page information flier for sending home with students informing their caregivers about the curriculum their students will be using. It also explains the purpose of the home letters. "The 'Home Letter' shares the following information with the child's caregiver: unit objectives, home activities to continue learning, unit vocabulary, possible student misconceptions, suggested questions to help caregivers continue the classroom conversation." The "Home Letter" in Unit 9 shares the objective that students observe objects in the sky using a telescope. The "Home Learning Letter" includes the following vocabulary words: *visible*, *moon*, *star*, and *sun*.
- The materials share information with students beginning in Unit 1, Activity 1, when the teacher introduces the materials to students, saying, "Each week, you will get a new student edition. Your student edition has articles we will read together and activities that we will do." The teacher also explains how they will use word wall cards for vocabulary, what science is, and who are scientists and engineers. In Activity 2, the students learn about safety. In Activity 3, students learn about teamwork and collaboration. In Activity 4, students learn about growth mindsets. In Activity 5, students learn about "Best Science and Engineering Practices." These themes will repeat in all units throughout the year.
- The "Publication Resources" section of the online Teacher Edition provides a one-page that includes detailed information about the instructional design and structure of the curriculum with a weekly student edition that anchors the learning with a phenomenon or problem to solve, student-led inquiry, and learning activities. The flier also includes a graphic representation of the student edition and the core components of the student materials.

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

- For example, Unit 6 includes a Playground Problems: Home Letter. The letter states:
Dear Families, During science instruction at school, your child will learn how to plan and conduct a descriptive investigation to demonstrate how the strength of a push and pull changes an object's motion. By the end of this unit, students should be able to meet the following learning objectives: I can ask questions and define problems to investigate cause and effect relationships to determine how a push or pull affects the motion of an object; I can plan an investigation about cause and effect relationships to determine how the strength of a push affects the motion of an object; I can conduct an investigation about cause and effect relationships to determine how the strength of a push affects the motion of an object; I can analyze data to identify significant features and patterns to describe how the strength of push or pull affects the motion of the object. To help support your child in understanding this concept, we suggest the following: Look around your home and create a list of objects that can move by pushing and pulling. For example, opening or closing a door, moving toys with wheels, or getting ice cubes out of an ice cube tray. Discuss if you have to use a lot of force or a little force (the amount of strength you use). Place laundry in a basket, push the basket, and mark where it landed. Then, push an empty laundry basket and mark where it landed. Discuss why the empty laundry basket moved farther than the basket that had clothes in it. Using a ball, test to see how the ball moves on different surfaces like carpet, grass, or smooth floors. Discuss how the surface of the object can make the ball go faster or slower.
- The teacher's publication, "Parent Communication Tools," provides "The 'Home Letter' shares the following information with the child's caregiver: unit objectives, home activities to continue learning, unit vocabulary, possible student misconceptions, suggested questions to help caregivers continue the classroom conversation." Each unit provides a "Home Learning Letter," which includes learning objectives and suggestions for activities to support the child in understanding the concept. To support the concepts for grade 2, Unit 9, "Day and Night," the materials provide questions caregivers can ask, "Why is it brighter and warmer during the day than at night?" and "How are the Moon and Sun different?"

Materials include information to guide teacher communications with caregivers.

- The materials in the "Publication Resources" section of the online Teacher Edition include "Parent Communication Tools." The document consists of a letter for the teacher detailing resources, such as the "Home Letter" for each unit, to print or email to parents and caregivers. In the letter for the teacher, the materials highlight the importance of keeping caregivers informed and supported throughout the school year so that they can continue the learning process at home.
- Each unit provides a family-friendly "Home Letter" for parents and caregivers that explains what the student will learn in each unit. It "includes common misconceptions, home activities, and conversation starters that can be used to strengthen and support what is learned in class." For example, in Unit 5, "Push, Touch, and Collide: Watch Out!" the teacher materials describe the "Home Letter" as a "helpful resource to guide teacher communication. It provides information about the design of the program and how caregivers can reinforce student learning and development." The "Home Letter" for Unit 14 describes the student's goals and objectives and

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the misconceptions. The “Home Letter” addresses the misconception that deserts are always hot by explaining that deserts can get cold at night. By the end of the unit, students identify and describe how the physical characteristics of a rainforest environment support plants and animals.

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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 into 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 into the course materials. Materials provide clear teacher guidance for facilitating student-made connections across course concepts, scientific and engineering practices, and recurring themes and concepts. Materials provide review and practice of knowledge and skills collected 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 into the course materials.

- The materials include a TEKS-aligned scope and sequence that shows how science knowledge and skills are addressed over the course of the year. The grade level scope and sequence includes a side-by-side document showing the TEKS from unit to unit.
- Each strand is described and explains how each TEKS progresses from kindergarten to grade 5. Knowledge, expectations and spiraling concepts, new concepts, scientific and engineering practices (SEP), recurring themes and concepts (RTC), and new vocabulary are included. For example, the strands “Matter and Its Properties” and “Matter and Energy” are introduced along with the corresponding TEKS and the location of the units in the materials for each grade level.
- The scope and sequence details the order in which knowledge and skills are presented. For example, the *Grade 2 Digital Teacher’s Edition* includes a “Texas Science Scope and Sequence” chart showing grade 2 TEKS standard 12A: “Describe how the physical characteristics of environments, including the amount of rainfall, support plants and animals within an ecosystem;” below the core concept of organisms and the environment. The scope and sequence detail the order in which knowledge and skills are presented. For example, grade 2 TEKS standard 12A will be covered in Unit 14: Exploring Ecosystems. The “Standards Coverage” chart includes a bolded list of scientific and engineering practices and recurring themes and concepts that will be revisited from previous units. For example, in the teacher’s edition, Unit 17 includes this RTC 2.5.F “Describe the relationship between structures and functions of organisms”

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

- Materials provide clear teacher guidance for facilitating student-made connections across core concepts. For example, in the teacher's edition, Unit 2, the “Standards Coverage” chart includes a bolded list of scientific and engineering practices that will be covered. For example, 2.2B, “Analyze data by identifying patterns,” also includes a list of recurring themes and concepts. For example, 2.5.D “Identify parts of a whole to model a system”
- The materials provide teacher clarity in understanding how activities connect. For example, each unit begins with a list of TEKS and SEP.
- Unit 1 lists the science standards at the beginning of the unit. A complete description of the Standards Coverage includes SEP, RTC, and the English Language Proficiency Standards (ELPS.) The next page includes the materials list and teacher support resources.

Materials provide review and practice of knowledge and skills spiraled throughout the year to support mastery and retention.

- The materials provide a vertical and horizontal alignment document indicating that “Texas Science from Studies Weekly” has intentionally leveraged and spiraled this content, guiding the development of grade-level content, RTC, and SEP.
- The newly learned science knowledge and skills taught within the school year are intentionally practiced and spiraled over the course of the year. For example, in Unit 1 the “Standards Coverage” chart states, “Within Unit 1, all SEP and RCT are introduced as foundational concepts. All other sections show bolded text that indicates coverage within the activities listed.” In Activity 1, the RTC patterns are taught using the student printables RTC and pattern questions. Then, in Unit 8, the RTC is identified as “identify and use patterns to describe phenomena or design solutions.”

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Indicator 8.2

Materials include classroom implementation support for teachers and administrators.

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

- The materials include an overview at the beginning of each week and a Unit of Instruction that emphasizes the purpose of the lessons and activities to come, supporting teachers in purposeful planning and making connections. For example, Unit 5 includes the learning standard, scientific and engineering practices (SEP,) recurring themes and concepts (RTC,) math and English Language Arts and Reading (ELAR) connections, English Language Proficiency standards (ELPS,) and common misconceptions. Also, a comprehensive materials list for preparation and additional resources, including technology to support instruction, such as differentiated language for scaffolding, background information and answer keys, rubrics, and feedback suggestions for all activities in the unit. The student support documents list four videos for the phenomena and types of motion and a home letter. The end of the overview includes success criteria and scripted teacher notes.
- The materials are organized in a way that facilitates ease of implementation and use. For example, the materials are available in both print and digital formats.
- Materials provide teacher guidance and recommendations for using all materials, including text. For example, the Teacher's Edition includes the publication *How to Use Studies Weekly*, in which

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they guide the teacher on the text resource word wall cards. The publication states that “It begins by informing the teacher of the review and new vocabulary for the unit. Teachers can continually build and add to a classroom word wall.” Then in Unit 5, the “Prior Knowledge Section” states, “It would be a good idea to review the prior vocabulary before beginning. You may already have these words on your word wall.”

- The grade 2 materials provide a PDF document titled “Introduction to Texas Science: 2nd-5th Grades”, which details how to use the Studies Weekly science curriculum to support teachers with implementation, materials, and resources. For example, the materials provide a detailed description of how the curriculum is structured through an interactive, consumable student edition provided weekly, “Each physical publication encourages students to engage in science through writing, drawing, and highlighting as they progress through the week.”

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

- The materials include an overview at the beginning of each week and a Unit of Instruction that emphasizes the purpose of the lessons and activities to come, supporting teachers in purposeful planning and making connections. For example, Unit 5 includes the learning standard, SEP, RTC, math and ELAR connections, ELPS, and common misconceptions. Also, there is a comprehensive materials list for preparation and additional resources to support instruction, such as differentiated language for scaffolding, background information and answer keys, rubrics, and feedback suggestions for all activities in the unit. Student support documents list four videos for the phenomena and types of motion and a home letter. The end of the overview includes success criteria and scripted teacher notes.
- The materials include cross-content standards for ELAR. For example, the students use text evidence to answer questions from the Phenomenon comic as well as paraphrasing and retelling the comic to gauge comprehension.
- The materials include science standards correlations for lesson activities within the context of the grade level. For example, in Unit 7, Activity 2 lists ELAR standard 2.13.E, “Demonstrate understanding of information gathered.”

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

- The materials include a comprehensive list of all equipment and supplies needed to support instructional activities. For example, in the tab Training and Resources, they include the training media “Onboarding, What Comes in the Box,” in which they unpack all the materials, including the teacher's edition, the collated student edition, and how to sort and organize them.
- The unit overview includes a comprehensive list of all equipment and supplies needed to support instructional activities. For example, Unit 5 requires the following supplies anchor chart paper, aprons/lab coats, clay/salt dough balls, drums, drumsticks, golf balls, ground chalk, bags, markers, measuring tools (rulers, yardsticks, meter sticks, or measuring tapes,) plastic or sheet to protect the floor, ramps, safety goggles, small stickers, spinning tops, sticky notes, toy cars, and trays.

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- The materials include a comprehensive list of all equipment and supplies needed to support instructional activities. For example, in Unit 1, the students use box coverings, boxes, plastic cups, scissors, staplers, and assorted colored building blocks.
- The materials provide a materials list for each unit within the grade 2 teacher’s edition. The materials list includes the activities where the materials will be used and the number of materials needed for each activity. For example, in Unit 2, “Jiggly Gelatin”, the materials list includes but is not limited to 7 packets of gelatin, seven beakers, seven spoons, and water as needed to be used in Activities 1, 2, and 4.

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

- The materials provide teacher guidance for safety practices and grade-appropriate use of safety equipment during investigations. For example, in Unit 1, students can listen to or read the text about Tools and Safety. Materials provide two videos that the teacher can choose from, titled "Let's Investigate the Right Tools," and "Let's Investigate Safety First." Here, the Teacher's Edition also guides the teacher to “have the students follow the directions on the Safety in Science Printable to Complete the Activity.”
- The grade 2 materials include teacher guidance for safety practices within lesson plans. For example, in Unit 1, Activity 2, Tools and Safety, the materials direct the teacher to watch the videos “Let’s Investigate: Safety First” and “Let’s Investigate: Using the Right Tools” in the whole group component of the lesson. Also, in the Reading to Learn component of the lesson, the materials direct the teacher to ask the students to read the article in their Student Editions about tools and safety. The teacher lists class rules students will follow while doing science and engineering. The materials direct the teacher to show a Lab Safety Poster and add some of the rules to the class list of rules.

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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.

- The “Activity Summary” chart in the Unit Overview indicates the recommended time for all activities. This is to be used as guidance for scheduling science instruction time. This information is replicated at the activity level in the Teacher Edition.
- At the beginning of each unit, an Activity Summary lists the activity name and page number. The table of contents also provides another chart breakdown by the week.
- The grade 2 materials include guidance and recommendations on required time for lessons and activities with options for additional extension activities. For example, the materials provide a document titled “How to Use Studies Weekly”, that includes a section to answer the question, “How much time does it take?” The materials state that for grades 2-5, a minimum of 225 minutes a week for five 45-minute blocks are needed. It is suggested in the grade 2 materials that if you have more time, you can use the Extension Activities, “Extension activities are suggested throughout the unit and are at the teacher’s discretion. They often elaborate on the core curriculum but are not necessary to cover the standards.”
- The grade 2 materials include guidance and recommendations on required time for lessons and activities with options for additional extension activities within the lesson plan. For example, the activities listed on the teacher’s lesson plan include the time required to meet the standards and offer extension activities marked as optional.

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

- The materials provide a Vertical/Horizontal Alignment guide that ensures the sequence of content is taught in an order consistent with the developmental progression of science. In grade 2, students classify matter by observable physical properties.
- The materials guide strategic implementation without disrupting the sequence of content that must be taught in a specific order following a developmental progression. For example, the Teacher's Edition publication *How to Use Studies Weekly Second to Fifth* states that the Student Edition "Each week, students receive a new interactive, consumable Student Edition. By breaking up the year into weekly publications, students feel that science is doable and accessible."
- The grade 2 materials include guidance and recommendations on required time for lessons and activities with options for additional extension activities. For example, the materials provide a document titled "How to Use Studies Weekly" with a section to answer the question, "How much time does it take?" The materials state that for grades 2-5, a minimum of 225 minutes a week for five 45-minute blocks are needed. It is suggested in the grade 2 materials that if you have more time, you can use the Extension Activities, "Extension activities are suggested throughout the unit and are at the teacher's discretion. They often elaborate on the core curriculum but are not necessary to cover the standards."
- The grade 2 materials include guidance and recommendations on required time for lessons and activities with options for additional extension activities within the lesson plan. For example, the activities listed on the teacher's lesson plan include the time required to meet the standards and offer extension activities marked as optional.

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

- The Texas science curriculum provides approximately 28 weeks of science instruction. Generally speaking, each unit covers a single student expectation 6-13. TEKS 1-5 are integrated throughout the school year. Within every unit are optional materials to extend the learning.
- The materials include units, lessons, and activities for a full year of instruction. For example, the units can be reasonably implemented within the time constraints of the school year, giving the teacher flexibility and choice.
- The materials guide adjusting to local time and scheduling constraints. For example, the Teacher's Edition publication, *How to Use Studies Weekly Second to Fifth*, states that "If you have more time or need enrichment activities, you can always look into the Extension Activities."
- The grade 2 materials include units, lessons, and activities for a full year of instruction. The table of contents for grade 2 materials consists of 20 units that include lessons and activities for two full weeks, Unit 1 for four weeks, with additional time included for unit assessments. The materials can be reasonably implemented within one school year.

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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 contain 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.

- The overall design and layout of digital components included in the materials adhere to the *Texas Resource Review Digital Design Guide Guidelines*. The materials include appropriate use of white space and design that supports and does not distract from learning—pictures and graphics support student learning and engagement without being visually distracting. For example, the student view articles include a reading mode option that allows students to enlarge text and focus on relevant content and illustrations.
- Teacher guidance materials design contains precise, designated places for important information. Teacher guidance materials design makes it easy for teachers to locate important information for planning and instruction.
- Digital materials include an appropriate amount of white space that does not distract from student learning. The background of the Digital Student Edition is white, with a gray left navigation panel that includes an orange “Activities” header. The right side consists of a white box under a blue heading that contains the content’s title and an audio tab above black text.
- The digital materials include an appropriate amount of white space that does not distract from student learning. The content is organized logically by unit, week, and activity. Upon clicking on each week, students find the week’s activities, articles, and games listed by title.

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

- The materials embed age-appropriate pictures and graphics that support student learning and engagement without being visually distracting. For example, the “Poster Pal” includes magnified

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pictures and photos that guide questioning, support understanding of phenomena and engineering scenarios, illustrate vocabulary, and help students organize information. Student digital components include embedded tools, such as reading mode to minimize distractions, help students focus on the article and the images that go with it, allow note-taking, text-to-speech that can be adjusted, annotations, and highlighting.

- The materials include vocabulary word wall cards with clear and authentic images and graphics to define and support the new words students are learning. Kindergarten materials include photos that identify the parts of a plant, flower, stem, root, and leaves. Also, print and digital student editions include colorful caricatures and color-coded text.
- In the online teacher resources, the kindergarten materials include digital presentation materials, including a digital copy of the student edition and slides for a picture walk activity. The teacher's presentation slides contain additional text for instruction, while the student slides do not. In Unit 3, the English language development (ELD) teacher slides include a picture of wax and wax figures shaped to look like people. The right-hand side of the slide lists the vocabulary word "wax," the phrase "to shape," and the sentence "Wax is a soft, yellow material that is easy to shape." with instructions such as "Draw a line to the wax. Draw a line to the wax figurines." and "Set as a caption at the bottom of photo."

Materials include digital components that are free of technical errors.

- The materials are free of spelling, grammar, punctuation errors, and erroneous content materials or information. "Poster Pals," unit overviews, and student materials are error-free. Answer keys are free of wrong answers to assessment questions.

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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 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

The 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.

- Digital technology and tools enhance student learning through games, interactive activities, articles, and online assessments. As students complete activities, answer article comprehension questions, explore media, and play misspelled games, they earn coins to spend on two games in their student profile. In “Study Buddies,” they can choose a character and build a home, while “Explorers” allows them to create an avatar and a tree house accessing different levels. The teacher training resource, “Online Onboarding Guide,” includes digital tools such as “Student Article Navigation,” digital reading features, and assessments.
- With teacher guidance, students' online experience includes using online videos, images, illustrations, and podcasts designed to engage students in all three dimensions of learning. For example, Unit 14, Activity 2 of the online Student Edition includes a video called “The Chihuahuan Desert.” The activity also embeds authentic images from the ecosystems essential to the curriculum.
- The grade 2 materials integrate digital technology and tools that support student learning and engagement. For example, materials provide a print Student Edition and an interactive version of the Student Edition in the “Studies Weekly Online” platform. In Unit 3, Activity 1, students can listen to the phenomenon comic. In Activity 2, students can annotate their responses for fill-in-the-blank and open-response questions. At the bottom of the screen, students can save and submit their work for grading.

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

- Materials provide opportunities for students to obtain, evaluate, and communicate information using digital tools. For example, the online students' view includes visuals or a video at the beginning of the unit to promote inquiry and activate prior knowledge. The online phenomenon introduction allows students to add observations, respond to open-ended questions, and make predictions. As the unit progresses, multiple activities guide students' learning, check for understanding with multiple-choice questions, and allow students to explain their reasoning as they verify or modify their thinking.
- The materials integrate digital technology in ways that support student engagement with the science and engineering practices, recurring themes and concepts, and grade-level content. With teacher guidance, students' online experience includes using online videos, images, illustrations, and podcasts designed to engage students in all three dimensions of learning. For example, Unit 14, Activity 2 of the online Student Edition includes a video called "The Chihuahuan Desert."
- The teacher training resource, "Online Onboarding Guide," includes information on how to find training and resources; it states, "From your Studies Weekly Online account, teachers have access to various Training and Resources. Those include interviews, project demos, virtual field trips, K-2 videos, and instructional resources that include graphic organizers, instructional strategy templates and more."
- In Unit 19, Activity 2: Feeding Frenzy, students follow the teacher's instructions as they simulate a feeding frenzy. Students record their predictions and their findings in the online materials. In an open response question, students, "Reflect on the "Feeding Frenzy Activity" and use what you learned to explain the effects of working in a group to collect food. Be sure to use evidence from your experience." "The Texas Science Ant Frenzy" content video is provided for this activity in the online materials.

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

- The materials guide integrating digital technology and tools in whole group and individual settings with a "share into Google Classroom tool." This tool allows teachers to customize and differentiate content and activities for student group work.
- Studies Weekly Online can support co-teachers who can log in and share access with the primary classroom teacher. This feature allows co-teachers to collaborate to modify tests, change grades, and manage all aspects of the online class.
- Materials integrate digital technology that allows teachers and/or students to collaborate. The teacher training resource "Online Onboarding Guide" includes information on grading assignments that allow teachers to share grades with students. Students can view their overall scores each week, scores for teacher-created tasks, and the date, score, and attempts for each submission.
- In the online Teacher Edition, teachers can find all the printable resources, student resources, and assessments needed for implementing the "Studies Weekly Science Curriculum." In this section, teachers can find presentation slides titled "ELD Teacher Edition" and "ELD Student Edition."

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

- The materials are accessible and compatible with various devices such as Chromebooks, iPads, PCs, Apple computers, and smartphones. Science Weekly integrates digital technology that is compatible with a variety of learning management systems. Texas Science can integrate with Google Classroom, Classlink, Clever, and any Common Cartridges system.
- Materials integrate digital technology that is compatible with a variety of learning management systems. The teacher training resource, “Online Onboarding Guide,” contains a link for the help center, a technology selection, and hardware FAQs that state, “Studies Weekly's online content site is designed as a Bring Your Own Device (BYOD) service.” For use with many hardware and software platforms.” In the “Assistive Technology and Browser Compatibility” section, the materials state the following, “We have worked very hard to be able to support all major systems that comprise over 95% of the user market share, including Google, Chrome, Mozilla Firefox, Apple Safari, Opera and Microsoft Edge, JAWS, and NVDA (screen readers), both for Windows and Mac users.”

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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 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.

- The “How to Use Studies Weekly” document explains how 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. The materials state:
The curriculum materials are designed to support you and lead your students to TEKS mastery. By the end of the unit, students will be able to demonstrate the student performance as described by the standard.", "The student starts with the student edition. One of the reasons why kids love Texas Science is because of its fun, engaging, and interactive student materials. The relatable Studies Weekly Characters guide students through the unit. The majority of student work will occur here.
- The student digital editions for kindergarten include short paragraphs with simple sentences and easy questions. First-grade text becomes progressively longer with new vocabulary and more extended questions. Second-grade text includes articles with multiple paragraphs with new language and complex questions.
- The Studies Weekly online platform offers the interactive version of the student edition with audio support and word highlighting to accompany the audio support.
- Students can accumulate coins for completing the online materials. Positive reinforcement feedback messages accompany the coins. Students can use their earned coins to update features of the games “Studies Weekly Study Buddies” and “Explorers.”

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

- Materials provide a Newsletter for ongoing support and guidance. The Newsletter states, "Join our Teacher Newsletter! Need online help, teaching strategies, and activity ideas? Join the Studies Weekly Teacher Talk."
- The materials support teachers in successfully integrating the technology within the program. The online platform has an apple in the bottom right corner for teachers to access. The materials offer a live chat feature, Studies Weekly online updates, and customer support.
- Materials provide teacher guidance for the use of embedded technology to support and enhance student learning. The training resource Online Onboarding Guide states its purpose: "This self-paced onboarding guide shows all the essential functions in Studies Weekly Online for initial implementation." It also identifies the following learning outcomes: "Participants will know how to: Navigate Studies Weekly Online; Create and manage online classes and publications; Utilize resources and tools to support instruction." For example, The online materials offer a Training and Resources section with training videos for managing the weekly publications and navigating the articles.

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

- The materials include resources for parents and caregivers to support student engagement with digital technology and online components. For example, the *Tips for Caregivers to Support Online Engagement* infographic includes five tips for caregivers and students to Experience, Explore, Learn, and Review together at home.
- The materials include teacher resources to help communicate with parents and caregivers about the curriculum, which can be emailed or printed and sent home. The document "Tips for Caregivers to Support Online Engagement" provides guidance for parents to review the online videos used in class and offers questions to ask, such as, "What do you think causes this?" Parents also explore the unit activities and the "TEKS Explained" articles.
- Materials provide online student access from home. For example, the parent "Home Learning Letter" includes a brief reminder, in the form of a small clipart of a blackboard instructing parents to "Check out your student's edition of Studies Weekly, then go online for more great content!" The materials also include "Tips for Caregivers to Support Online Engagement," guiding parents to review assessments that students have taken, connect to online unit materials to address mistakes made, and use the online feedback option to communicate questions to teachers."
- Studies Weekly includes the following information to help families support student engagement with digital and online components: "The ability to create parent accounts through Studies Weekly Online is one of the greatest tools we have available to you and your students' parents. It allows parents to closely monitor how their kids are doing and how they're using the Studies Weekly Online resources."
- The student resources section offers a home letter PDF for delivering to parents and caregivers electronically. The home letter provides vocabulary terms, learning objectives, misconceptions, and questions to support their child at home. A text box says, "Check out your student's edition of Studies Weekly, then go online for more great content." Students log in to their student accounts remotely, so they have full access through their student accounts.