Savvas Learning Texas Experience Science Grade 1

Savvas Learning Texas Experience Science Grade 1 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.
- 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 mostly 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 the indicator. Materials are designed to strategically and systematically integrate scientific and engineering practices, recurring themes and concepts, and grade-level content as outlined in the TEKS.

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

Evidence includes but is not limited to:

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

- Materials are organized in units that use TEKS-based anchoring phenomena to connect content standards to scientific and engineering standards. The materials include hands-on stations in each unit to allow students to develop and practice scientific engineering practices. The provided STEAM activities assist in further integrating engineering standards.
- The materials provide multiple opportunities to practice grade-level appropriate scientific and engineering practices as outlined in the TEKS. For example, in Topic 2, *Heat Causes Change*. During the Explore hands-on stations, students investigate whether ice cubes melt faster if submerged in warm water. Topic 6, *Living Things and Environments,* includes a hands-on station where students will go outside and observe living and nonliving objects. Topic 7, *Animals,* includes a STEAM activity that challenges students to design a model of an animal and explain to their group how the external structure helps the animal survive.

- Materials provide multiple opportunities for students to develop, practice, and demonstrate engineering skills through hands-on experiences as outlined in the TEKS. The SEPs present five grade-level appropriate engineering activities: “How Can You Make a Habitat?,” “Design a Sun-Earth-Moon Model,” “How Can You Make a Car Move Farther?,” “Space Scientists,” and “Parts of a Plant.” In Topic 1, students sort and classify objects. In Topic 2, students experiment with heat and reversible changes. In Topic 3, students observe force and motion. In Topic 4, students observe and record weather and seasons. In Topic 5, students observe, describe, and sort soil, water, and rocks.

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

- Teacher materials include sidebars that guide the teacher in supporting recurring themes and concepts with multiple opportunities to make connections. The K-5 scope and sequence includes specific information about when recurring themes are introduced and when they are covered within another Topic and are spiraled back into the program.
- Grade 1 materials utilize organisms and environments as a recurring theme. Topic 6, *Living Things and Environments,* and Topic 7, *Animals,* address this theme. Within these topics, students describe relationships between living organisms and nonliving components of terrestrial and aquatic environments. They also compare and identify that animals resemble their parents, have structures, and undergo processes that help them survive.
- For example, a sidebar supporting the concept of cause and effect guides the teacher to ask what causes something to change into a liquid and then back into a solid. Another sidebar prompts the teacher to ask what happened to the churro batter and clay after they were heated, while a different one supports the concept of patterns as students predict what will happen to trees when seasons change.
- Materials use recurring themes in making connections between concepts. The scope and sequence includes specific information about when recurring themes are introduced. Teacher materials include slides to introduce the recurring themes and concepts. One slide shows a picture of a tree at different times of the year to demonstrate the changes in season are a pattern. Cause and effect are introduced by showing how a baseball player hitting a ball causes it to change direction. A slide on systems, energy, and matter uses a bike to explain the concepts by explaining that you use energy to ride a bike, a bike is a system made of parts, and all matter takes up space and has mass. A slide on scale and quantity illustrates this concept using the sun and stars.
- Materials provide opportunities to use recurring themes in making connections between and within overarching concepts. The K-5 scope and sequence includes specific information about when recurring themes are introduced and when they are spiraled back into the program.
- For example, grade 1 materials utilize Earth and space as a recurring theme. Topic 4, *Weather and Seasons,* and Topic 5, *Earth Materials,* address this theme. Within these topics, students describe the systems and processes of the natural world that have observable characteristics and recognizable patterns. They also identify how Earth materials are important in everyday life and explain why water conservation is important.

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

- The materials systematically build student skills and content knowledge using the 5E Model of Instruction (Engage, Explore, Explain/Elaborate, Evaluate). The activities in each section deepen students' understanding.
- In Topic 5, Experience 2, *Water*, students engage with the Everyday Phenomenon Photo "How does water change?" Students explore with the hands-on station, "Where can you find water?" and Literacy Station, "Where is the water?" Students further gain knowledge in the Explain/Elaborate section with the key ideas presentation and the video titled *Water* and *The Legends of Learning Game,* "The Roles of Water in Earth's Surface Processes." Finally, the experience wraps up with the Evaluate Exit Ticket "Water."
- The materials use the 5E model of instruction (Engage, Explore, Explain/Elaborate, and Evaluate) in the lesson format. Each experience begins with a demo or photo to engage students in thinking about a concept. The students then participate in hands-on and literacy stations to explore the concept. Explain/Elaborate activities include key ideas, presentations, and videos, as well as STEAM activities. Each experience includes exit tickets as the Evaluate part of the lesson.
- In Topic 2, *Heat Causes Change,* the 5E lesson introduces heat. It is followed by a 5E lesson on reversible changes and finally a 5E lesson on irreversible changes. Topic 4, *Weather and Seasons,* includes 5E lessons on weather and seasons with the anchoring phenomenon "Is Houston or Minneapolis a better place to build a snowman?" These lessons are supported by the lesson in Topic 1, *Changes to Materials*, and the lessons in Topic 2, *Heat Causes Change*.
- Teacher materials suggest experiences within a topic built upon prior experience to systematically develop students' content knowledge and skills appropriate for the concept and grade level as outlined in the TEKS. Topic 1 includes experiences where students move from learning about systems in *Building with Parts* to learning about *Properties of Objects*. They then progress to learning about *Changes to Materials.*

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.

- In grade 1, materials allow students to plan and carry out investigations. Every experience contains a hands-on station. In the hands-on stations, students are given the opportunity to ask questions or identify problems based on observations or information from text, phenomena, models, or investigations to make connections across disciplines and develop an understanding of science concepts. In Topic 2, Experience 2, *How can a change be undone?,* students observe and describe what happens when they heat solid coconut oil with their hands and then cool it in a cup of ice.
- The materials are arranged in topics with an anchoring phenomenon. Within each topic are two to three 5E lessons, each including opportunities for students to ask questions and a hands-on lab station. Topic 1, *Objects,* includes two STEAM activities. In Experience 2, the students build a model train from small boxes, cardboard rolls, and bottle tops. Students build objects out of salt dough and observe the changes as they are set at room temperature or harden when baked as an activity in Experience 3, *Changes to Materials*.
- The materials have several supports to guide teachers through developing content concepts and skills. Teacher Background Videos help support teachers in developing student content concepts

and skills. The Teacher's Guide contains sidebars throughout every topic to help guide teachers through the development of content concepts and skills. Sidebars include *Thinking Like a Scientist, Connect to Literacy, Home Connection, Related Phenomena, Mastering Recurring Themes and Concepts, Take it Local,* and *Mastering Scientific and Engineering Practices.*

- Grade 1 students make connections between science and literacy when they engage in STEAM extension activities. In Topic 5, *Earth Materials*, students think about what they learned in the *Explore Stations*. They then make, test, and evaluate a plan for conserving water in their home. Students can research online for ideas and materials as needed.

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Indicator 2.2

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

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

Meets | Score 4/4

The materials meet the criteria for the 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.

- Materials include opportunities for teachers to use anchoring phenomena driving student learning across grade-level content in each discipline. Teachers can reference guides to authentic applications and performance of science and engineering practices to support student learning.
- For example, Topic 1 uses the anchoring phenomenon: "What is happening to the glacier?" The students are guided through lessons, such as *Building with Parts*. A *Phenomena Tracker* gives teacher guidance as students learn about how a glacier is a system with parts much like a house. They move on to a lesson about the properties and attributes of items in a grocery store and are guided to make the connection that glaciers have properties and attributes. In the final lesson, students observe how heating and cooling materials change them, helping students bridge the connection between heating and cooling changes in the glacier.
- For example, Topic 5 includes the anchoring phenomenon: "Why would beavers need to collect rocks, soil, and parts of trees?" Students progress through lessons on soil, water, movement of Earth materials, and use and saving Earth materials to answer the phenomenon. In Topic 6, students progress through lessons on living and nonliving things, environments, and food chains

to answer the anchoring phenomenon: “Why are people putting these concrete blocks in the ocean?”

- Materials embed phenomena across topics by beginning every topic with an anchoring phenomenon or problem to activate their prior knowledge and ask questions. Students observe the phenomenon or problem by watching a video and engaging in a class discussion, laying the foundation for students to construct knowledge of grade-level content. Throughout each experience, students revisit the anchoring phenomena and build knowledge through authentic application and performance of scientific and engineering practices, recurring themes and concepts, and grade-level content. At the end of each topic, students revisit the anchoring phenomenon to apply what they have learned throughout the topic. Topic 1 begins with the Anchoring Phenomenon Video showing a glacier. The teacher asks, "What is happening to the glacier?" At the end of the topic, the students rewatch the video, and the teacher asks, "What is happening to the glacier? Is the glacier made of matter? How do you know?"
- Materials provide opportunities for students to develop, evaluate, and revise their thinking as they engage in phenomena and solve problems. Students apply their understanding of local, everyday phenomena to develop solutions to problems. Materials embed phenomena within experiences with an Everyday Phenomenon Photo or Demo to activate student thinking. Students observe the Phenomenon Photo or Demo and engage in a class discussion that builds upon the foundation created by the anchoring phenomenon. In Topic 2, Experience 1, the Everyday Phenomena Photo explores "Which clothes will dry faster?" to activate student thinking and questioning about sources of heat and applications of heat in everyday life.

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

- Teacher guidance materials provide several opportunities for students to communicate their experiences outside of school.
- For example, a home connection helps students connect what they are learning at school to what they may know at home. Experience 1, *Building with Parts*, includes a home connection where students observe objects that are commonly found at home, such as a clock, and draw a picture of the objects that includes labels for the parts. Topic 2, *Heat Causes Change*, includes a home connection sidebar that directs the students to draw pictures iof heat sources in their homes in their science notebook.
- The materials allow for different points of entry to the learning phenomena. The students experience the phenomena in several ways (e.g., through videos, images, hands-on lab stations, literacy stations, topic readers, sidebars to guide related phenomena, STEAM activities, and sidebars) to guide the student learning to their local community.
- Topic 3, *Force and Motion*, includes topic readers, such as *How Rides Move at the Fair*, and related phenomena to explain push and pulls, like the different ways a crayon moves on paper, exploring pushes and pulls with a toy car with wheels, and lab stations for hands-on and literacy connections. Topic 6, *Living Things and Environments*, includes videos, topic readers, and hands-on stations, such as going on a nature walk to observe living and nonliving things, an image of an aquarium with plants and fish, and an activity in which students create a video as they take a nature walk to point out living and nonliving things and how they interact with and depend on each other.
- Materials provide guidance for the teacher to address common misconceptions. The overview for each topic includes guidance on common misconceptions.

- For example, in Topic 6, *Living Things and Environments*, a teacher preview provides guidance to address misconceptions. For example, dead organisms are classified as nonliving, plants get their food from the soil, and a given species of plant or animal is part of only one food chain. Embedded sidebars within the topic give guidance, such as plants can move, plants get all their energy from the sun, and organisms are part of several food chains.
- Materials intentionally leverage students' prior knowledge and experiences related to phenomena and engineering problems.
- For example, in grade 1, Topic 3's anchoring phenomenon leverages students' experiences with the phenomenon of force and motion. Before viewing an Anchoring Phenomenon Video of a dog running through an obstacle course, the teacher activated students' prior knowledge by asking, "What are some different ways you can make a toy car move? What do you need to open a drawer? To close it? Show the different ways you can move around on the playground and on the equipment." After watching the video, students get a chance to ask questions, and the teacher leads a class discussion which prepares the students for the investigations on the topic.
- Materials provide a teacher guidance section at the beginning of each topic that includes common misconceptions to help students be successful in the unit. The section helps teachers gauge where some students may have inaccurate or inadequate prior knowledge.

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

- Materials clearly outline the scientific concepts and learning goals behind each anchoring phenomenon corresponding to concepts across the grade level. Each topic includes two to three 5E lessons that connect to a phenomenon to develop an understanding of corresponding grade-level concepts. Teachers can access a video to assist in understanding the scientific concepts and goals of the topic. The preview to each topic includes a section titled Teacher Background that clearly states the key concepts to support instruction by refreshing teacher knowledge of the content.
- For example, in Topic 4, *Weather and Seasons*, the Teacher Background includes weather as the state of the atmosphere at a given time or over a short period. This state includes air temperature, wind, precipitation, and cloud cover. Characteristics of weather are observable and can be described as hot or cold, clear or cloudy, calm or windy, and rainy or icy. Weather impacts daily choices, such as what we wear and what activities we can do. A season is a period of the year that is determined by special climate conditions and follows a pattern that includes the order of their occurrence. Each season is associated with particular types of weather which can be observed and predicted.
- Teachers can access a planner, including a phenomenon tracker, which clearly outlines the learning goals and explains the scientific concepts behind each phenomenon or engineering problem.
- In grade 1, an Experience lesson on living and nonliving things in Topic 6 presents students with the question, "Why are people putting these concrete blocks in the ocean?" Materials clearly outline the lesson goal: "Students will classify and describe living and nonliving things based on whether they have basic needs and can have young."

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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 an 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.

- Materials are vertically aligned and designed for students to build and connect their knowledge and skills within and across units and grade levels. The materials provide a scope and sequence that shows the topics across grade levels.
    - In Topic 1, in grades K-5, is *Matter and Its Properties*. In grade K, the lessons focus on *Properties of Objects* and *Classifying Objects*. In grade 1, students will continue to build on the concepts with lessons on *Building with Parts, Properties of Objects,* and *Changes to Materials*. In grade 2, the lessons progress to *Properties of Matter, Changes in Matter,* and *Combining Matter.*
    - In Topic 7 of the Organisms and Environments unit in kindergarten, the materials provide lessons on the topic of animals. The lessons include *Animal Parts* and *Needs of Animals*. In grade 1, the topic continues with lessons in *Animal Structures, Parents and Young*, and *Animal Life Cycles*. The topic vertically continues in grade 2 to include lessons on *Environments, Living Things in Environments,* and *Food Chains*.
- The materials include a TEKS progression in the overview at the beginning of each topic, providing the primary TEKS that guides the topic. The TEKS progression shows the relevant TEKS or guideline progression in the grade prior to and after the current grade. The progression also shows the vocabulary at each grade level and how it builds upon the previous year's vocabulary.

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In the Teacher's Guide, materials include a scope and sequence that addresses what is being taught within each unit and explains how it connects to previous and future learning goals.

- Topic 5 in grade 1 uses the anchoring phenomenon question, "Why would beavers need to collect rocks, soil, and parts of trees?" to build upon the knowledge of rocks and the use of Earth's materials students gained in kindergarten. The students engage in lessons on soil and its components, the properties of water, and how water moves Earth's materials. A final lesson in the unit connects the three previous lessons as students engage in a lesson on water conservation using rocks, soil, and grass growing in soil. The materials continue to build student knowledge in grade 2, Topic 5, *Earth's Natural Resource*s, as students learn about the movement of Earth materials, resources, and protecting resources through the anchoring phenomenon question, "How did the Lighthouse rock get its shape?"
- Grade 1, Topic 1: *Objects* vertically align with grade 2, Topic 1: *Matter*. It is also vertically aligned with kindergarten, Topic 1: *Objects*. They all fall within the theme of *Matter and Its Properties.*
- Topics include a TEKS progression that includes the standards addressed in each topic as well as the topic that connects to what students learned in the prior grade and will learn in the next grade. Topic 3: *Force and Motion* lists two TEKS and six key vocabulary words. The progression then names the one kindergarten standard and six vocabulary words and two grade 2 standards and six vocabulary words that connect to the topic.

- The materials connect new learning to previous and future learning within and across grade levels.
  - For example, each topic provides a TEKS progression chart in the Topic Overview. For example, grade K students observe the use of Earth materials. In first grade, students learn to use and save Earth materials, and in second grade, students learn about how to protect Earth's resources.
  - In first grade, Topic 2, the students investigate and describe applications of heat in everyday life, such as cooking food or using a clothes dryer. In kindergarten, students communicate the idea that objects can only be seen with a light source present and compare the effects of different amounts of light on the appearance of objects. In second grade, students demonstrate and explain that sound is made by vibrating matter and that vibrations can be caused by a variety of means including sound.

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

- Materials are sequenced to scaffold learning in a way that allows for increasingly deeper conceptual understanding by following the 5E model.
  - In Topic 4, Experience 1, they first engage with the content by looking at an Everyday Phenomenon Photo to answer the question: "What activities could you do in two different types of weather?" Students explore the content by reading the Read About It: The Sky and completing the Literacy Station Activity: “How can you describe the weather?” and Hands-On Station Activity: “How can you observe the weather?” Students interact with explanations of the content as the teacher presents the Key Ideas presentation to the class, and the students then complete the corresponding Key Ideas Activity: Weather. Students elaborate on the content as they complete the Legends of Learning: The perfect day. Students' conceptual understanding can be evaluated

through formative and summative assessments with exit tickets and Revisit the Phenomenon prompt.

- Each topic contains two or three experiences which are 5E lessons that sequence instruction to build prior knowledge before explicit teaching occurs. Teacher materials are progressively sequenced using the 5E model, where the students build background knowledge through either an Everyday Phenomenon Demo or Everyday Phenomenon Photo in the Engage portion of the lesson. Students then participate in hands-on and literacy stations to Explore the concepts introduced previously during the Engage portion of the lesson. Provided visual aids and hands-on learning explorations scaffold learning for the students to move on to abstract learning during the Explain portion of the lesson when students discuss the key ideas. Materials provide an opportunity for students to apply their learning, such as a STEAM activity before the lesson moves on to the Evaluate portion of the lesson which allows students to apply their learning to the anchoring phenomenon question.
- In grade 1, Topic 3, *Force and Motion,* students participate in an Experience that is a 5E lesson on push and pull. Teacher material provides instructions to build background knowledge about how pushes and pulls can be used to move an object with an Everyday Phenomenon Photo of a person rolling a bowling ball toward pins. The students then explore a hands-on station rolling a ball toward plastic cups to make them fall. The students also read the Read All About It book *Push and Pull* in a literacy station to further build knowledge. This leads to a discussion of student learning in the Explain portion of the lesson. The learning is further supported in a Key Ideas video that explains force and motion using a mini golf course. The video also makes several connections to the anchoring phenomenon question by referring to the obstacles and changes in direction while playing mini golf. The student activity guide includes a section to synthesize the key ideas for push and pull as the students label whether a picture displays a push or a pull. An optional STEAM activity directs students to design and test an obstacle course for a toy car. There are two options for the evaluation of student mastery. The online resources provide a discussion prompt: “Describe how pushes and pulls are used in a sport.” The Teacher’s Guide directs the teacher to point to classroom objects that move with a push or a pull. The teacher asks the students to pantomime how they would move the object with a push or a pull.
- Materials allow students to build their knowledge and skills within topics by beginning each topic with an anchoring phenomenon. Through the activities in each Experience, students build and connect their learning to form a better understanding of the anchoring phenomenon. In Topic 3, students watch an Anchoring Phenomenon Video to answer the question, "How can a dog complete an obstacle course?" In Experience 1, students observe what happens when you roll a ball toward a set of plastic cups through the Hands-on activity, answering the question, "How can you move a ball and cups?" In Experience 2, students build a simple ramp and use it to predict how fast a ball will roll down it, answering the question, “How fast will it go?”
- The 5E model is embedded into the planning categories of Topic Launch, Experiences, and Topic Wrap-Up. For example, for Topic 6, *Living Things and Environments*, the materials provide an Anchoring Phenomenon Video: “Why are people putting these concrete blocks in the ocean?” and vocabulary picture cards to introduce students to the vocabulary found in the upcoming lessons. Experience 1 goes through the entire 5E model. For example, the Engage portion includes a Phenomenon Photo that focuses on the question, "Why can plants and animals live here?" The Explore section allows

students to explore living and nonliving things, focusing on questions such as "What are living and nonliving things?" and "How can you tell something is living?" The Explain and Elaborate sections are combined with a variety of activities using the knowledge and understanding built throughout the Experience, including a Key Ideas presentation, Key Ideas video, and a Key Ideas Activity which will "synthesize the key ideas from Living and Nonliving Things." The Evaluate portion is a wrap-up exit ticket on *Living and Nonliving Things*.

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

- The materials provide teachers with a clear and concise scope and sequence that leads students to learn via science instruction.
    - Within this scope and sequence are recurring themes and concepts and the science and engineering practices as outlined in the front matter. By clearly identifying where content is covered, teachers can easily see which assets provide practice for students in achieving mastery of the TEKS and ELPS.
    - Materials provide a Topic Overview at the beginning of each topic that lists the grade-level-specific core concepts, the scientific and engineering practices TEKS, recurring themes and concepts TEKS, English Language Proficiency Standards, and cross-curricular TEKS. For example, Topic 6 lists the grade-level-specific core concepts as classifying living and nonliving things, describing and recording examples of interactions and dependence between living and nonliving components in terrariums or aquariums, and identifying and illustrating how living organisms depend on each other through food chains. The overview lists the embedded scientific and engineering TEKS, recurring themes and concepts TEKS, English Language Proficiency Standards, and the cross-curricular Math and English Language Arts and Reading TEKS. The topic includes an experience (5E lesson) that focuses on each of the core-concept TEKS. In Experience 1, students learn about living and nonliving things and their dependence on each other as they go on a nature walk. Students create a terrarium in Experience 2 as part of the lesson on environments. And in Experience 3, students learn about food chains.
    - The materials include a planner within each topic that outlines the anchoring phenomenon which is based on grade-level-specific core concepts. Recurring themes and concepts as well as science and engineering concepts are embedded in the lessons and included in sidebars throughout the Teacher's Guide. The lessons are organized in experiences following the 5E (Engage, Explore, Explain, Elaborate, Evaluate) instructional model for sequencing science instruction.
    - In Topic 5, Experience 3, in the Engage stage, students see a photo of a river bed and are asked, "How did the sand or pebbles get here?" In the Explore stage, students ask, "How can rocks and sand move?" and "How does water move rocks and soil?" In the Explain/Elaborate stage, the teacher presents key ideas about plant needs. In the Evaluate section, students revise their thinking on their original exit ticket about how water can move Earth materials.
- Materials provide a scope and sequence that clearly and accurately presents grade-level-specific core concepts, recurring themes and concepts, and science and engineering practices.
    - The theme of *Matter and Its Properties* is addressed at every grade level. Kindergarten covers *Properties of Objects* and *Classify Objects.* First grade covers *Building with Parts,*

Properties of Objects, and *Changes to Materials*. Second grade covers *Properties of Matter, Changes in Matter,* and *Combining Matter.*

- The materials provide an SEPs and Themes Preview Presentation: Scientific and Engineering Practices. "This editable presentation is designed for front-of-classroom instruction to explain and review the scientific and engineering practices and themes of the Texas TEKS." The presentation is designed around the key ideas of investigating or designing, analyzing data or using models, sharing ideas, scientists' help, and themes and concepts. It continues with topics such as asking questions, using tools, using math, planning and conducting investigations, designing solutions, and collecting and recording data.
- Within the same section of the SEPs and Themes presentation, the materials also provide SEPs and Themes Activities that "can be used to introduce students to Scientific and Engineering Practices, as well as Recurring Themes and Concepts in science." For example, one activity is Design a Sun-Earth-Moon Model. In this activity, students are tasked to design a model of the sun, Earth, and moon following the steps: model by building a model to show the sun, Earth, and moon in space using a flashlight and two balls; Build by using the materials to build the model; analyze by discussing the advantages and limitations of the model; improve by identifying how the model can be better and write or draw additional ideas; and predict what features and patterns does the model show.

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

- Each topic includes specific learning targets for each experience to gauge student mastery of concepts for the grade level.
  - In Topic 4, the Experience 2 objective is for students to describe and predict the patterns of seasons of the year such as the order of occurrences and changes in nature.
  - Topic 6, *Living Things and Environments*, includes three experiences to support the grade level main concepts. Each experience includes a phenomenon tracker with a specific learning goal tied to the core concept. Each experience includes an exit ticket that supports the teacher in assessing if the student has attained mastery according to the phenomenon tracker. Each topic also includes a topic test for a summative assessment of the topic. The topic test can be taken online or in a printable format. There is also a short constructed response available.
- Mastery requirements of the materials are within the boundaries of the main concepts of the course.
  - Topic 1, *Objects,* supports the evaluation of student mastery with multiple embedded formative assessments and summative assessments throughout each experience. In the Key Ideas presentations for Experience 1 and Experience 2, there are student-facing slides and teacher notes. The slides have direct instruction and formative assessment to help students synthesize a comprehensive and accurate understanding of key concepts and engage with scientific practices and recurring themes and concepts. After the presentation, each experience's Key Ideas Activity allows students to apply concepts they have learned.
  - Topic 6 contains three experiences each, with an experience exit ticket and a topic test at the end of the topic. Experience 1, *Living and Nonliving Things,* includes an exit ticket as part of the Evaluate portion of the lesson plan. The teacher asks students what are

the differences between living and nonliving things. In Experience 2, *Environments*, the teacher asks the students: “How do fish in the aquarium get what they need?” To gauge understanding of food chains in Experience 3, the teachers ask, “What do living things get from the step before them in the food chain?” The online tests contain tasks such as sorting the name of objects, like an owl and soil, into living and nonliving things and circling the food the snake eats in a picture displaying a food chain with images of a plant, mouse, snake, and hawk. Another question shows the picture of an aquarium and has a drop-down multiple choice where students select which options are living things. The short constructed test shows the image of a plant and fish in a stream with a bear walking next to the stream. The image also shows the sun. The student writes a response to the prompt: “What things do the plant, fish, and bear need from their environment?”

- In Topic 5, *Earth Materials,* the Topic Overview provides guidance about what students learned the previous year, and where concept learning will progress in the following year. In grade K, students observe and classify rocks by observing properties. In first grade, students investigate and document the properties of rocks, and in second grade, students investigate and describe how wind and water move soil and rock particles across the Earth's surface.
- Materials include a Topic Wrap-Up that includes multiple ways to assess student learning and mastery.
    - For example, at the conclusion of Topic 7: *Animals*, the materials provide an online test. The assessment contains 6 questions that are graded automatically. An editable and printable version of this assessment is also provided to "assess mastery of the concepts presented in the investigation." A short constructed response test is also available online or as an editable and printable option.
    - Throughout the topic, within each experience, the materials provide a Wrap-Up Exit Ticket as part of the Evaluate section of the 5E model. For example, at the conclusion of Topic 7: *Animals*, Experience 1: *Animal Structures,* the Wrap-Up Exit Ticket is a discussion prompt. "Use this discussion prompt as the short, formative evaluation of the content for Animal Structures." The discussion prompt is, "Why do animals have different structures?"

Savvas Learning Texas Experience Science Grade 1

Indicator 3.2

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

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

Meets | Score 6/6

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

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

Evidence includes but is not limited to:

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

- Materials provide a TEKS Progression chart that supports teachers in understanding the vertical alignment guiding the development of grade-level content. Materials provide a TEKS Progression section to support teachers in understanding the horizontal and vertical alignment of grade-level content.
    - The TEKS Progression provides a "Look Back" which answers the question "How does this topic connect to what students learned earlier?", an "In This Topic" which lists the "big ideas" TEKS that will be studied throughout the topic lessons, and a "Look Ahead" section that addresses "How does this topic connect to what students will learn later?"
    - In Topic 4 Overview: *Weather and Seasons*, the Look Back section lists the kindergarten TEKS, such as K.9A identify, describe, and predict patterns of day and night and their observable characteristics, and vocabulary (observe, pattern, seasons, temperature, weather, wind) that students learned before grade 1. The In This Topic section lists the current TEKS (1.9A describe and predicts the patterns of seasons of the year such as order of occurrence and changes in nature and 1.10D describe and records observable characteristics of weather, including hot or cold, clear or cloudy, calm or windy, and rainy or icy, and explain the impact of weather on daily choices) and the vocabulary that

will be covered (patterns, seasons, weather). Lastly, in the Look Ahead section, the grade 2 TEKS that align with the current topic are listed (2.10C investigate different types of severe weather events such as hurricanes, tornados, or floods and explain that some events are more likely than others in a given region). The future vocabulary is also listed (flood, hurricane, moon, precipitation, rain gauge, reflect, severe weather, star, sun, telescope, thermometer, tornado, weather).

- Teacher materials contain a scope and sequence that lists the core concepts taught across grades K-5. The scope and sequence lists that the scientific and engineering practices along with the recurring themes and concepts are covered in the SEPs and Themes Preview, and they are embedded throughout the course. Four main concepts are covered across each grade level. The main concepts are each subdivided into units called topics which contain two to four 5E lessons called experiences. The scope and sequence outlines the topics taught at each grade level within a concept. For example, in kindergarten, students learn about magnets and the concept of push and pull. This supports the first-grade force and motion topics of push and pull along with speed and direction. The scope and sequence then shows how students are learning about pushes and motion in second grade.
- The materials provide a Course Planner and Pacing Guide detailing how the topics increase in depth and complexity across topics.
    - In Topic 3, *Force and Motion*, push and pull are taught before speed and direction. In Topic 5, *Earth Materials, Soil, and Water* are taught before the *Movement of Earth* materials and *Conservation of Earth* materials. Within each experience, the 5E instructional model is used so students are first engaged with an introduction to the topic, which builds to a hands-on exploration and literacy station, then moves on to a discussion as students explain the concept. There is an opportunity for students to elaborate on the concept before an exit ticket checks for student understanding.
    - Topic 3, *Force and Motion*, lists two TEKS and six key vocabulary words. The progression then names one kindergarten standard and six vocabulary words and two grade 2 standards and six vocabulary words that connect to the topic.
- The materials also support teachers in understanding the horizontal and vertical alignment guiding the development of grade-level recurring themes and concepts as well as scientific and engineering practices.
    - In each Topic Overview, the Scientific and Engineering Practices TEKS and the Recurring Themes and Concepts TEKS are listed that will occur within the topic lesson. The materials also provide a SEPs and Themes Preview that provides a presentation that is "broken down into five Key Ideas that correspond to Texas Essential Knowledge and Skills for Science 1–5. These Key Ideas include Investigate or Design, Use Models, Share Ideas, Scientists Help, and Themes and Concepts." The guide explains how to use the presentation to guide students through the SEPs and themes. For example, for the Investigate or Design portion, the guide advises teachers to "Use Slides 2-6 to help students explore the processes of conducting investigations and designing solutions. Explain that the investigation and design processes are similar." The presentation presents six steps to investigate or design, including asking questions and defining problems, planning and conducting investigations, designing solutions, using tools, collecting and recording data, and safety." An activity to apply the learning is then suggested. For example, the Investigate and Design Activity is to "design a solution for a hamster or lizard habitat."

Savvas Learning Texas Experience Science Grade 1

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 provide background information via video to aid in providing explanations and examples of science concepts.
    - In Topic 2, a video explains how the TEK is addressed, its connections to the previous unit, and how the topic builds across grade levels. The video gives information about the topic, including how the topic is explored within the unit. It addresses common misconceptions and provides information on how magnets are used in our everyday lives. The background video discusses how students may be familiar with types of soils and water, and how the topic will build student knowledge. The video refers to the previous unit on rocks in kindergarten. Additional information about what students will be learning in upcoming grades on this topic is also included. The video discusses the lab experiences and shares safety precautions. It addresses common misconceptions such as we do not need to conserve water because of how much water is in the oceans.
    - The Topic 7, *Animals*, Topic Overview Teacher Background section identifies the three key concepts needed to support the instruction of this topic. Three key concepts are identified: "External structures of different animals, such as birds, mammals, and fish, help them meet their basic needs for survival, and animals grow and change. Many young animals resemble their parents, and life cycles show how much animals go through a pattern where they are born or hatched, grow, and become adults." The Topic 7, *Animals,* Teacher Background Video explains the key concepts of this topic, what the students will learn throughout the topic progression, what students should be able to connect this new learning to, and what this new learning will help them understand in future grade levels.
- The materials include support for teachers to develop their own understanding of more advanced, grade-level concepts via the Teacher Background section in the Teacher's Guide and the Teacher Background video.
    - Topic 6, *Living Things and Environments*, states, “Watch the Teacher Background Video, Living Things and Environments, to refresh your knowledge of topic content. Key concepts to support instruction on this topic: Living things have needs and produce young, while nonliving things do not have needs and do not produce young. Living things get what they need from their environment. They depend on and interact with nonliving things to fill their needs for water space, air, and sunlight. They also depend on and interact with other living things to fulfill their needs. Most food chains begin with the sun. Some living things get the energy they need from the sun, and other living things get the energy they need by eating other living things, as part of a food chain.”
    - In Topic 7, the Teacher Background provides this information: "External structures of different animals, such as birds, mammals, and fish, help them meet their basic needs for survival. Animals grow and change. Many young animals resemble their parents. Life cycles show how animals go through a pattern where they are born or hatched, grow, and become adults." The Teacher Background Video is 5:22 in length and reviews what students may and may not already know about animals. The video reflects on what students should have learned in kindergarten and outlines what they will learn in this topic. It also shows how this topic connects to the next grade level.

    - In Topic 5, the teacher video explains how the TEK is addressed in the topic and its connections to previous and next grade levels.
- The materials identify common grade-level **misconceptions** students may have about science concepts. The Teacher's Guide contains sidebars throughout the topics to support teachers on common misconceptions within each experience during the Explore section of the lesson.
    - Each topic has a section called "Common Misconceptions," identifying common misconceptions in bold and explaining the misconception in subsequent text. Topic 6, *Living Things and Environments*, identifies these misconceptions: Dead organisms are classified as nonliving things. Plants get food from the soil. A given species of plant or animal is part of only one food chain.
    - Topic 5 contains sidebars to address misconceptions such as all soils are safe, all freshwater is safe to drink, the difference between weathering and erosion, and that there is no need to conserve water because it is so plentiful on Earth. The sidebars also give caution about the potential hazards in some soil and water.
    - In each Topic Overview, the materials provide grade-level misconceptions to support the teacher's recognition of barriers to student conceptual development. In Topic 7 Overview: *Animals*, the materials provide a Common Misconceptions section that lists the students' common misconceptions. The misconceptions are in bold print and then there is additional text that explains the misconceptions further. For example, one misconception in Topic 7: *Animals* is, "Animals survive on food and water only." The explanation of this misconception is, "Inform students that animals have many needs, including the need for safety and shelter, and, especially the need to breathe air." The explanation continues to explain the connection of oxygen to humans, and animals, and that even fish use gills to breathe oxygen.

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

- Materials explain the intent and purpose of the instructional design of the program at the beginning of the Teacher's Guide. The program was designed by Texas authors and consultants with the help of contributors of science experts to reinforce science content and make learning fun. Partners and reviewers also contributed to the design of the program with video games, simulations, and hands-on activities that engaged students in connection to content in meaningful ways. Materials use the 5E model for learning during each experience.
    - Materials provide a rationale for using the 5E model for learning in the paper titled "Experience Science; Instructional Research." The paper states that the benefits of the 5E model are that it increases student engagement, develops critical thinking skills, and fosters a deeper understanding of science.
    - Materials contain a program guide in front of the Teacher's Guide to explain how the materials were designed for Texas. The program guide explains how the materials were designed around anchoring phenomena from many areas in Texas including Big Bend, the Hill Country, the Panhandle, and the Gulf Coast. The materials also use everyday phenomena to explore science within their local area and apply that understanding to broader global issues in the anchoring phenomena.
- The program guide explains that the 5E instructional method is the foundation of the instructional plan. Materials utilize the 5E instructional model for scaffold inquiry instruction for students to build understanding. "Students learn by exploring, collaborating, and communicating their ideas. In Texas Experience Science, the 5E model is used to scaffold inquiry instruction for students to build understanding."

    - The 5E model is used to scaffold inquiry instruction for students to build understanding. The students engage with phenomena, make a claim, and explore while they gather evidence and test hypotheses. The students then come together as a group to explain and watch a video to verify or redirect. There are opportunities to elaborate and extend their learning. Finally, the students evaluate and demonstrate their learning.
- The program includes a framework explaining the main goal of the program. The materials describe the goal of the program is to bring grade K through 5th-grade science concepts to life creating dynamic, motivating, and interactive experiences for today's classroom. The program guide describes the goal of the hands-on station-based curriculum to engage all levels of learners and to provide meaningful learning opportunities.
    - The materials provide several resources that explain the intent and purpose of the instructional design of the program.
        - For example, the Program Overview explains the "hands-on station-based curriculum engages all levels of learners to provide meaningful learning opportunities." The same resource explains the phenomena explorations within the materials. “Texas Experience Science uses phenomena from its vast regions including Big Bend, the Hill Country, the Panhandle, the Gulf Coast, and the Piney Woods for students to experience and investigate. Encourage active exploration of real phenomena with your students." The materials provide several digital resources to "support the application of science and engineering practices, connect concepts, and deepen understanding of core ideas."

Savvas Learning Texas Experience Science Grade 1

Indicator 4.1

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

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

Meets | Score 4/4

Materials 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.

- The materials consistently support students' understanding of concepts through reading and writing.
    - Materials include topic readers and topic reader activities students can utilize to think about and make further sense of the topic. For example, Topic 4 contains Weather and Season Readers, including texts about *Weather and Seasons*, which "covers the seasons and their features," *Earth and Weather*, which "covers Earth's weather and some of the natural features found on Earth," and *Prepared for the Weather,* which "covers how to prepare for rainy weather and how an umbrella is designed." The topic reader activity: *Weather and Seasons* contains several graphic organizers students can use. For example, one is a Create a New Idea chart where students determine a Topic Reader Detail and a Read About It Detail and synthesize the two "details together to draw a new idea." Another example is the Draw About Text chart. Students are encouraged to "draw a picture and write a sentence to show what they learned."
    - Each Topic Overview includes a Connect to Literacy section that provides a list of topic readers and a list of suggested trade books for students to interact with scientific vocabulary and informational text to build reading and writing skills. For example, the

reading connection in Topic 1, Experience 1, takes place during the literacy station where students focus on identifying words and actions as they read about the parts of bridges and how they can build a model bridge. The writing connection takes place during the hands-on activity where students record what they build with the blocks in their investigation.

- Materials include key ideas activities students can utilize to think about and make further sense of the topic. For example, Experience 1 contains key ideas activity: *The Perfect Day*. In this activity, students "observe weather patterns, record information, and write activities and items for the perfect day."
- The students have opportunities to participate in shared and independent writing as they participate in discussions throughout the topic and record their observations in station activities. The materials' sidebars guide the teachers in supporting students' thinking and acting as scientists and engineers. For example, Topic 3, *Force and Motion*, includes the topic readers, *Airplanes Fly, How Rides Move at the Fair,* and *Fast and Slow Animals*. Students engage in writing activities such as recording their observations after viewing a photo of a person rolling a bowling ball to knock down pins, recording how many cups they knock down in a lab station, and drawing an object in motion. The materials provide guidance to the teacher to explain how scientists work in teams after the students have worked in partnerships during a hands-on station.

- The materials provide activities throughout the 5E lessons that support students' meaningful sensemaking.
  - In Topic 5, students explore the anchoring phenomenon, "Why would beavers need to collect rocks, soil, and parts of trees?" Four experiences support student sensemaking as they learn about soil, water, the movement of Earth materials, and using and saving Earth materials. The students engage in stations such as observing and describing soil, comparing bodies of water, investigating how water can make sand and rocks move, and whether a soil model, rock model, or grass model saves the most water. As students complete each experience, they make connections to the anchoring phenomenon such as the teacher asking, "How is the beaver helping conserve water in the photo?" after students explore how to use and save Earth materials.
  - Every topic has an Anchoring Phenomenon Video that supports student sensemaking through thinking and acting like a scientist to develop an explanation. Students watch and respond to a short Anchoring Phenomenon Video that shows a phenomenon or engineering problem related to the topic's scientific concepts. Students are prompted to consider the phenomenon or engineering problem and then encouraged to think and act as a scientist or an engineer to solve the problem. As students progress through the experiences, they will use related sensemaking activities to help them answer the Anchoring Phenomenon question. In Topic 6, students use the Anchoring Phenomena Video to explain why people would put concrete blocks in the ocean. The teacher materials state, "Lead a discussion about what is happening in the video. Accept all ideas at this time. As students compare the sensemaking activities in this topic, they will return to the Anchoring Phenomenon with greater clarity. Remind students that learning, like science, is an iterative process. It's okay to start with one idea and revise your ideas as you get more information."
  - Every experience has a hands-on station to support student sensemaking through thinking and acting like scientists and engineers. The hands-on station includes a hands-on station card and companion activity that support sensemaking through reading, writing, and thinking activities. The hands-on station card and companion activity have

embedded discussion and writing prompts related to the Scientific and Engineering Practices that allow students opportunities to make predictions; collect observations and measurements as evidence; record and organize data; or communicate explanations and solutions which provide students opportunities to think and act as scientists and engineers. In Topic 6, Experience 1, the hands-on station asks, “How can you tell something is living?” Students go on a nature walk and observe and draw one living thing and one nonliving thing.

- Materials include an Anchoring Phenomenon Video, Photo, or Demo Activity and a Thinking Like a Scientist activity. Using the 5E model, students have opportunities to explore the topic and make connections with personal experiences by asking questions and having discussions during the hands-on stations. For example, Topic 2, Experience 1, includes a hands-on station where students investigate whether ice cubes melt faster if they are submerged in warm water.

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

- The materials include 3 grade-level topic readers for each topic to provide opportunities to gather evidence and develop an understanding of concepts covered within the topic.
  - Topic 3, *Force and Motion,* includes vocabulary cards for direction, force, investigate, motion, predict, pull, push, and speed. These vocabulary words are introduced prior to the students reading the included grade-level topic readers *Airplanes Fly, How Rides Move at the Fair,* and *Fast and Slow Animals* as students gather evidence supporting their anchoring phenomenon, "How can a dog complete an obstacle course?"
  - The materials include literacy stations for each experience that provide opportunities for students to engage in purposeful and targeted activities with grade-level appropriate scientific texts. Topic 3, *Force and Motion,* includes a literacy station card titled “Push and Pull,” which students read and then apply their learning to draw an object in motion using arrows to show the direction it moves. After the station, the teacher as an exit ticket tosses a beanbag into the air, and asks, "Did I just push the object?" and asks the question again upon catching the beanbag. It also contains a card titled “Speed and Direction” in which students read about the cause-and-effect relationship of hard and soft pushes and pulls along with how pushes and pulls can cause an object to change direction. The students then engage in a discussion of how a push or pull can cause an object to change its speed or direction. The teacher asks questions to guide student thinking, such as, "How can the girls make the canoe move faster?", "How can the boy make the wagon slow down?", and "How are the people changing the direction of the swing and shopping cart?"
- Each Topic Overview includes a Connect to Literacy section that provides opportunities for students to engage with grade-level appropriate scientific texts to gather evidence and develop an understanding of the concept taught.
  - Teacher materials provided a list of topic readers and a list of recommended trade books with corresponding activities to be used throughout the lesson. For example, in Topic 3, Experience 1, students focus on the reading skill facts and details as they learn how pushes and pulls affect the speed and direction of an object.
  - For example, Topic 4 includes three recommendations for topic readers: *Weather and Seasons, Earth and Weather,* and *Prepared for the Weather*. It also includes three

recommended trade books: *Everything Weather, A Stroll Through the Seasons,* and *Our Very Own Tree.*

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 materials provide opportunities for students to communicate thinking on scientific concepts in written and graphic modes as they write, draw, and create graphic organizers in their science journals. Students draw as they discover the different ways they move a crayon when drawing a picture in Topic 3, *Force and Motion*. The students also record the number of cups they knock down in a station activity, draw an object in motion, draw an activity that pushes and pulls to change speed and direction on the playground, and record the results of a soft and hard push on a ball in a chart.
- Topic 6 includes several opportunities for students to engage in written and graphic modes of communication to support students as they learn about living things and their environment. Students color living things in a picture and write about how they know something is living after they read *Living and Nonliving Things*. They draw a living and a nonliving thing and then write about how they know something is living. Students also use a Venn diagram to compare ocean and desert environments after reading *Environments*.
- The materials provide opportunities for students to communicate thinking on scientific concepts in written and graphic modes as they write, draw, and create graphic organizers in their notebooks.
    - Every experience has a Key Ideas Presentation and companion activity. Key Ideas slides include dynamic images or illustrations with narrative text to support students in developing an understanding of scientific concepts. Activity slides provide students opportunities to interact with images, illustrations, graphic organizers, and text boxes to support students in developing and displaying an understanding of scientific concepts. The Key Ideas companion activity has illustrations, graphic organizers, drawing space, or write-on lines to support students in developing explanations of scientific concepts. In Topic 5: *Earth Materials*, Experience 4, students draw how they can conserve water at school and write why it is important to conserve water.
    - Materials provide opportunities for students to communicate thinking on scientific concepts in written and graphic modes via WalkSTEM activities. In Topic 5, Experience 1, students walk outdoors to observe the soil in three different areas. Students draw what they find and write about the soils' properties.
    - For example, Topic 4, Experience 1, students record the type of weather shown in a photograph and describe what clothing should be worn. The experience also uses the Key Ideas Presentation, Key Ideas Video, and the Legends of Learning activities as opportunities for students to communicate the topic in written and graphic models.
    - In Topic 1, students use a literacy card titled “How can you build a bridge?” In this activity, students read about bridges, design a bridge, and identify parts of a bridge.
    - For example, in Topic 4: *Weather and Seasons*, the literacy station card is titled, "How can you describe weather?" The card has a visual of an adult and child under an umbrella looking at trees with brightly colored leaves falling down. There is a numbered sequence to guide the students on what they are to do. For example, "1 Think What types of weather did you read about?; 2 Record Draw today's weather. Write about your picture; 3 Share Turn and Talk to Describe your weather picture." Also on the

literacy station card is a What You Need box that shows students and teachers what they will need to complete the station. In this example, it is a Read About It booklet and the literacy station activity sheet.

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.

- The materials provide authentic student engagement and perseverance of concepts through productive struggle while acting as scientists and engineers as they progress through the experiences within each topic.
    - For example, students learn about irreversible changes by heat in Topic 2. The students make an object out of clay. The teacher then bakes the objects to make them harden. The students predict whether the clay can be changed back. The materials suggest the students put the object in water to see if it will become pliable again. The students continue to explore this concept in a literacy station as they read the text titled “Irreversible Changes” and discuss the changes made to cake ingredients as they go through the process of mixing and baking the cake. The students apply their learning to decide if this is a reversible or irreversible change. The students apply their learning to the everyday phenomenon, “Can you un-bake churros?”
    - Students apply what they learned in changes to materials in Topic 1 as they learn about popsicles melting and explore what melts an ice cube and the next topic on how heat causes change. The students apply their knowledge about ice melting and explore the fastest way to melt ice. They will also apply that knowledge as they experiment with melting butter or coconut oil in a sealed plastic bag with their hands before putting it in a cup of ice water.
    - Every topic has an Anchoring Phenomenon Video that allows 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. Students watch and respond to a short Anchoring Phenomenon Video that shows a phenomenon or engineering problem related to the topic’s scientific concepts. Students are prompted to consider the phenomenon or engineering problem and then encouraged to think and act as a scientist or an engineer to solve the problem. As students progress through the three experiences, they will use related sensemaking activities to help them answer the Anchoring Phenomenon question.
    - In Topic 5, students use the Anchoring Phenomena Video to explain why beavers would need to collect rocks, soil, and parts of trees. The teacher materials state, “Lead a discussion about what is happening in the video. Accept all ideas at this time. As students compare the sensemaking activities in this topic, they will return to the Anchoring Phenomenon with greater clarity. Remind students that learning, like science, is an iterative process. It’s okay to start with one idea and revise your ideas as you get more information.”
    - Teacher provided exit tickets to 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 through quick assessment prompts after students interact with experience assets. Exit tickets are designed to be assigned, completed, and collected in a short amount of time. Teachers gauge and guide student mastery of concepts by reading and referring back to students’ exit ticket responses throughout a Topic. In Topic 5, Experience 1, students answer the question, "What are some

properties of soil?" The sample sentence stem provided is, "Topsoil/sand/clay looks _____."

- Materials are designed around the 5E model and inquiry-based science. This supports students to act as scientists. Inquiry-based science requires students to think critically to solve problems and develop analytical thinking as well as problem-solving skills. Topic 5, students watch and respond to a short Anchoring Phenomenon Video about beavers and how the dams they build change and help environments. Students learn about the natural materials found on Earth, specifically rocks, soil, and water during the four experiences provided in this topic. First, they investigate, describe, and record the different properties and components of topsoil, clay, and sand. Then, they study water and compare its properties such as salinity and color. Next, they investigate and describe how water can move rock and soil particles from one place to another. Finally, they explain why conservation is important and describe ways to conserve water and protect natural water sources.
- The materials' pedagogical framework is designed around the 5E model, phenomena, stations, and inquiry-based science. In the Explore portion of the lessons, students "may conduct experiments, gather data, or work in groups to solve a problem." In the Elaborate portion, "students apply their new knowledge to real-world situations. This stage can involve projects, case studies, or simulations." The materials are also focused on phenomena. "Phenomena are an effective tool for engaging students in the science classroom and promoting scientific literacy. By providing a real-world context for scientific concepts, phenomena can help students develop critical thinking skills, improve their ability to collaborate and communicate, and foster a deeper understanding of scientific concepts." Within each topic, the materials integrate stations. "Stations promote active learning by engaging students in hands-on activities and experiments. This can help students develop critical thinking and problem-solving skills." Finally, the materials support students to act as scientists through the inquiry-based science approach. "Inquiry-based science requires students to think critically and solve problems. This can help them develop problem-solving skills and analytical thinking."

Savvas Learning Texas Experience Science Grade 1

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.

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.

- Materials provide opportunities for students to develop how to use evidence to support their claims as they learn through experiences based on the 5E model within each topic. After engaging in an anchoring phenomenon question, students collect evidence to support their hypotheses as they progress through the experiences. Topic 2, *Heat,* includes 3 experiences to guide students in collecting evidence to answer the question. "What do we need to make a bear-shaped crayon?" Students collect evidence as they observe what melts ice faster, how coconut oil can be melted and returned to a solid, and how irreversible changes are made to clay that is baked in an oven. The students use the evidence collected in each experience to support the hypotheses for each experience. The students revisit the everyday phenomenon after collecting their evidence, such as in Experience 3, as students discuss, "Can you unbake churros?" After Experience 3, the teacher asks, "Describe how the crayon pieces change when they are heated. Explain if this is a reversible or irreversible change." During the topic wrap-up, the teacher guides the students through a discussion of what they have learned through the unit and asks students, "What do you need to make a bear-shaped crayon?"
- Student activity sheets prompt students to use evidence to support their hypotheses and claims. In Topic 3, *Force and Motion*, students are prompted to build a ramp and then predict how a ball

will roll with a soft or hard push. Students are prompted to predict what happens to a ball if they roll it into another object. Students record their observations and discuss what happened to the speed and direction of the ball. The students use the evidence from these investigations to apply to their everyday phenomenon tracker, "How can the box move?"

- In Topic 5, Experience 1, the hands-on station asks students to investigate three different types of soil, including what they look like and how they feel. Students record their observations in a three-column chart as they learn topsoil, clay, and sand have different properties from one another. At the end of the activity, students revisit the anchoring phenomenon and question as they apply what they learned and discuss with a partner any new understanding they have about the phenomenon.
- In the Topic 6, Experience 1, hands-on station card and accompanying activity, “How can you tell something is living?”, students make and record observations about living and nonliving things. Students use these observations as evidence to describe how they know something is living. This activity provides evidence for students to discuss the Everyday Phenomenon Photo, “Why can plants and animals live here?” when they revisit the everyday phenomenon after the stations.

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

- Materials include embedded opportunities to develop and utilize scientific vocabulary in context by using multiple representations. Student materials provide them with opportunities to build their vocabulary with vocabulary cards, including the word and simple definitions.
- In each experience, vocabulary terms are introduced to students in context as bold and highlighted terms in the Read About Its. The Topic 1, Experience 2, Read About It, *Properties of Objects*, introduces the terms *property* and *classify* in the context of the text. The text says, “A property is what you can observe about an object. Color is a property. To classify is to sort objects. You can classify objects by color.” The students interact with the Read About It text after having first-hand experience in the hands-on station: “How can you sort objects?”
- Topic 3, Experience 1, includes the words *push* and *pull* as the vocabulary words. The teacher introduces the vocabulary cards and adds them to the vocabulary wall. The students use illustrations and texts to clarify the meaning during the literacy station. Students read and reread *Push and Pull*, then draw an object in motion. Students use arrows to show the direction in which the object moves. Students describe how the object in their drawing moves to a partner.
- The materials include embedded opportunities to develop vocabulary in context in the Topic Launch. For example, in Topic 4, *Weather and Seasons Launch*, the topic vocabulary words are *impact, pattern, seasons,* and *weather*. Teachers are guided to create "a concept map for the classroom wall that students can add to throughout the topic."
- Topics include illustrated vocabulary cards for students to see, read, and define science and academic vocabulary terms. Teachers use the cards for word walls and small group vocabulary-building activities. For example, in Topic 5, Experience 4, students work on the student book page titled “Vocabulary Use and Save Earth's Materials” as they cut vocabulary words and definitions of *conserve, protect,* and *reusable*. Students use this activity to reinforce the vocabulary for Use and Save Earth after the teacher's introduction of the word.
- Opportunities to develop and utilize scientific vocabulary in context are embedded in the Read About It texts included as part of the literacy stations. The text *Heat* includes the word *heat* highlighted in the sentence, “Heat is when energy moves from hot objects to cooler ones." The next sentence, “Heat makes objects feel warmer,” adds further meaning to the keyword.

- Vocabulary support sidebars in the literacy station section of the Teacher's Guide provide guidance for learning vocabulary in context. The teacher guides students to use the text and illustrations to determine the meaning of the word mold in Reversible Changes as part of a literacy station.

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

- Materials integrate opportunities for argumentation and discourse that support students' development of content knowledge and skills for the concept taught. Each topic includes an Anchoring Phenomenon Video and questions introducing students to the concept of scientific arguments. Students are encouraged to make a verbal argument about the concept as they go through the experience's activities, and, at the end of the topic, students use the evidence they collected to make a final argument when they revisit the Anchoring Phenomenon Video.
- Topic 2, *Heat*, provides opportunities for a class discussion of what they think is happening after watching the Anchoring Phenomenon Video: "What do you need to make a bear-shaped crayon?" The topic also has opportunities for partners to discuss the everyday phenomenon, "How can you make melted butter into a stick of butter?", and "Can you unbake churros?" after station activities.
- In Topic 5, students watch and respond to a short video about how beavers use natural resources. The teacher leads a class discussion by asking, "Why do beavers need to collect rocks, soil, and parts of a tree?" During the experiences, students collect evidence as they work on the different activities on soil, water, the movement of Earth materials, and the use and save Earth materials. At the end of the topic, students connect examples of Earth materials, their movements and uses, and their conservation from the readers to their lives, as well as to the anchoring phenomenon as they revisit the video with more information and participate in a class discussion to answer the question: "How do the beavers' actions change the way water moves soil and rocks and help conserve water?"
- The Teacher's Guide includes a Mastering Scientific and Engineering Practices, providing teachers with strategies to help students make the connection that observations they made can be used as evidence to support an argument. For example, Topic 5, Experience 1, includes the following strategy: "Record Data. Encourage students to add more information to their charts. Students can copy the charts into their Science Notebooks, making the chart larger. For each soil type, they can choose words from the word bank, or they can choose their adjectives. Challenge students to add another column to the chart. Students might add, 'How Much It Weight (heavy, light) or What Color is it?'"
- The Teacher's Guide provides support to launch the anchoring phenomenon and helps guide students to make a verbal claim or an argument. A *Revisit the Anchoring Phenomenon* feature helps students revise their arguments by using evidence from the experience. Students use the evidence they collected to make a final argument for their claim in the topic wrap-up.

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.

- Students construct verbal arguments that justify explanations of phenomena and solutions to problems using evidence acquired in the station activities. Topic 2, *Heat*, engages students in

learning about heat as they progress through the three experiences in the topic. Students revisit and justify their claims in discussions, including their findings and how it supports or changes their thinking about how to make a bear-shaped crayon after experiences with heat and reversible changes. Students use the evidence acquired in the last experience in Topic 2, *Irreversible Changes*, for their final argument or solution to the problem, "How can we make a bear-shaped crayon?"

- Students are provided opportunities to construct and present developmentally appropriate written arguments that justify explanations to phenomena and solutions to problems using evidence acquired as they participate in stations. After a hands-on station in Experience 2, Topic 2, involving students melting coconut oil with the heat of their hands and returning it to its solid form, students draw how an object can be changed by heat. They then write about how to reverse the change.
- The students use the evidence they acquire during the experiences to construct and present arguments to justify an explanation for one anchoring phenomenon per topic. A progression is provided to show how these experiences connect back to the phenomena. The teacher introduces the topic with a video and leads the class in a discussion giving the students an opportunity to make verbal arguments. As students progress through the topic, they gather evidence and engage in verbal arguments to justify explanations of the everyday phenomenon and the anchoring phenomenon. In the Topic 6 Anchoring Phenomenon Video, “Why are people putting these concrete blocks in the ocean?”, and Launch the Anchoring Phenomenon class discussion prompts and Anchoring Phenomenon Progression support, students are prompted to make verbal arguments and draw or write about what they see in the Experience 2 Everyday Phenomenon Photo, “Why do these living things live in the same place?” Through teacher prompts in the Teacher’s Guide, students participate in a discussion where they can make additional verbal arguments about the everyday phenomenon. Students participate in the Revisit Everyday Phenomenon and use the evidence collected during the learning experience to justify verbal explanations. Materials provide class prompts allowing students to discuss or re-write ideas about the topic's anchoring phenomenon.
- The STEAM activities provide opportunities for students to develop, evaluate, and justify solutions to problems using evidence acquired from learning experiences. Students use what they learned in the experience and apply their knowledge to a real-world challenge allowing students to develop a solution for a problem by planning or designing, building, and evaluating their ideas. Students collaborate with others to share their solutions and give feedback about the solutions. In Topic 6, Experience 3, *Food Chain Game*, students apply what they learned about food chains to plan, design, and play a game to demonstrate an understanding of the science concepts.
- Topic 7, Experience 1, includes a STEAM activity where students use foam balls, wooden craft sticks, tape, glue pencils, crayons, paper, and chenille sticks to plan and make a model of an animal of their choice. Students write about external structures that help the animal to survive and present their models to the class as they explain how the external structure helps the animal survive.

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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 Key Ideas presentation in the Explain section of each experience provides teacher guidance on anticipating student responses and the use of questioning to deepen student understanding.
- In Topic 1, *Objects*, the materials provide questions with possible student responses. In a unit on properties of objects, materials list questions, such as, "How can you classify the objects?" with the possible responses, "I can classify the objects by color. I can classify the objects by size. I can classify the objects by shape." The Teacher Support notes include suggestions for vocabulary support and to guide students to recall what they did in the prior stations.
- In the Topic 2, *Heat Causes Change*, Experience 3 PowerPoint Irreversible Changes, the teacher asks, "How will the battery change when it is heated?" Possible student responses provided are that it will become a cake or turn from a liquid to a solid. A slide with a picture of unpopped and popped popcorn includes the question, "What changes cannot be reversed?" Possible student answers provided are, "an egg frying or wood burning." Another slide shows bread, chocolate in a mold, and a piece of wood with a burn mark. After discussing whether each picture shows an irreversible change, the teacher asks, "What are some other examples of irreversible changes caused by heat?" Possible student answers listed are burning paper and making a pancake.
- Teacher guidance on anticipating student responses and the use of questioning to deepen student thinking are provided throughout the experiences. The teacher displays a photo of a

person rolling a bowling ball toward pins in Topic 3, *Force and Motion*, Experience 1, and asks, 'How does the player use the ball to move the pins?" The students write or draw their ideas on paper. The teacher asks, "What type of movement does the player use to move the ball?" The possible response is, "The player pushes the ball when he lets go." Followup questions are, "How can the player change the way the ball is rolled?" and, "How do you think the ball will make the pins move?" Possible student answers include, "The player can push the ball in a different direction," and "The ball pushes into the pins and they will move or fall down."

- Each topic begins with an Anchoring Phenomenon Launch which guides teachers on the use of questioning. For example, in Topic 4, *Weather and Seasons*, Launch, the lessons begin with guidance for teachers, "students will have experienced weather but all will have different levels of recognizing how it affects their choices, so begin with some open-ended classroom prompts." The materials then guide teachers to "Say: What is the weather like today?; What are you wearing today?; and What kinds of things can you do outside today?"
- The anchoring phenomena provides teacher guidance on anticipating student responses and the use of questioning to deepen student thinking. For example, students watch the video about how beavers use natural resources in Topic 5, *Earth Materials*. Materials guide teachers ask, "Why would beavers need to collect rocks, soil, and part of trees?" It also includes the following: "Do not explain to students what they are watching or how beavers build dams and affect the environment. Lead a class discussion about what students think is happening in the video. Accept all ideas at this time. As students complete the sense-making activities on this topic, they will return to the Anchoring Phenomenon with greater clarity."
- Materials provide teacher guidance on anticipating student responses and the use of questioning to deepen student thinking. Sample answers are provided throughout the Teacher's Guide for teachers to use. For example, in the exit ticket for Topic 5, *Earth Materials*, Experience 1, the teacher asks, "How do beavers use soil?" "Sample answer: Beavers dams trap lots of soil. Beavers use soil in building their dams and lodges."
- In the Engage section of Topic 6, *Living Things and Environments*, Experience 2, the materials provide teacher responses to possible students' responses, including how to build on students' thinking. The students view a photo of a deer drinking water in nature. The materials prompt the teacher to ask, "How are the plants and animals getting what they need?" The sample answer listed is, "The ducks and deer need to drink water." The materials also include teacher support for a discussion about the type of environment seen in the photo.
- Materials provide an Anchoring Phenomenon Video that students watch and respond to in a class discussion. "Lead a class discussion about what students think is happening in the video." Guidance is provided about how students may answer, and teachers are guided to "Accept all ideas at this time. As students compare the sense-making activities in this topic, they will return to the anchoring phenomenon with greater clarity." Guidance is also given in the form of which questions to lead the discussion. "Ask: What is the weather like in Houston in the video?; What is the weather like in Minneapolis?"

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

- The launch section of each topic includes a vocabulary section with the vocabulary words that will be introduced in the topic. Topic 2, *Heat Causes Change*, includes vocabulary cards for *change, heat, irreversible, melt,* and *reverse*. The teacher works with the class to decide how to add the vocabulary cards to a vocabulary word wall. One suggestion provided is to put the words they know on one side, words they think they know in the middle, and words they need

to learn on the other side. The teacher guides students to make connections between the vocabulary words and other words to derive their meanings. The teacher points out the connection between reversible and irreversible.

- In Topic 1, *Objects*, the materials provide teachers with a topic launch that previews for the teacher the vocabulary used in the unit. The materials direct the teacher to introduce and read through the vocabulary card as a class and suggest having students add the words on sticky notes in their Science Notebooks. The words for topic 1 are: *classify, compare cooling, explain, heating, matter, property, system,* and *texture*.
- The literacy station section for Topic 2, *Heat Causes Change*, Experience 2, includes teacher guidance to support students' development and use of scientific vocabulary in context. After the students read the text *Speed and Direction*, the teacher asks the students to describe how pushes and pulls can make an object change its speed or direction. The teacher explains that the change is the effect. The teacher asks students to use their vocabulary words cause and effect as they answer questions such as, "How can the girls make the canoe move faster?" and "How are the people changing the direction of the swing and the shopping cart?"
- Each experience has a Connect to Literacy with a vocabulary component. The vocabulary of the topic is highlighted in the Key Ideas Presentation, and teachers are given guidance on ways to support student vocabulary development. For example, in Topic 4, *Weather and Seasons*, the materials guide teachers to "direct students to this experience's vocabulary cards. The cards can help students master the domain-specific vocabulary terms they will use in summaries and assessments."
- The Teacher's Guide includes a Vocabulary Support box for each experience that includes teacher guidance on how to scaffold and support students' development and use of scientific vocabulary in context. Topic 5, *Earth Materials*, Experience 1, includes an activity called Multiple Meanings. The teacher explains that the word *soil* has multiple meanings: "It is the loose material on Earth's land that they are studying. Soil can also be used as a verb to mean make something dirty. For example, I soiled my clothes. Some people refer to their home country as my native soil. Invite students to use a dictionary to learn more about this word and other multiple-meaning words."
- Materials include teacher guidance on how to scaffold and support students' development and use of scientific vocabulary in context throughout the 5E activities. The Key Ideas Presentation includes the following: "emphasize how vocabulary words are defined and used throughout the presentation. Encourage students to use vocabulary on the Key Ideas Activity, and allow them to use their own, less formal English to best demonstrate their understanding." For example, in Topic 5, *Earth Materials*, Experience 4, students practice the use of the vocabulary word *conserve* in context when completing the Key Idea Activity, "How we conserve water." Students describe how they can conserve water in school with a drawing and then write why they need to do it.
- The materials provide a Vocabulary Support sidebar support throughout modules in the Teacher's Guide. The sidebar support alerts teachers of opportunities for students to use scientific vocabulary in context. In Topic 6, *Living Things and Environments*, when studying living and nonliving things, students discuss possible definitions of the word young. The sidebar support helps the teacher point out the two different meanings of the word young within the context of the reader.
- Within the experiences, the materials provide Vocabulary Support boxes that guide teachers on how to scaffold instruction to develop students' vocabulary. The teacher is instructed to "guide them to come up with words related to the word *weather*." In Topic 4, *Weather and Seasons*, teachers are then guided to ask students, "What do you think of when you hear the word

weather?" The materials list possible student responses such as "temperature, summer, tornado, sledding, rain, and sunshine."

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

- The Scientific and Engineering Practices Preview PowerPoint includes a slide on communication that provides teacher guidance in the notes section to introduce how students should communicate. The teacher explains that scientists and engineers explain their solutions and results to their teams to help make their investigation a success. The teacher tells the students that it is important to listen actively and be respectful when they are having a discussion.
- The Key Ideas Presentation in the Explain section of each experience provides teacher questions for supporting student discourse and the use of evidence in constructing written and verbal claims. Topic 2, *Heat Causes Change*, Experience 3, includes key idea questions, "What changes from heat cannot be reversed?" and "How can you identify irreversible changes?" The teacher asks students to discuss the irreversible changes they observed in stations. The teacher asks how batter changes when it is heated and writes some of the student's responses on the board.
- In the literacy station for Topic 1, *Objects*, Experience 3, the materials provide teacher guidance for student discourse and support students in using evidence to construct a verbal claim in "How can materials change?" In the Guide Student Thinking section, it provides questions to probe thinking, such as, "What do you think this person is doing? The person is throwing boiling water into the very cold air. What happened to the water?" The materials direct the teacher to have students apply their new knowledge from the station to the everyday phenomenon, "What happened to the ice pop?" Students discuss with a partner any new understandings to revise their ideas and thinking.
- The Teacher's Guide provides teacher guidance on preparing for student discourse and supporting students in using evidence to construct written and verbal claims at the literacy station. For example, in Topic 5, *Earth Materials*, Experience 2 guides the teacher on how to set up the station, what to expect from the students, and how to guide students' thinking. Students explore the Read About It text and classify puddles, ponds, streams, rivers, lakes, and oceans as freshwater or saltwater. They use text features in the Read About It to find information and then write to compare a river and an ocean.
- Materials provide teacher guidance on preparing student discourse and supporting students in using evidence in written and verbal responses. The Teacher's Guide includes directions for the exit ticket activities on how to support students' responses. For example, the exit ticket in the Engage section for Topic 5, *Earth Materials*, Experience 1, asks for the teacher to "have students draw colorful pictures of places where they can find soil. Have small groups show their drawings to one another and tell where they can find soil. Collect exit tickets and refer back to them throughout the experience."
- In Topic 6, *Living Things and Environments*, Experience 3, the Teacher's Guide provides support and guidance to teachers to encourage student verbal discourse and apply what they learned in stations to the Everyday Phenomenon Demo of a teacher creating a food chain in the Engage section. This is after students have completed the hands-on station, "How do you model a food chain?" in which students create a food chain model, and the literacy station, "How does energy move in a food chain?" in which students explore the Read About It Food Chains. The Revisit the Everyday Phenomenon section suggests, "Have students apply what they learned in the stations to the everyday phenomenon," and "Students may want to discuss with a partner any new understandings they have about the phenomenon."

- Within the Scientific and Engineering Practices presentation, slides prepare students for discourse and the use of evidence to construct claims. The presentation includes how to investigate, design, and analyze data, use tools, develop and use models, use math, and test their design. It also focuses on how sciences explain phenomena and how they design solutions to problems. "Scientists communicate. They share what they know with others. They listen to each other." Students are then prompted to "communicate with a partner" to share what they know about elephants and eagles.
- After the Key Ideas Presentations in the Explain portion of the lessons, teachers are provided guidance on supporting student discourse and constructing evidence-based claims. For example, in Topic 4, *Weather and Seasons*, Experience 1, *Weather*, teachers are guided to "Have students turn and talk with partners about what they learned in the stations, citing evidence and observations."

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

- The materials support and guide teachers in facilitating and sharing students' thinking and finding solutions in each experience. The materials support and guide teachers in facilitating the students' thinking and finding solutions in the Teacher's Guide. Within the Explore phase of each module, materials provide feedback strategies teachers can use to help students share their learning.
- In the Explore section of Topic 1, *Objects*, Experience 2, students sort a group of objects. When students work on the activity, the materials direct the teacher to ask probing questions, such as, "How would you describe some of the objects?" and "Which objects would you put into the same group? Why?" to help students make sense of how to sort the objects.
- Materials support and guide teachers in facilitating the sharing of students' thinking and finding solutions. The Teacher's Guide provides notes throughout the 5E model activities. The Revisit Anchor Phenomenon notes provide questions, sample answers, and notes on what to expect to facilitate students' thinking. In the Evaluate section of Topic 1, *Objects*, Experience 1, the questions are: "Why would beavers need to collect rocks, soil, and parts of trees? and How do beavers use soil?" The sample answers are that beaver dams trap lots of soil, and they use soil to build their dams and lodges. The What to Expect section states: "Students' thinking should reflect that plants, animals, and people need soil. They should be able to identify several ways that plants, animals, and people use soil."
- Topic 2, *Heat Causes Change*, Experience 1, engages students in thinking and sharing as they view a photo of clothes hanging on a line and clothes in a dryer. The teacher asks, "What do you think is happening to the clothes? What do you think makes the clothes dry? Which clothes do you think will dry faster?" Exemplar responses are provided as a guide for eliciting more student thinking. Guidance is provided in a literacy station that sets a purpose for reading the text, "To assist students sharing information and ideas about heat, ask: Why do we want to read this text? What do you think we will learn from reading this text?"
- Topic 3, *Force and Motion*, Experience 2, provides support and guidance for teachers in facilitating and sharing student thinking and finding solutions throughout the lesson. The teacher engages students with a demonstration of making a box move and asks, "How can you change the speed or direction of the box's movement?" Exemplar responses are provided to guide student thinking. The teacher asks, "How can you use what you learned to change the speed or direction of an object in the classroom?" As an exit ticket, the students draw an activity on the playground that uses pushes and pulls to change speed and direction.

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- The Teacher's Guide provides support and guidance for teachers to facilitate the sharing of students' thinking. The ELPS Targeted Support notes are one example; they guide and support teachers on how to ask questions and provide suggestions on what to do for all levels of bilingual students. For example, Topic 5, *Earth Materials*, Experience 1, encourages teachers to lead a discussion where students share information on the beavers' building dams. Suggested activities for students are the following: For beginners, the teacher shows a picture of a beaver and says the word, students repeat the word and ask them for a translation in their native language. For intermediate, the teacher provides a sentence frame, "A beaver uses soil to ____," and students pair and discuss how a beaver builds a dam. For advanced/advance high, students discuss which type of soil they think would be best and worst to build a beaver dam and encourage students to use particles in their responses.
- In Topic 4, *Weather and Seasons*, Experience 1, *Weather*, the Related Phenomenon sidebar in the Engage section facilitates the sharing of students' thinking. Teachers are guided to show a video of a sunny day that quickly changes into a rainy or windy day. "Ask students if they have ever been 'caught in the rain' unexpectedly; then lead a discussion on how changes in weather can affect everyday activities."
- In Topic 4, *Weather and Seasons*, Experience 2, *Seasons*, the Elaborate section of the lesson contains a STEAM activity, Local Travel Guide. Students work in pairs or groups "to create a local travel guide showing activities that visitors to your area can do each season."
- In Topic 6, *Living Things and Environments*, Experience 2, students complete a Walk STEM activity in which they observe environments and the living and nonliving things within them. The materials guide the teacher to produce a video of their walk that points out living and nonliving things and how they depend on each other.

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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 formative assessments in a variety of formats to assess student learning. An exit ticket is provided after students complete the hands-on station and literacy stations in Topic 2, Heat Causes Change, Experience 1, Heat, is, "Have students answer the question, Can heat change a solid to a liquid? Have students give thumbs-up or thumbs-down responses. Collect exit tickets and refer to them throughout the Experience." The Topic 1 Key Ideas Presentation includes presentation notes that provide teachers with question prompts to elicit student discussion about the key ideas and includes a student-facing activity that allows teachers to formally assess student understanding. Questions include, “What is a system?” and “How can an object be taken apart and put back together?" The student-facing activity has students draw a design on a puzzle, cut the pieces apart, and have a partner put the pieces together.
- Materials use exit tickets throughout the 5E model lessons as formative evaluation opportunities to assess students' learning. In Topic 5, Earth Materials, Experience 1, Soil, an exit ticket after the Literacy Station provides the teacher with a sentence frame "Topsoil/sand/clay looks like _____" that students use when answering the question "What are some properties of soil?" In the exit ticket at the end of the Experience, the teacher asks, "What are some additional ways we can describe soil?" and students write down a list.

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- Each lesson and Experience is built on the 5E model, and the last section of this model is Evaluate. In each Evaluate section, the materials provide a formative assessment in the form of a Check for Understanding by revisiting the Anchoring Phenomenon, an Experience Quiz, or an exit ticket. For example, in Topic 5, Experience 3, Movement of Earth Materials, the Evaluate section includes an exit ticket that asks students, "How do rocks and soil move around?" The additional formative assessment is in the Revisit Anchoring Phenomenon, "How does the beaver's use of natural resources change the way water affects soil and rock?" After completing the experience activities, students' responses should "reflect the fact that the faster the water flows, the more it can erode soil and rocks, and the less it can seep into the soil and be available for use by trees and other plants."
- The materials include opportunities for summative assessments at the end of each topic. Each topic includes a multiple-choice and short constructed response test at the end of the topic that may be utilized online or printed and copied for student use. Topic 2, Heat, includes an end-of-topic 5-question multiple-choice question test to assess student learning. A sample question includes an illustration of a chef holding a heat tool aimed at a chocolate bar with the question, "The chef uses a heat tool. How does the heat tool change the chocolate? A. It cools it. B It tears it. C. It melts it. D. It mixes it." A short constructed response test provides a prompt for students to describe what happened when a pair of cold, wet socks were put in a dryer that ran for ten minutes. When pulled out, the socks were dry and warm.
- Additionally, in the Topic Wrap-Up of each unit, there is an online summative Test that "assesses mastery of concepts presented in the topic." For example, the Test: Earth Materials, in Topic 5 contains six questions that are a combination of cloze, drag and drop, multiple-choice, and multiple-answer questions focusing on the main ideas in the topic experiences, properties of soil, how water moves soil and rocks, properties of different bodies of water, how humans use rocks, soil, and water, and conservation of water.
- Summative tests include multiple-choice and technology-enhanced questions. The Open-Response Topic Test allows students to practice their test-taking writing skills. Both tests are available as digital versions and editable documents. The Topic 5 test, Earth Materials, includes 6 questions that cover the concepts taught: Soil, Water, Movement of Earth Materials, and Use and Serve Earth Materials. After every Topic, there are Topic Tests and Open Response Tests that provide formal, summative opportunities to assess student learning. The printable Topic 6 Plants Test includes six multiple-choice questions that include, “Which of these are living things? Pick three answers,” and when shown a picture of an aquarium, “In an aquarium, _____ are living things.”
- The materials utilize a variety of exit tickets as a diagnostic assessment tool to assess prior knowledge and learning gained in each experience. Materials state that it includes a Diagnostic assessment during a teacher-led discussion presented during the Anchoring Phenomenon and Everyday Phenomenon. After participating in a discussion about whether clothes would dry faster in a dryer or on a clothesline in Topic 2, Heat, Experience 1, students are shown a wrinkled piece of clothing and asked how the wrinkles could be removed using the sentence frame, "I can use the heat from _____ to get the wrinkles out." The teacher reviews their responses to identify prior knowledge about heat and applications of heat in daily life. During this discussion, the students get an opportunity to explain their knowledge of the topic to be presented by responding to questions presented by the teacher. The Topic 5 question is, "Why would a beaver need to collect rocks, soil, and part of trees?" Exit tickets only measure a small snapshot of information and are not a progress-over-time assessment that would effectively monitor student growth/gains over time.

- The materials include summative assessments to assess student learning in a variety of formats. Each topic contains an Editable Short Constructed Response Test, which is "an editable and printable version of the short constructed response topic assessment, which assesses mastery of concepts presented in the investigation." For example, for Topic 5, Earth Materials, the assessment, which can be taken online or printed, is a prompt that tells students of a boy named Josh who lives where there is little rain. The task asks students to "Describe two ways his (Josh) can conserve water at home."
- The front matter of the teacher materials lists "Entry-level and Readiness Assessments" as available diagnostic tools; they are available on online and print platforms for short topic-centered diagnostics.

Materials assess all student expectations and indicate which student expectations are assessed.

- The materials contain a correlation indicating where in the Teacher's Guide each of the TEKS is addressed. The TEKS correlation lists the pages in the Student Activity Guide and Teacher's Guide where the individual TEKS is addressed. The guide also states, "Corresponding Digital Resources and Assessments" after the list of pages that address the TEKS.
- The materials include end-of-topic summative assessments covering TEKS over the duration of the course. The online materials that include the assessments clearly state the TEKS being assessed and include a hyperlink to a description of those TEKS. Topic 2, Heat Causes Change, includes a multiple-choice and a short-answer topic test to gauge student learning about the applications of heat, reversible changes caused by heat, and irreversible changes caused by heat as described in the TEKS. Topic 3, Force and Motion, includes two assessments to determine student learning about how pushes and pulls can change the speed and direction of an object's motion as described in
- The Teacher's Guide includes a Texas Essential Knowledge and Skills Grade 1 Correlation that provides a resource where teachers can identify where each TEKS is taught and assessed. The correlation shows that each student's expectation is assessed through multiple activities in both the Student and Teacher's Guide Material, including Hands-On Activities, Key Ideas Presentations, STEAM activities, Literacy Stations, and assessments.
- The Topic Wrap-Up page of the teacher online platform lists the standards for the topic. In Topic 6, Plants, the Topic Wrap-Up lists these standards and is hyperlinked to open a pop-up that shows the student's expectations.
- Materials assess all students' expectations as outlined in the TEKS for each grade level. Materials include a cohesive scope and sequence that maps out and outlines what will be taught in a specific grade and topic. The Teacher's Guide includes TEKS-aligned assessments designed to measure student understanding and mastery of the concepts and skills taught during the topic. Topic 5, Earth Materials, teaches and assesses the following: Investigate and document the properties of particle size, shape, texture, and color and the components of different types of soils, such as topsoil, clay, and sand. Investigate and describe how water can move rock and soil particles from one place to another. Describe ways to conserve water, such as turning off the faucet when brushing teeth and protect natural sources of water, like keeping trash out of bodies of water.
- Materials assess all students' expectations addressed in the topic. Each topic Overview includes a TEKS Progression chart that indicates students' expectations and TEKS to be addressed in the topic. Throughout Topic 5, Earth Materials, students connect the big ideas to The Topic Test includes 6 questions that address the same TEKS covered in the topic. For example, one of the multiple-choice questions is Which soil has the smallest grain?

- Each Topic Wrap-Up has a "folder (that) contains the topic assessment and wrap-up materials." The TEKS are listed in the folder containing all wrap-up materials, including the assessments. Additionally, the online test has a kebab menu that provides an Information tab that includes a description of the assessment, the standards it covers, and the keywords. For example, in the Test: Animals, the standards address TEKS. These standards are directly aligned with the six assessment questions on the test.
- All content TEKS are assessed through the Topic Wrap-Up summative assessments. For example, the Organisms and Environment TEKS are addressed in Topic 6, Plants, and Topic 7, Animals. Each Topic has a Topic Assessment to be given at the conclusion of the lessons that focus on all TEKS covered and a customizable short-answer response assessment that addresses one or more of the TEKS in the topic.
- Accommodations provided/suggested are reading testing materials aloud and accepting verbal responses.

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

- Each topic includes summative assessments that require students to integrate scientific knowledge and science and engineering practices with each theme that is appropriate to the student expectation being taught. In Topic 1, Objects, the students are shown a black-and-white drawing of a girl with a truck in pieces. Students are to write a response to " A toy truck broke. Ana will fix the truck. She puts together the parts of the truck. Explain how the toy truck is a system." Topic 2, Heat Causes Change, includes a short constructed response topic test that integrates several science and engineering practices with recurring themes and concepts. Students apply what they have learned about heat, using a cause-and-effect relationship to describe what happened to a pair of cold, wet socks that were put in a clothes dryer for ten minutes and came out warm and dry. This topic test also allows students to apply the knowledge gained from their investigations) to describe the change. The Topic 7, Animals, phenomenon question is, "What can an armadillo do with its body?" At the end of the unit, teachers are guided as students, "How does a young armadillo grow and change?" At this point, the students should be able to "identify the external structures of birds, mammals, and fish, and compare how the structures of different animals help them interact and survive in their environments." Students also watch a video and have a class discussion of what is happening in the video. "Now that students have completed a topic's worth of experiences and activities, they should be able to explain the scenes in the video using more detail and vocabulary than they could when they first watched it."
- After each experience, materials provide an exit ticket as a formative assessment that relates to the Phenomenon question. For example, Topic 7, Animals, contains three experiences to assist students in answering, "What can an armadillo do with its body?" Experience 1, Animal Structures, allows students to "identify the external structures of different animals and compare how those structures help different animals live, move, and meet basic needs for survival." In Experience 2, Parents and Young, students "identify the external structures of different animals and compare how those structures help different animals live, move, and meet basic needs for survival." In Experience 3, Animal Life Cycles, "Students define, observe, and describe the basic life cycle of a bird, mammal, and fish, and begin to connect how armadillos have a life cycle, too. The exit ticket question for Experience 1 is, "Why do animals have different structures?" The exit ticket question for Experience 2 is, "How does a young animal grow and change?" and the exit ticket for Experience 3 asks, "Describe the full life cycle of an animal."

- STEAM activities included in the materials provide project-based assessments that integrate scientific concepts and science and engineering practices with recurring themes and concepts. In Topic 2, Heat Causes Change, Experience 2, Reversible Changes, students apply their knowledge gained to plan an investigation) to build and measure the temperature inside a solar oven. After they have collected their observations and measurements, the students apply their knowledge to test their oven to see if it will melt a stick of butter. In the Topic 6 Plants STEAM activity: Food Chain Game, students apply understanding of food chains by drawing different steps of a food chain on index cards and having a partner put them in order.

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

- Materials include assessments throughout each topic that require students to apply knowledge and skills to novel contexts. WalkSTEM activities require students to apply knowledge and skills to novel contexts. In Topic 1, Objects, Experience 1, Building With Parts, WalkSTEM Activity: Identifying Systems in the Neighborhood, students apply their knowledge and skills related to systems by identifying systems in the neighborhood and drawing a system together and in parts.
- Students apply the knowledge and skills gained in Topic 2, Heat Causes Change, Experience 3, Irreversible changes, as they complete a STEAM activity drawing a diagram of their favorite cooked or baked food. The students write about which of the changes that happen when the food is being cooked are reversible and which are irreversible. This activity allows students to develop a model to represent a process as described in the state standard.
- Students apply the knowledge and skills gained in Topic 3, Force and Motion, Experience 1, Push and Pull, to a STEAM activity as they design an obstacle course for a toy car. The students use scientific and engineering practices as they design their course. The materials include safety precautions by guiding the teacher to warn students not to step on rolling objects or other materials as they build. For example, Topic 5, Earth Materials, Experience 3, Movement of Earth Materials, Hands-on-Station, How can rocks and sand move? students investigate by making a stream table model and pouring water on the rocks and sand. Students describe their observations by writing sentences on what they observe.
- Each topic includes summative assessments that require students to apply knowledge and skills to novel contexts. One example is the Open Response test included at the end of each topic that integrates scientific concepts and SEPS within the theme. The Topic 5, Earth Materials, Open Response test asks students to describe two ways they can conserve water at home if there is little water available.
- Each Experience gives students the opportunity to apply TEKS and SEPs to novel contexts through activities that include a Hands-On Station. In Topic 6, Plants, Experience 2, Environments Hands-On Activity, How do plants depend on nonliving things? students draw and build a terrarium, identify and list the living and nonliving things in the terrarium, and write about one nonliving thing that the plants in the terrarium depend on.
- Each Experience provides students with opportunities to apply TEKS and SEPs to novel contexts through activities within the Hands-On Lab. For example, in Topic 6, Experience 1, Living and Nonliving Things, students go on a nature walk and observe living and non-living things. They draw their examples and continue to "practice classifying living and nonliving things."
- The materials provide STEAM activities that require students to apply knowledge to novel contexts. In Topic 6, Experience 3, STEAM activity, students apply their knowledge of food chains to create a game for their classmates. Students research a food chain and draw each step of the food chain on an index card. Students switch index cards and put the cards in the correct order of the food chain.

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Indicator 6.2

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

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

Meets| Score 2/2

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

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

Evidence includes but is not limited to:

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

- The materials include an online multiple-choice summative assessment after each topic that is automatically graded when submitted and provides areas the student needs more practice. The Topic 2, Heat Causes Change, topic test includes five questions that are marked correct or incorrect on a score summary sheet after the student submits the answers online. Also provided are areas the student needs more practice in describing and investigating applications of heat in everyday life, irreversible and reversible changes in matter, and constructing an argument with evidence that changes caused by heating and cooling are reversible or irreversible. The score summary for the short constructed answer test in Topic 2 includes guidance that the student needs more practice with the everyday applications of heat. The Topic 3, Force and Motion, topic test provides a score summary sheet after the student submits the test. The score summary sheet indicates if questions were answered correctly or incorrectly. The guidance provided to the teacher includes that students need practice with forces where pushes and pulls, pushes or pulls can start or stop an object's motion, that there are different strengths and directions of pushes and pulls, and "investigate the effect of applying forces of pushes and pulls on different objects.
- The Topic Test Short Constructed Response Answer Key guides teachers to look for specific components when evaluating student responses. The Topic 1 Assessment shows a drawing of a

toy truck in parts and asks students to explain how the truck is a system. The sample answer says, “The truck is a system because it is made of different parts that work together. These parts can be taken apart and put back together. All the parts of the truck need to be put in the right place. Otherwise, the truck will not work.” The key includes a scoring rubric that explains that students can earn a point for identifying that the truck is a system of parts: one point for explaining that the parts work together and one point for explaining the parts can be taken apart and put back together.

- Each activity worksheet is accompanied by a Teacher Support document containing answers to help score and evaluate student responses. The Topic 6, Experience 1, Key Ideas Activity provides an answer key that properly identifies what the swan and sunflower need.
- Materials include information that provides guidance for evaluating student responses. The Teacher's Guide on the digital platform includes answer keys to Topic Tests and Short Constructed Response Tests. Short Constructed Response Test Answers include a scoring rubric as additional support. In Topic 5, Soil, the Topic test answer key provides the correct answer, and the DOK and TEK are assessed. The Short Constructed Response Test answer key provides an example of what the student is expected to answer and a scoring rubric that guides the teacher on how to evaluate the answers. The question is asking the students to describe two ways the family can conserve water at home. The Sample Answer is "Josh can turn off the water when brushing his teeth. He can spend less in the shower. The family can water their grass less. They can stop washing their car. They can run the dishwasher only when full. They can run the washing machine only when full?” The scoring rubric suggests giving 1 point if the student describes one way and 1 point if the student describes a second way to conserve water.
- Each topic includes a Key Ideas Presentation that provides information that guides teachers in evaluating students' responses. The PowerPoint presentations include teachers' support on the notes section of each screen, such as how to guide students' discussion and suggestions on how to address misconceptions about students' responses. The Teacher's Guide provides notes on how to check for students' sensemaking. The teacher asks for volunteers to share what they learned, using evidence and observations. The teacher uses the text, images, and questions in the presentation to teach and assess Key Ideas as well as emphasizes the vocabulary words through the presentations allowing students to define them in their own words to evaluate their responses.
- Materials provide What to Expect guidance within the Evaluate section of each experience. This section under the Revisit Anchoring Phenomenon gives guidance to teachers about what students should focus on with their responses. For example, in Topic 4, Experience 1, teachers are guided that "students' thinking should reflect their understanding that plants, animals, and people need soil. They should be able to identify several ways that plants, animals. and people use soil."
- The materials provide an Answer Key for the Topic Tests and Short Constructed Response Tests. The Answer Key provides a sample answer and a scoring rubric for key points that should be included in the answer. For example, the Short Constructed Response Test for Animals asks students to view an image of a mother bird feeding her baby birds and then asks, "How does the bird's structure help them to survive?" A sample answer is given that describes that birds have beaks and wings to help the birds eat and fly so they can move. The Scoring Rubric advises giving 1 point if the "Student identifies one structure of birds," and 1 point if the "Student explains how that structure helps the bird survive." The Key also provides the Depth of Knowledge Level and the TEKS addressed.

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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 support teachers' analysis of assessment data through their online platform, Savvas Realize. The dashboard provided will allow the teacher to access class results by assignment or standard, provided the assignment was completed online. When viewing the data by standard, the teacher may click on the standard for a pop-up that states the TEKS and provides a link to resources provided for the TEKS. The teacher is able to view individual student data by assignment. There is an option for the teacher to choose to auto-assign remediation and enrichment activities to the student upon completion of the online assignments. There was no access to these activities.
- The materials provide a one-page document with hyperlinks to videos designed to support the teacher in using the assessments and data online. Videos included for assessments are "How to Build a Test," and "How to Use a Test Bank." The videos to support the teacher in the analysis of data include "Data Overview Video, Score Data Overview Video, Class Results by Assignment video, and Class Mastery by Standard Video."
- The materials provide resources to support teachers' analysis of assessment data in the online assessment system. The Class Mastery by Standard help video shows teachers how to analyze an individual student's overall mastery percentage based on the assignments to date as well as how many questions they have answered correctly for each assessed standard in the online assessment system.
- The online assessment system provides guidance and tools to support teachers in responding to data to inform instruction. When one clicks on the standard at the top, there is another hyperlink for additional resources.
- Materials provide guidance documents and resources to support teachers' analysis of assessment data on the Savvas Realize site. The Realize Assessment and Data Support include videos on Data Overview, Score Data Overview, Class Results by Assignment, and Class Mastery by Standard. Data can be analyzed by assignment or by standard, as a class or as an individual. The site includes help for the teacher to interpret data and suggests resources to assist in remediation.
- Materials provide guidance and tools to support teachers in responding to data to inform instruction. The assessment tools result in data reports that inform instruction and facilitate tracking of students' progress toward skill mastery. Teachers can view customized reports by skill, by students, or by class.
- Teacher Materials include a Realize Assessment and Data Support tab that provides teachers with Data Reporting Support videos. One of the videos is Class Mastery by Standard. This shows teachers how to use the online platform to view student progress and achievement in any of the standards where online assessments through the platform have been given. The video explains that within the data tab of the online platform, teachers can click Class Mastery by Standard and view the percentage of students who mastered each standard as well as individual student standard mastery. When teachers click on an individual standard, an option is available to "Help me interpret this data."
- Several tools within the online assessment platform provide teachers with quick-view options that graph class and individual student data. Within this tab, teachers can view Standard Analysis, which breaks up each standard on an assessment or across assessments, Question Analysis, which shows a quick view of correct responses by question, Student Analysis, which

shows "student performance on the assignment and its questions," and Performance Analysis, which "automatically groups students based on their performance on the assignment." Once students are grouped, there is the option for teachers to "Assign Resources" to assist in remediation.

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

- The online platform includes assessment tools that provide teachers with information to use when planning interventions and extensions. A color-coded graph displaying the average scores on the assignment enables the teacher to see at a glance the percentage of students that have achieved mastery of the TEKS. The teacher can view individual student performance by viewing the assignments by student section, pulling up an individual student, and selecting the assignment they wish to view. The teacher is able to see the student score and provide comments for feedback to the students. When viewing the assessments by standards, the teacher is quickly able to identify which students need intervention with scores below 70% listed in red and which students are ready for extensions with scores above 70% listed in green.
- The Savvas Digital User Guide and the Realize Help video Data Overview provide an overview for teachers on how data reports can be used for planning instruction and differentiation. Student data can be viewed by assignment or by standard. When reviewing score data for assignments, teachers will see a color-coded report that shows average scores on completed tests. From this view, teachers can drill down to each completed test to analyze individual student responses. The information in these reports helps teachers readily monitor class progress and make the necessary adjustments for intervention and/or extension.
- The Class Results by Assignment provides a tab for Performance Analysis that automatically groups students based on their performance. Once the students are grouped, the teacher can select resources for remediation or enrichment.
- Exit tickets provided throughout the experiences provide information for teachers to use to plan instruction, intervention, and extensions as the students progress through the experiences. In Topic 2, Force and Motion, Experience 1, Pushes, teachers utilize exit tickets to gauge and guide instruction in the Engage, Explore, Explain, and Evaluate sections of the experience. In the Engage section, students write about how pushes could be used to make an animal out of clay as an exit ticket to identify prior knowledge about pushes. Exit tickets in the Explore and Explain sections assist the teacher in planning instruction, intervention, and extensions. The students create a list of other objects that can be shaped by pushes as an exit ticket in the Evaluate section.
- The Teacher's Guide contains informal exit tickets at the end of the Engage, Explore, and Explain phases of the 5E instructional model. The exit tickets provide a variety of prompts and question types that help teachers to gather observational data. The data can be used to plan interventions or for future core instruction. Topic 1’s exit tickets include students answering the question, “What are some properties of matter?”, listing three processes by which a physical property could be changed, and describing the properties of some of the materials that they would use to build a chair.
- At the end of each topic, after students take the Topic Test, the Teacher's Guide includes a Topic Test Remediation suggestion. Topic 5, Earth's Natural Resources, includes "For students who struggle on the Earth's Resources Topic Test, consult the corresponding Topic Test Remediation Document. The remediation document lists certain assets for topic content review and contains

simple and foundational questions about topic content." Materials also include test bank questions that can be used by teachers when planning interventions or extensions.

- Each Topic Test has an ellipse (3 dots) that allows the teacher to access Information about the assessment, including a description of the assessment and the statement that "Students who perform at a low level will be automatically assigned a document to help them understand the content," the standards addressed in the test, and keywords that appear in the test or the answers within the test. Another option from the kebab menu is Remediation providing the teacher access to Test Reviews for each major concept in the Topic. For example, for the Organisms and Environments "skill and remediation" activities, a Test Review is available for ten topic concepts, including but not limited to, "Explain that plants depend on animals for pollution, Identify consumers within an ecosystem, Plant seeds may be dispersed by animals, and The physical characteristics of environments help support populations and communities within an ecosystem." These Test Reviews list the major concepts and serve as an intervention or review for students who did not master the concepts on the test.
- There are several tools within the online assessment platform in the Class Results by Assignment section. In this section, teachers have quick-view options that graph class and individual student data. Within this tab, teachers can view Standard Analysis, which breaks up each standard on an assessment or across assessments, Question Analysis, which shows a quick view of correct responses by question, Student Analysis, which shows "student performance on the assignment and its questions," and Performance Analysis, which "automatically groups students based on their performance on the assignment." Once students are grouped, there is the option for teachers to "Assign Resources" to assist in remediation.

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

- Teachers can utilize the Digital Learning Platform to identify areas students need additional intervention. Activities to address intervention or enrichment needs can be accessed through the standards tab on the digital dashboard. The activities can be assigned to students based on their needs. The activities available are the same activities included in the experiences.
- Each Explain section includes a Key Ideas Video to help illustrate and reinforce concepts that students may struggle to understand. Topic 2, Forces and Motion, Experience 1, Pushes, includes a video with additional examples of pushes and pulls that are used in gardening.
- The Teacher's Guide provides Differentiate Instruction as a resource for teachers to use in responding to performance data. Teachers can integrate these activities at the point of use or return to these suggestions if data suggest students are having difficulty or need a challenge. These notes provide suggestions for ways teachers can help students who are struggling, as well as students who might benefit from a challenge. Topic 1, Experience 3, Differentiated Instruction, suggests asking targeted questions to help students that are having difficulty comparing their model house to a classmate’s.
- The Digital Learning Platform provides teacher guidance for responding to student data. After teachers view the student data reports in the Data tab on the Digital Learning Platform to identify standards or questions with low student performance, they can utilize the Search function on the platform to find and filter activities that may help students with the identified deficiencies. The search features are described in the Savvas Digital User Guide.

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- Materials provide a variety of student resources for the teacher to use in responding to performance data. Materials provide direct instruction for science concepts using the 5E model. The following resources teachers are included in every Experience: Everyday Phenomenon Photo/Video/Demonstration, Hands-on Station, Literacy Station, Key Ideas Presentations/Activities, STEAM Activities, and exit tickets. These resources include teacher guidance; for example, Topic 5, Earth's Natural Resources, Experience 3, Protect Resources, Everyday Phenomenon Demonstration, Should this be thrown out? provides instructions for the teacher on how to do the demonstration by displaying the objects and telling students that each object has already been used. The teacher classifies the objects by asking the students whether they can be thrown out or used again. It also provides a question for the teacher to use during a class discussion "Based on what we discussed, do you think that many objects we usually throw away could be saved and used again."
- Materials provide PowerPoint presentations as a resource for teachers to use in responding to performance data. Each experience provides ready-to-use PowerPoint presentations that include teacher support notes, discussion questions/ideas, suggestions on how to address misconceptions, and a try-it-out! section that includes ideas that students can do to learn more about the topic.
- Materials provide a variety of student resources for teachers to use in responding to performance data. The materials provide vocabulary cards, topic readers on three different Lexile levels, Anchoring Phenomenon videos, and experience activities that take students through a progression of understanding of the phenomenon for the topic. Within each Experience, the 5E model is followed and there are a variety of resources for each portion of the experience. The materials include teacher demonstrations, hands-on station activities and guidance cards, literacy station activities, and guidance cards, a Key Ideas presentation, a Key Ideas video, and either a STEAM activity or Legends of Learning Game.
- A Topic Test Review (remediation) document is provided as guidance for responding to student data for the Topic Tests. The resource explains in detail the answers to the Topic Test questions and supporting concepts for each test item. For example, for the Test: Patterns in the Sky, four "skill and remediation" activities provide concepts for "Distinguishing between the sun as a source of light and the moon as a reflection of that light, identify the Sun as a star that emits energy some of it in the form of light, severe weather conditions include thunderstorms, tornados, and hurricanes, and weather changes are measured by differences in temperature, air pressure, wind and water in the atmosphere, and type of precipitation."

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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.

- Formative assessments contain items that are scientifically accurate, avoid bias, and are free from errors. For example, the Topic 1 Objects Test includes assessment items that align with taught objectives and present grade-level content and concepts in a scientifically accurate way. Question 1 states, “Max walks in the desert and sees living and nonliving things. Which are nonliving things? Choose three answers.” The materials correctly identify the answers as water, sunlight, and soil. This assessment also contains items for the grade level or course that avoid bias and includes diverse names and genders in questions. Questions and examples use diverse male and female names, including Miguel, Marco, Julie, Amy, and Evan.
- Topic 2, Heat Causes Change, includes pictures in their hands-on and literacy stations that present individuals of diverse backgrounds as student scientists. The hands-on station in Experience 3, Irreversible Changes, includes a picture of a group of individuals representing diversity.
- In Topic 2, Heat Causes Change, Experience 2, Reversible Changes, students participate in a thumbs-up or down exit ticket when responding to the question, "Is melting coconut oil a reversible change?" The exit ticket accurately describes the process as melting and avoids referring to the process as "Changing coconut oil into a liquid." The assessment avoids bias and is presented fairly and impartially with no impact on student performance as students completed an exploration of melting coconut oil and returning it to a solid.
- A summative assessment for Topic 3, Force and Motion, includes a question showing a child in a wheelchair at a bowling alley. The question asks what would happen to the ball if a hard push is

used rather than asking what would happen with a hard throw. Other questions use the terms push and pull instead of terms like kick or grab to describe the motion.

- In Topic 5, Earth Materials, the short constructed test asks the students to describe two ways to conserve water at home. Students use the knowledge they learned during Experience 4, Use and Save Earth Materials, to answer the question.
- In the Topic 7 Animals Test, one question states, "Different structures help animals in different ways. Some structures help animals move. Others help animals eat." The question then asks students to sort a list of animal structures into the two categories of "Helps animals move" and "Helps animals eat."
- The short-constructed response items are scientifically accurate. In Topic 7, the Short Constructed Response Test, Animals, shows a picture of a mother bird with a worm in her beak feeding two baby birds. The question posed to the students is, "How do the bird's structures help them survive?"

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

- The Topic 3 Force and Motion summative topic test includes simple black-line drawings and graphics as pictorial support for questions. A drawing of a person in a wheelchair releasing a bowling ball down a lane at a bowling alley supports a question about the type of force used in the action. The drawing is simple and free of distracting details. A black-and-white graphic of a boy dribbling a soccer ball, including an arrow to show the direction the ball is moving, supports a question asking if a push or pull is needed to stop the ball.
- The formative assessments included in the Key Ideas Presentation in Topic 3, Force and Motion, Experience 2, Speed and Direction, include an exit ticket with a color graphic of children playing on a playground as support for an exit ticket asking students to identify a change in speed, a change in direction, and a place where motion starts and stops. The playground scene includes children playing on equipment such as a structure with a straight and spiral slide, swings, and a merry-go-round. The scene also shows a child in a wheelchair and a child on a scooter. All pictures indicate movement. The graphic is not overly distracting and child friendly.
- The Topic 1 Objects Test contains pictures and graphics that are developmentally appropriate. A question includes a black-and-white drawing of a girl pouring juice into ice pop molds. This image helps students answer the question, “Amy pours juice into the molds. She put the molds into the freezer. Predict how the juice will change.”
- The Topic 6 Plants Test contains pictures and graphics that are developmentally appropriate. This question includes a black-and-white drawing of a labeled food chain that the student needs to use to answer the question, “Pick the food the snake eats.”
- In Topic 5, Earth Materials, the topic test includes graphics that are big and easy to understand. The drawing includes some labeling for the students, if needed, such as Prairie Dog and Plants.
- The topic test in Topic 5, Earth Materials, includes a graphic of a glacier that labels the soil and the glacier for students to get a clear understanding of the graphic so that they can choose the correct answer.
- The End of Topic Tests use developmentally appropriate, clear graphics. The Topic 4 Patterns in the Sky Test contains clear and grade-appropriate black-and-white pictures and graphs in five out of the six questions. The remaining question does not contain a graphic. For example, question 6 contains a weather chart for Monday through Friday. The symbols in the chart are simple and clear graphics of a sun, a cloud with raindrops, two clouds back to back, and a cloud with partial sun. The question asks the students to choose the correct sentences about the weather for the week. This question asks students, "Jack wants to go to the zoo. Which days will

have the worst weather for a zoo trip? Choose two answers." Accompanying the weather graphics, the chart provides temperatures in both Celsius and Fahrenheit.

- The End of Topic Tests use developmentally appropriate, clear graphics. The Topic 7 Animals Test contains clear and grade-appropriate black-and-white pictures and graphs in four out of the six questions. For example, one question contains a picture of a life cycle of a bird. The pictures are of an egg, hatchling, fledgling, and adult. The pictures are clear, developmentally appropriate, and scientifically correct. The hatchling is a picture of a baby bird that has just hatched from an egg. The fledgling is a slightly more filled-out bird in a crouching position, and the adult is a picture of a mature bird with fully developed wings standing on both feet.

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

- The Topic 2, Heat Causes Change, Experience 2, Reversible Changes Key Ideas Presentation includes an exit ticket with teacher support directing the teacher to show students a photo of a bowl of ice cream with cookies that are melting and to, "Invite students to describe how they could change the melted ice cream back to a solid." The support includes the possible answer, "Students may suggest putting the ice cream in the freezer and letting it refreeze." Information is included to address possible misconceptions that things like sugar, flour, and air do not heat up. Information is provided in the Teacher's Guide that students may draw, write, or discuss their responses.
- The materials include guidance for teachers to administer the summative multiple-choice topic tests. The Teacher's Guide indicates that five minutes should be allotted for this assessment and states, "Both tests are available as digital versions and editable documents."
- The Topic Wrap-Up page provides guidance on administering the Topic Test. Additional information is provided for using the Auto-Graded Test or the Open-Response Test and the formats in which they can be administered. Next to the titles of each of the assessments are icons that indicate the recommended time to allot, whether the tool is intended to be completed as an individual or group task, and whether the assessment tool is considered core (checkmark) or optional (plus sign). The Topic 1 Objects Test indicates it should take five minutes, it is designed for individual work, and it is considered core.
- The Topic Test answer key provides information that supports the teacher’s understanding of assessment tools. The Topic 6 Plants Test indicates the correct answers, the depth of knowledge for each item, and the TEKS addressed in each item. Question 4 asks students to look at the picture and fill in the sentence, “In an aquarium, _____ are living things that need water.” The answer key indicates the correct answer is “fish and plants,” that the depth of knowledge is 2, and the TEKS addressed are first-grade standards.
- The materials provide instructions for teachers when administering an online test. The Topic 5 Earth Materials online test instructions state that "This online test assesses mastery of concepts presented in the topic through questions that are graded automatically. Students who perform at a low level will be automatically assigned a document to help them understand the content."
- The materials provide guidance for consistent administration. Guidance for teachers is given in the Course Planner and Pacing Guide for when the Topic tests are given. For example, for Topic 4, Patterns in the Sky, the pacing guide suggests two pathways, one called "Fast Track" and one called "Got More Time?" On the Fast Track guide, the materials guide that the Topic Test should be given for a half day on Day 7 of the topic, and on the Got More Time? pathway, the Topic Test is given a whole day on Day 10 of the topic.
- The materials provide guidance on the description of the assessment tools. For example, for the Topic 4 Test, Weather and Seasons, the materials guide the teacher that "This online test

assesses the mastery of concepts presented in the topic through questions that are graded automatically. Students who perform at a low level will be automatically assigned a document to help them understand the content."

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

- Accommodations provided/suggested are reading testing materials aloud and accepting verbal responses. The materials offer the teacher options for modifying both the online and printable summative tests. The printable tests are Google Docs that the teacher can make a copy of in order to modify the test. The online assessments provide a kebab menu with an option to customize the test. The customization options include changing the title and description of the test, a yes or no option for the test to count towards mastery, rearranging the order of the questions, removing some of the questions, and replacing or adding to the questions with questions from a test bank. The items in the test bank are the same questions included for the topic tests but would allow teachers to customize the test to cover more than one topic.
- The online tests include a hyperlink on a speaker icon that reads the directions to the assessment to students. The directions are, "Answer each question carefully, After you submit the test, you won't be able to change your answers."
- The customizable assessments are available in Google Docs, which allows teachers to reduce the number of answer choices as an accommodation to help students of all abilities demonstrate mastery of learning goals. Google Docs is designed to work with screen readers as an accommodation to help students of all abilities demonstrate mastery of learning goals.
- The online materials provide a Navigation Support link that includes Realize User Guide and Training Info and Realize Assessment and Data Support. The Assessment and Data Support link includes how to build a test and how to use a test bank.
- The topic tests open as Google documents and allow teachers to edit the tests to accommodate student needs. For example, for the Topic 4, Weather and Seasons, Topic Test, teachers could adjust the test to provide a word bank, lessen the number of answer choices, or adjust the font or size of the text.
- The materials include a Navigation Support link. This link includes Realize User Guide and Training Info and Realize Assessment and Data Support. Within the Assessment and Data Support link, the materials include how to build a test and how to use a test bank.

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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 provide enrichment activities for all levels of learners. Materials provide scaffolds and guidance for just-in-time learning acceleration for all students.

Evidence includes but is not limited to:

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

- Materials include teacher guidance with each hands-on station activity for scaffolding instruction and differentiating activities for students still needing mastery. For example, Experience 1, in Topic 1, *Objects*, includes differentiated instruction to support students as the teacher models how to build a sturdy structure using blocks. In Experience 2, the teacher models classifying objects by picking up an object, and the teacher asks, "How would you describe this object?" The teacher writes down the properties the students give and then suggests the students look for objects with one of the properties listed. In Experience 2 of *Weather and Seasons,* the teacher pairs students that may have yet to experience four seasons in the Northern Hemisphere with students who have. In Topic 6, Experience 1, the materials ask the teacher to lead the class on a nature walk and model observing things around them. The teacher stops to observe an object and uses think-aloud to decide whether it is a living or nonliving thing. Resources also provide a video that teachers can use as an alternative activity.
- Lessons include recommendations for downward scaffolds to support students in successful science learning and knowledge building under the heading “Differentiated Instruction.” For example, in Topic 1, Experience 3, students are observing changes in ice. The Differentiated Instruction is titled “Model Reading Directions.” It states, “Students may become overwhelmed when they first see directions. Model how they can follow directions by taking one step at a time. Model rereading the Hands-On Station Card. Prompt them to answer item 2 on the Hands-

On Activity before doing the investigation. Then guide them, step-by-step, as they do the investigation."

- Lessons include recommendations for downward scaffolds to support students in successful science learning and knowledge building under the headings “Address Misconceptions” and “Vocabulary Support.” For example, in Topic 1, Experience 3, students use the science text to observe how heating and cooling change materials. The Address Misconceptions box states, “Not all objects can be heated or cooled. Students may think that all matter can be heated or cooled. Be sure to explain that water is special. It can be easily heated and cooled. Cheese, butter, wax, chocolate, and things made of plastic can be heated or cooled, too. However, most objects do not have these properties. Display different objects, including plastic items. Ask students to give a thumbs up to items that can be heated or cooled.” The Vocabulary Support box describes how to teach students to use the context of the sentence to define and explain.
- Materials include teacher guidance for scaffolding instruction on each Topic for students who still need to achieve mastery of the concept. The Topic Planner includes activities to personalize student learning. Some activities available to personalize student learning are STEAM and WalkSTEM activities. Topic 6 consists of these three activities: Legends of Learning Game, where students learn by playing a game on the Food Chain. In the provided WalkSTEM, students walk to observe the environment around them, and STEAM activity where students play a Food Chain Game. For example, in Topic 4, *Weather and Seasons,* there are targeted activities, including Literacy Station Card: How can you describe weather? Read About It: Weather, Vocabulary Activity Cards: Weather, Hands-On Station Card, and Activity: How can you observe weather?

Materials provide enrichment activities for all levels of learners.

- The materials provide several opportunities throughout the topics for enrichment activities that account for learner variability. The Teacher's Guide embeds suggestions for enrichment activities such as STEAM activities, challenge activities, WalkSTEM activities, science songs, and Legends of Learning online educational games. STEAM activities provide students with enrichment by having them apply knowledge of core content to act like engineers and scientists in imagined real-work scenarios. These are "fun, place-based experiences that highlight inquiry-based STEM connections to real-world objects and spaces." Although these enrichment activities still need to be pre-planned, the materials provide teachers with step-by-step directions and ideas to plan based on their current facilities and surroundings and several links to collaborative platforms to assist with delivering these to students.
- For example, Topic 1, *Objects*, includes the WalkSTEM activity engaging students in a walk in their neighborhood to identify systems, STEAM activities to build a model train from items such as boxes, tubes, and bottle caps, and an activity to build objects with salt dough and either letting it air dry or baking them, challenge activities to draw the structure they built in a station activity, come up with their own way of classifying items after a station sorting objects, and the hip-hop song, "Matter." Topic 4, *Weather and Seasons,* includes a Legends of Learning game, "The Perfect Day," which engages students in observing weather patterns, recording information, and choosing activities and items for the day, a STEAM activity to apply their understanding of local seasons create a local travel guide, and the hip-hop song, "Weather." Topic 6, Experience 1, includes guided inquiry steps to model and support the inquiry process: “1. Go on a nature walk with your class. Follow your teacher's safety directions. 2. Look around you as you walk. Observe plants, animals, the sky, and any bodies of water 3. Identify and make

quick drawings in your Science Notebook of things you think are living. 4. Identify and make quick drawings in your Science Notebook of items you think are nonliving."

- The Teacher's Guide embeds opportunities for students to observe, connect, and explore science concepts in their community with activities in "Take it Local" sidebars. Topic 2, *Heat,* includes teacher guidance to take students to walk around the school to identify and list different heat sources. The teacher encourages the students to add other examples from their home and community to their lists. Another "Take it Local" sidebar suggests the teacher invite a candle artisan to the class to speak about how they handcraft candles by carving warm wax. The students then engage in a discussion about reversible changes. The teacher invites a local manufacturing plant team member to discuss how heat is used in their work to cause a change in another "Take it Local" activity in Topic 2. The students then discuss if this is a reversible or irreversible change by heat.
- Within the Topic Launch, the Teacher's Guide provides an enrichment activity that centers on the Phenomenon within the Topic. The Related Phenomenon box has an additional or alternative activity for students to enrich their understanding of science concepts. For example, in the Topic 4, *Weather and Seasons,* Related Phenomenon section, the materials suggest "present students with a map and a schedule of the State Fair of Texas in Dallas." Materials then instruct teachers to ask students to consider the weather and the time of the year and plan their outfits.

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

- The Teacher's Guide includes recommendations within the experiences for just-in-time scaffolds to develop perseverance of learning in the moment.
    - The materials embed a guided inquiry procedure within the hands-on station activity in Topic 3, *Force and Motion,* which provides the teacher prompts such as, "Turn the cups upside down" and "Put one cup facing you," to guide students struggling with how to set the cups up for their exploration. A differentiated instruction section includes information on modeling for those struggling to perform the activity of how to set up the cups and push the ball to strike at least one cup. For another station activity involving students constructing a ramp and rolling balls down the ramp in the same topic, the materials include guidance for the teacher for suggesting steps such as, "Place one end of the board on the block and the other end on the table," and "Repeat the investigation by varying the height of the ramp with more blocks." The materials include a challenge for students to move the ball up the ramp.
    - In Topic 6, Experience 1, the materials ask the teacher to lead the class on a nature walk and model observing things around them. The teacher stops to observe an object and uses think-aloud to decide whether it is a living or nonliving thing. Resources also provide a video that teachers can use as an alternative activity.
- The teacher materials include challenge activities through options for stations where students accelerate their learning.
    - Topic 2, *Heat,* includes an activity to challenge students after a station exploring the fastest way to melt ice. The students brainstorm other ways they can melt ice cubes with materials available in the classroom.
    - Topic 3, *Force and Motion,* includes a challenge for students to investigate how they can roll a ball up a ramp after investigating rolling it down a ramp with a soft or hard push.

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- The Teacher's Guide embeds just-in-time acceleration suggestions under the heading "Differentiated Instruction" to develop productive perseverance of learning in the moment.
    - In Topic 2, Experience 1, the Differentiated Instruction states, "Challenge: Invite students to brainstorm other ways they can melt the ice cubes with the materials they have in the classroom."
    - In Topic 6, Experience 3, the Differentiated Instruction states, "Challenge: Ask students to add a step to the end of the food chain." It provides guiding questions and suggestions to get students started.
- There are also suggestions in the Connect to Literacy where teachers can utilize the Literacy Station, the Hands-On Station, or the Vocabulary cards to provide just-in-time learning acceleration.
    - For example, in Experience 1 in Topic 4, *Weather and Seasons,* the "Got More Time" activity is a Legends of Learning activity that guides students to "select factors-- for example, temperature, rainy versus dry conditions, and so forth-- to plan 'the perfect day.'" In the same lesson, the literacy station activity focuses on comparing and contrasting types of weather, and the hands-on station focuses on observing weather. The vocabulary cards provide a color picture and explanations "that will help students master the domain-specific vocabulary."

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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.

- Materials allow students to engage in a variety of developmentally appropriate instructional approaches as they progress through experiences following the 5E instructional model, such as classroom demonstrations, connections to scientific concepts in the real world, video clips, and images to introduce and reinforce specific science concepts.
- Topic 2 includes an anchoring phenomenon video, "What do you need to make a bear-shaped crayon?" to engage students in thinking about how heat causes change. Photos encourage discussion about how heat dries clothing and images of unbaked and baked churros. There are three key idea videos included at the end of each experience. Classroom demonstrations suggest that the teacher model melting butter and then pour melted butter into a mold sitting in a bowl of ice to show reversible changes caused by heat, melting, and freezing a substance
- In Topic 2, *Force and Motion*, Experience 1, students explore how pushes move objects during a hands-on station. Students read the text Push and Pull in the literacy station and draw an object in motion. The students work with a partner to describe how the object is moving.
- In Topic 4, *Weather and Seasons*, Experience 1, Weather, the Engage section includes an Everyday Phenomenon Photo to activate student thinking about weather activities. The Explore

section provides a hands-on station where students use pictures with different weather conditions and temperatures to describe the conditions shown. In the literacy station activity, students compare and contrast the types of weather described. In the Explain/Elaborate sections, the materials provide activities where "students will work with a partner through a virtual experience." The Evaluate section provides an exit ticket to measure student mastery.

- For example, Topic 5, Experience 1, starts by activating students' thinking by questioning what they can find in the soil during the Everyday Phenomenon. Students investigate, record, and compare different types of soils. The literacy station activity generates and answers questions about soil as students explore the Read About It Soil. Students watch a video to learn more about soil's different types and components. Materials include a WalkSTEM activity where students apply what they learned by making a video of a walk around the school grounds.
- In Topic 2, *Heat*, lessons include inquiry-based, authentic tasks in which students use tools to measure and collect data, such as in Experience 2, when students use tools to measure and record how fast ice melts. Materials include video clips to introduce and reinforce specific science concepts (making new crayons from old ones and making a stick of butter from melted butter). Materials include educational game-based learning opportunities where students apply scientific knowledge.
- The teacher sets up a Hands-on station where students investigate how a change can be undone. In Topic 2, students explore how a solid coconut changes when they apply heat with their hands. Students identify the change when applying heat and describe how to make it solid again.
- Lessons include a progression of activities at the beginning of the unit. For example, in Topic 4, *Weather and Seasons*, the lesson begins with discussion questions where students discuss the overarching phenomenon question, "Is Houston or Minneapolisabetter place to build a snowman?" Materials provide a video and teacher prompts for a classroom discussion, such as "What is the weather like in Houston in the video? What is the weather like in Minneapolis?" Materials provide an Anchoring Phenomenon Progression with a series of Experiences. In Topic 4, Experience 1, *The Weather*, "Students learn that weather changes daily and over seasons." In Experience 2, *Seasons*, students "observe that in different seasons, the amount of sunlight, temperature, and prescription changes." Visual vocabulary cards for the topic guide teachers to "consider creating a concept map for the classroom wall that students can add to throughout the topic."
- The materials engage students in the mastery of the content through pre-planned questions in the Teacher's Guide. In Topic 1, Experience 2, *Speed and Direction*, the materials list discussion questions that engage students in deeper thinking and discussion about the science content presented in the Everyday Phenomenon. The questions listed are: “How can you make the box move? How can you change the speed or direction of the box's movement?” This activity starts with direct instruction to facilitate instruction and experiential learning later in the Experience.

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

- The materials for each Topic consistently support flexible grouping. Throughout the program, there are numerous opportunities for students to work individually, with a partner, in small groups, or as a whole class.
- Experiences start with a whole group discussion during a Key Ideas Video. Every experience includes a hands-on investigation activity where students work in small groups. During investigations, students collaborate to plan, design, and conduct an experiment or design and build a model to solve an engineering problem or answer a question. The materials provide the

students with opportunities for individual work through Read About Its and associated literacy station activities, Make Meaning activities, and some assessments, such as Topic Tests and Quizzes. In the Explore stage of each Experience, students work through a Revisit Everyday Phenomenon prompt as they work with a partner to discuss new understandings about the phenomenon and revise questions. In Topic 4, students engage in a whole group discussion of the Anchoring Phenomenon Video about weather conditions.

- Experience 2, Topic 2, *Heat,* begins with a group demonstration of reversible changes by melting butter into a liquid and cooling it in a mold. Students work as partners or in groups to complete the hands-on station activity melting coconut oil in their hands and then returning it to a solid in a cup of ice. The student independently fills out their activity pages to describe their observations of the investigation.
- In Topic 4, Experience 1, the materials guide students to observe a picture of a windy storm, write down their observations and then "tell a partner what you will wear." Each student records their observations, and after the stations, students "discuss with a partner any new understandings they have about a phenomenon."
- In Topic 5, Experience 1, the teacher presents the everyday phenomenon photo and activates students' thinking and questioning of what they can find in the soil. The Experience continues with the hands-on station, where students work in small groups or partners as they investigate, record, and compare different types of soils. Students work individually to complete the Exit ticket as they draw a colorful picture of places where they can find soil and share them with a small group.
- Topic 5 materials suggest teachers present and read through the Vocabulary Cards for the topic, such as saltwater, conserve, erosion, and freshwater, together as a whole class. Together, they create a word wall organized as a concept map that students can use throughout the topic. The teacher has students select the word that goes at the center of the map and how they would organize the other terms. The class can reorganize the concept map during the topic as they learn more about how the term is used in context. Students work in small groups when participating in the Key Ideas Presentation when they turn and talk with partners about their learning.
- The materials include guidance for the teacher to create partnerships in some of the English Language Proficiency Standards (ELPS) targeted support. The teacher materials also support flexible student grouping to support language needs by suggesting groups and pairs when differentiating for emergent bilingual students.
- For example, in Experience 1 of Topic 2, *Heat,* guidance is provided for advanced and advanced high students to pair up and take turns using the words heat, energy, and change to describe the application of heat in a photo of clothes drying on a line and in a clothes dryer. In the Evaluate portion of the experience, ELPS guidance suggests pairing intermediate learners to complete and speak sentence frames about their learning. Advanced and advanced high learners work in a partnership to name three heat sources or three appliances that use heat and share a short sentence about each one.
- In Topic 4, Experience 1, students participate in a group setting to discuss “What activities could you do in two different types of weather?” The ELPS targeted support suggests beginning students select simple words to match the weather outside. For advanced emergent bilingual students, it suggests having students work in pairs to use weather terms to describe the weather outside. For advanced high emergent bilingual students, it suggests having partners use photos to tell a story about the weather.

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

- The experiences within each topic support multiple types of practices (modeled, guided, independent, and collaborative) and provide guidance and structures within the materials to achieve effective implementation.
- Topic 2, *Heat Causes Change,* includes modeled practice in a demonstration by the teacher of melting butter and changing it back into a solid when placed in a mold in a bowl of ice. Guided practice and collaborative learning are present in the station activities, such as "How can a change be undone," in Topic 2, where students explore melting coconut oil or butter in their hands and then turning it back into a solid in a cup of ice. The materials provide the teacher with a step-by-step guided inquiry procedure to assist them throughout the station. Students work independently in the literacy station as they read Reversible Changes and describe how heat melts a frozen juice pop and how they can freeze it again in the freezer.
- In Topic 5, Experience 2, modeled practice happens in the Everyday Phenomenon Demo, in which the teacher changes water by adding soil and shaking. Guided and collaborative practice occurs in the stations, “Where can you find water?” and “Where is water?” Independent practice happens in the exit tickets, in which students explain how water changes when salt is in it.
- In Topic 6, Experience 3, modeled practice happens in the Everyday Phenomenon Demo, where the teacher demos a food chain with pictures and paper clips. Guided and collaborative practice occurs in the stations, “How can you model a food chain?” and “How does energy move in a food chain?” Independent practice happens in the exit tickets, where students explain how living things depend on each other through food chains.
- The lessons provide a clear learning goal for each experience as a phenomenon tracker in the planner of each topic. Each part of the 5E lesson also states a clear purpose for that portion. Such as, in Topic 2, *Heat*, Experience 2, the phenomenon tracker explains how students connect an observation of how heat melts wax on a candle to how heat causes other reversible changes. Before the station activities, the teacher explains the goals and structures by explaining students work in partners and groups to observe changes to coconut oil as it is heated and cooled.
- The materials provide guidance and structures to achieve effective implementation. The Teacher Guide materials for the Explain stage of each Experience provide guidance and structures to effectively implement guided practice through teacher notes about how to present content. Each Experience within the Topics follows the 5E model and provides for modeled, guided, collaborative, and independent lesson structure for students and guidance for teachers for effective implementation.
- In Topic 1, Experience 2, Key Ideas presentation, *Properties of Objects,* bulleted step-by-step teacher instructions guide the teacher to provide objects to classify and to have students discuss what they learned in stations.
- In Topic 4, *Weather and Seasons*, Experience 1, *Weather*, Explore section, the materials prompt teachers to guide students by explaining that "observation is an important skill that scientists use to understand the world around them." The materials guide teachers to "support the inquiry process" by asking questions to guide students through their investigation. Students read the literacy station text independently and then discuss with a partner any new understandings.
- In Topic 5, Experience 2, the teacher activates students' knowledge by leading and modeling a discussion on an Everyday Phenomenon Demo about what causes the water in a jar to change. Materials include guided, collaborative, and independent practices under the hands-on and literacy station. The teacher teaches the students how to observe, identify, and compare bodies

of water. Students collaborate in a turn-and-talk opportunity to share what they learned at the stations during the Key Ideas Presentation. Students read independently to locate information and learn about bodies of water.

- In Topic 5, students learn about natural materials found on Earth, specifically rocks, soil, and water. Model practice happens during the Engage portion of Experience during the Everyday Phenomenon. The teacher shows the photo and discusses how many ways you can describe soil. The guided practice takes place during the hands-on and literacy stations. Teachers teach students to investigate, describe, and record topsoil, clay, and sand properties and components. Materials offer structure by following the 5E model and providing verbal and written feedback to students.

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

- Materials represent diverse communities using images that are respectful and inclusive. Images on the student materials portray a diverse group of genders, races, and ethnicities.
- For example, a vocabulary card has a picture of an African American boy to define the word *conserve*. The vocabulary card for the word *protects* shows an image with eight individuals representing a diverse community. A Hands-on Station Card for Topic 5, “How can rocks and sand move?” has a picture of an African boy using rocks, and the Read About it -Heat Changes Object card has an image of a male doing laundry.
- The materials include images representing different genders and races and depicting a suburban community, the seashore, and an apartment building. *Energy Around Us* contains images representing different genders, ages, and races. It also represents other places, such as the lights downtown, a water wheel on a stream, a campground, the seashore, an open field, and a soccer field. Airplanes Fly includes an image of a female pilot.
- Topic 2, Experience 3, contains images of a cake and churros. The photos included on the station cards represent children and adults of different genders, races, and ethnicities.
- The Topic Readers represent diverse communities using images and information that are respectful and inclusive. *Changing Matter* shows a Hispanic boy. *Earth and Weather* shows a Caucasian boy and a girl. *Earth's Surface* shows a Caucasian male with an Asian female and their child. *Energy Around Us* shows an African American man and a girl. The Station Cards represent diverse communities using images and information that are respectful and inclusive. Topic 1, Experience 1, shows an African American girl and a Hispanic boy and girl. Topic 1, Experience 2, shows a Hispanic girl with a Caucasian boy. Topic 1, Experience 3, shows an African American boy with a Caucasian girl. Topic 3, Experience 3, shows students of different demographics.
- The students can see different genders and ethnicities as the video narrators. For example, the Teacher Background video for Topic 7, *Animals,* is led by a Caucasian male instructor, and Topic 4, *Weather and Seasons,* is led by an African-American woman.
- The materials represent diverse communities in the images and information about places.
- Topic 1's Anchoring Phenomenon Video is of a glacier. Topic 2, Experience 3's Everyday Phenomenon Photo shows churro batter and cooked churros. Topic 3, Experience 1's Everyday Phenomenon Photo shows mountains. The Experience Stations in Topic 5, Experience 2, show a coastal area and a waterfront city. The Everyday Phenomenon Photo in Topic 5, Experience 4, shows a woman building a cobblestone road.
- Materials use real-world examples and connections throughout, representing diverse communities and places in Texas. Each topic includes an Every Day Phenomena Exploration that explores the wonders of Texas, such as Big Bend, the Hill Country, The Panhandle, The Gulf Coast, and The Piney Woods, for students to experience and investigate. For example, Topic 5

includes a Phenomena video, “Why would beavers need to collect soil, rocks, and parts of trees?” This video shows how beavers build their homes in different rivers and streams in Texas.

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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.

- Materials include linguistic accommodations commensurate with various levels of English language proficiency as defined by the English Language Proficiency Standards (ELPS). Each Topic Planner includes the ELPS to be addressed in the topic. Each Experience consists of an ELPS Targeted Support during the Engage part of the lesson.
- The Teacher's Guide includes listening, reading, writing, and speaking support to help emergent bilingual students meet grade-level science content expectations. The guidance is included at point-of-use and is scaffolded for beginning, intermediate, advanced, and advanced-high students. In the Engage section Topic 1, Experience 2, the ELPS Targeted Support states, "Beginning- Display some round objects. Have students brainstorm and draw some other round objects. Intermediate- Ask students to think about heavy objects. Use this sentence frame: A ____ is a heavy object. Advanced- Display three objects with the same shape. Ask students how they would classify the objects. Advanced High-Ask students to classify six objects in the room into two groups. Have them draw the two groups and share their drawings with a partner."
- In Topic 2, Experience 1, ELPS support in the Engage section for intermediate English language learners for listening is, "Ask yes/no questions about the photos using the words energy, heat, and change. Have students listen, repeat after you, and ask questions as needed." Support in the Explore section for intermediate learners includes, "Invite students to scan the text, circle words and phrases that they know, and underline those words and phrases that they do not know. Then, ask them to figure out the meaning of unfamiliar words using the pictures." The Evaluate includes ELPS guidance for the intermediate learner, "Have students complete and

speak the sentence frames: Something that can cause change is _____(energy). When you make something different you _____(change) it."

- The Teacher's Guide and instructional materials embed strategies for communicating and scaffolding instruction for students. The materials embed one communication strategy in a hands-on station activity in Topic 2, Experience 1, as the teacher communicates and models how to design the investigation. Included teacher notes for each slide provide guidance on scaffolding activities for students. For example, the presentation in Topic 2, Experience 1, consists of a slide of a person in winter weather holding a cup with steam rising from it with the teacher's notes, "Remind students to refer to what they did in the literacy and hands-on stations. Read the question-How does the cup warm their hands?" sentences starters, "The cup..." and, "The heat.." are also provided. Another slide suggests that students get in groups to use a thermometer to measure and compare the temperature of a cup of cold and a cup of warm water."
- Topic 5, Experience 1, the ELPS Targeted Support states, "Learning Strategies 1A, 1B, Listening 2E, Writing 5B Monitor students' understanding as they share information orally and in writing about the pictures they drew." It also includes scaffolded instructions on addressing it for beginners, intermediate, advanced, and advanced high. For example, for intermediate, the teacher asks students to point to their pictures and tell about what they drew using the sentence frame: "Soil can be found_____."
- The ELPS correlations chart in the Teacher's Guide helps teachers identify where each ELPS is covered in the materials. For example, the chart states that ELPS 2D "monitor understanding of spoken language during classroom instruction and interactions and seek clarification as needed" can be found in the Teacher's Guide.
- The Teacher's Guide embeds scaffold for emergent bilingual students into lessons, such as visuals, modeling, sentence stems, and manipulatives. For example, in Topic 5, Experience 1, the teacher shows a visual (photo) of a hand with soil during the Engage section. The teacher asks students to describe what they see. It also includes a modeling activity where teachers do a soil-filtering demonstration. During the Literacy Station, the ELPS Targeted Support Activity includes sentence stems for students to read as they point to each type of soil use. "Topsoil is ___ Sand is ___ Clay is _____."
- In Experience 1, *Weather*, the ELPS Targeted Support for the Explore section guides teachers to "have students use the Literary Station activities to practice developing their understanding of words commonly used in the classroom. Write the words observe, record, and describe on the board. Say each word aloud. Project the Hands-On Station Card and read the text aloud." Additional guidance is given for each level of beginning, intermediate, and advanced/advanced high. For example, for students who are at the beginning level, teachers are guided to " point to the words observe, record and describe. As you point to each word, have the students repeat it after you." For students in the intermediate level, the materials guide teachers to point to the same words on the board and "have the students repeat each word and say what it means." Finally, the materials include questions for advanced/advanced high students that ask them to recognize words similar to the focus words. In this lesson, the students should recognize that look, write, and tell have similar meanings to observe, record, and describe.
- Materials provide an ELPS Correlation for each grade level. The document identifies the ELPS and the Teacher's Edition page numbers where the ELP is a focus. For example, the Teacher's Guide contains guidance for ELPS 2C.

Savvas Learning Texas Experience Science Grade 1

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

- Materials encourage strategic use of students' first language as a means to linguistic, affective, cognitive, and academic development in English. Materials using home language appear only three times for each grade and are not seen in every unit, falling short in consistency. Not all material provides adequate support to assist teachers in ensuring student content mastery.
- The ELPS Targeted Support of Topic 5, Experience 1, Engage, for beginning emergent bilingual students, states, "Have each student point to the picture and identify the place where soil is found. Allow students to use descriptions in their native language."
- The student activity guide includes some materials translated into Spanish. The student activity guide includes all literacy and hands-on station cards in English and Spanish.
- The Key Ideas Presentation included with each experience includes teacher support notes to guide student conversations about what students have learned. The downloaded version of the presentation of the key ideas contains the keywords to know in English and Spanish, along with the definitions to support students whose first language is Spanish. The guidance provided for the teacher is, "Preview vocabulary to help students as they build background knowledge and connect with key ideas." The words included in the Key Ideas Presentation for Experience 1, Push and Pull, in Topic 3, along with their definition in English and Spanish, are push/*empujar*, pull/*jular*, motion/*movimiento*, speed/*rapidez*, direction/*direccion*, and force/*fuerza*.
- Teacher materials in Topic 1, Experience 1, Key Ideas Presentation, lists key vocabulary words and their definitions in English and Spanish. It states, "Words to Know: Preview vocabulary to help students as they build background knowledge and connect with key ideas. classify-to sort objects with the same property, *clasificar-agrupar objetos que tienen la misma propiedad*, property-what you can observe about an object, *propiedad-lo que puedes observar de un objeto*, texture-how an object feels, *textura-lo que se siente al tocar un objeto.*"
- The student activity guide includes each topic with literacy and hands-on station cards. Each set of cards is available in English and Spanish for each topic.
- In Topic 5, Experience 1, the ELPS Targeted Support includes an activity where the teacher shows a picture of a beaver building a dam, repeats *beaver, dam* several times, and asks students to give the translation in their native language.
- In Topic 7, Experience 1, the ELPS Targeted Support in the Evaluate section includes an activity for beginners that allows students to use their native language to describe an armadillo and their parts.
- The materials include a letter to send home with the institutional objectives for the topic to be covered.
    - The School-to-Home Letter includes cognates that would be helpful to Spanish speakers' academic development in English. For example, a series of slides to send home about Properties have the following cognates and explanations to use by students; first language if it is Spanish. "material what an object is made of material (*aquello de lo que está hecho un objeto*), property how an object looks, feels, or sounds (*propiedad manera de describir un objeto*), texture how an object feels (*textura lo que se siente al tocar un objeto*).
    - The School-to-Home Letter in each topic prompts caregivers to explain science concepts in their own words or first language to support students in developing and mastering science concepts and vocabulary. Topic 1's letter states, "One of the best ways for students to check on their learning is to explain it to someone else. Ask your student

about their class experiences, and ask them to explain the content that they are learning while at school in their own words or, if relevant, in their first language."

Savvas Learning Texas Experience Science Grade 1

Indicator 7.4

Materials guide fostering connections between home and school.

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

Meets | Score 2/2

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

Evidence includes but is not limited to:

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

- Materials include information to be shared with students and caregivers about the design of the program. The online resources include a tab for parents under the Getting Started with Texas Experience Science/Navigational Support/ Realize Parent Support. This tab contains the following links: Relaize Parent Letter, Realize Parent Guide, Realize Learner Tips for Parents, and Realize Parents Corner.
- The materials provide a grade-level parent letter to be shared with students and caregivers about the design of the program. It describes the topics in the program and how the materials use phenomena and the 5E model to support learning.
- The online resources include a one-page School-to-Home Letter to send home at the beginning of the course. The letter gives parents suggestions for supporting student learning in science, such as, "Look through recently completed assignments and be sure to ask lots of questions. One of the best ways for students to check on their learning is to explain it to someone else," and "Ask about homework assignments and be sure that your student has completed them." The letter also lists the topics covered.
- The Topic 2 letter informs parents the topic is *Heat causes change*, and students will engage in the experiences *Heat, Reversible Changes,* and *Irreversible Changes*. The letter lists the main TEKS covered in this topic. The letter explains to parents how the topic begins with an Anchoring Phenomenon Video, and students will use information gained in the experiences to explain the question posed in the video, "What do you need to make a bear-shaped crayon?"
- The materials provide a one-page School-to-Home Communication Guide with suggestions for sharing the program design with students and parents. The materials offer a suggestion, "Use the information provided in the "Engage in Dynamic Experiences," in the Teacher's Guide, as

well as the Scope and Sequence, the Topic Planner, and the Experience-At-A-Glance to explain to students and caregivers the design of the program at the beginning of the year."

- Each topic includes a School-to-Home Letter describing the topic's experiences, the TEKS addressed, and the main SEPs and recurring themes and concepts. The letter provides information about the topic and suggestions for how caregivers can help reinforce students' learning and development as well as keep students engaged in learning at home. Topic 5 includes information about Earth Materials. Students learn about materials found on Earth, specifically rock, soil, and water. Topic 6's letter describes the three experiences: living and nonliving things, environments, and food chains.
- In the Getting Started with Texas Experience Science portion of the materials, under Navigational Support, the Realize Parent Support page provides students and caregivers a Realize Parent Letter, Realize Parent Guide, Realize Learner Tips for Parents, and Realize Parents Corner. The Parent Letter briefly describes the online program, a getting started section, and a troubleshooting checklist that includes the technical system requirements. The letter also has a place for the student's name, username, and password on the online platform.

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

- The online resources include a one-page School-to-Home Letter to send home at the beginning of the course. The letter gives parents suggestions for supporting student learning in science, such as, "Look through recently completed assignments and be sure to ask lots of questions. One of the best ways for students to check on their learning is to explain it to someone else," and, "Ask about homework assignments and be sure that your student has completed them." The letter also suggests parents encourage computer literacy and help students collect materials and information for school activities. The materials include the letter in English.
- Topic 2 includes a sidebar that directs the teacher to encourage students to work with a family member to identify heat sources at home. The students list or draw the heat sources in their notebooks and share them with the class.
- Materials suggest parents/caregivers, "Look through recently completed content and be sure to ask lots of questions. Encourage students to explain what they have learned in their own words or their first language. Ask about homework assignments and check that your student has completed them. Help your student collect materials and information for school activities. Advise your student to use computers, tablets, or other devices in school or at the library. If you have a home computer, help your student do research online."
- Each topic includes a School-to-Home Letter that describes each topic and suggests that parents "check on their learning." Topic 6's letter states, "One of the best ways for students to check on their learning is to explain it to someone else. Ask your student about their class experiences, and ask them to explain the content that they are learning while at school in their own words or, if relevant, in their first language."
- Topic 5 includes information about Earth Material, where students learn about materials found on Earth, specifically rock, soil, and water. It informs the parent that one of the best ways for them to check their student's learning is to explain it to someone else. It recommends caregivers ask students about their class experiences and describe the content they are learning at school in their own words or, if relevant, in their first language.
- The Topic 5 Home Connection activity is to Identify Natural Materials at Home. Students create a T-chart as they work with others at home to identify some examples of natural resources in or near their homes. Students draw it and label it and share it with the class.

- The materials include a School-to-Home Letter that provides information and suggestions to parents and caregivers to help students "gain proficiency in science." The letter offers tips such as: "Look through recently completed content and be sure to ask lots of questions. One of the best ways for students to check on their learning is to explain it to someone else; Ask about homework assignments and check that your student has completed them; Help your student collect materials and information for school activities; Encourage computer literacy. Advise your student to use computers, tablets, or other devices in school or at the library. If you have a home computer, help your student learn to do research online." The letter concludes by listing the topics students will study in physical, earth, and life science this year.

Materials include information to guide teacher communications with caregivers.

- The materials include a one-page School-to-Home Communication Guide with suggested strategies for communication with caregivers. Suggested strategies include sending home letters listing the topics covered and general ways to support learners and letters at the beginning of each topic with an overview of what students should learn. The guide suggests the teacher use the Home, Community, and Texas Connections sidebars to engage caregivers and the community to help students connect to the content.
- Materials suggest teachers "Invite caregivers to stay involved in their student's learning. Make sure that they know you welcome their input and contributions, and that they know how to reach you."
- The materials include a School-to-Home Communications Guide that contains information to guide teacher communications with caregivers. It trains teachers to use the Grade and Topic School-to-Home letters and the topics *Home Connections*, *Take it Local*, *Collaborate with the Community* features in the Teacher's Guide.
- Materials include a one-page School-to-Home Communication Guide that provides a guide for teachers' communication with caregivers. It gives six strategies for teachers to use. One is to share the Grade School-to-Home Letter provided for every topic, including the importance of phenomenon-based 5E science instruction. Another one is to invite caregivers to stay involved in their student's learning by providing opportunities for them to talk about what they learn at school.
- Materials contain information to guide teacher communication with caregivers. The Teacher's Guide includes a Take It Local section that directs teacher communication. For example, Topic 5, Experience 1, consists of the activity Invite an Expert. Teachers invite a botanist, garden specialist, or nursery owner to talk to students about soil types. The teacher encourages students to ask questions and to share their experiences with soil.
- The materials provide several letters explaining the program and giving caregivers advice and instructions. One letter in the Realize Parent Support section focuses on support for the online platform. Another letter is located in the Additional Program Resources and provides parents with the topics their student will study and some tips on how to assist and support student learning.

Savvas Learning Texas Experience Science Grade 1

Indicator 8.1

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

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

Meets| Score 2/2

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

Materials include a TEKS-aligned scope and sequence outlining the order in which knowledge and skills are taught in the course materials. Materials provide clear teacher guidance for facilitating student-made connections across core concepts, scientific and engineering practices, and recurring themes and concepts. Materials provide teachers with tools to revisit process skills, not content knowledge. Knowledge is introduced and taught; however, no evidence of spiraling was found.

Evidence includes but is not limited to:

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

- *Teacher Supports* contain a K-5 TEKS-aligned scope and sequence outlining the order and pacing in which knowledge and skills are taught and built in the course materials. The scope and sequence provide an overview of TEKS taught within and across grade levels in the program. For example, the grade 1 Teacher's Guide includes a TEKS-aligned scope and sequence that details the kindergarten units and illustrates the vertical alignment from kindergarten to grade 5.
- Materials include a one-page, TEKS-aligned scope and sequence table. The table outlines the sequence providing the order in which TEKS are taught and built in the course. For example, the materials provide a programmatic scope and sequence or instructional map for K-2 showing the vertical alignment of the essential knowledge and skills taught in the program throughout the school year.
- Grade 1 materials include a cohesive scope and sequence that shows how science knowledge and skills are addressed over the course of the entire year. For example, at the beginning of each topic, materials list the TEKS and objectives that are covered. For example, in Topic 5, *Earth Materials*, it states, "How does this topic connect to what students learned earlier?" and lists two kindergarten standards, K. 10A, and K. 11A. It then states, "Throughout this topic, students connect to big ideas." It lists 1.10A, 1.10B, and 1.11C, as well as eight vocabulary words. Then it looks ahead to three second-grade standards.
- Each topic included in the course materials also includes an overview section that includes a TEKS progression.

Savvas Learning Texas Experience Science Grade 1

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

- Materials provide a SEPS & Themes Preview to provide clear teacher guidance and information to help students make connections between core concepts, SEPs, and recurring themes and concepts. The preview describes using the SEPs & Recurring Themes and Concepts Presentation to facilitate student-made connections. In grade 1, the guide details how teachers use slides 2-6 from the presentation to help students explore the processes of investigating and designing solutions.
- Lesson materials include embedded sidebars to guide the teachers in facilitating student-made connections in SEPs. For example, in Topic 2, Experience 2, a sidebar guides the teacher to facilitate the connection of the cause and effect relationship of heat in everyday life.
- Materials provide clear teacher guidance for facilitating student-made connections. Each grade level includes SEPs and Themes Preview Presentation: SEPs & Recurring Themes and Concepts. The presentation is divided into five key ideas corresponding to Texas Essential Knowledge and Skills for Science 1–5. These key ideas include Investigate or Design, Use Models, Share Ideas, Scientists' Help, and Themes and Concepts. It also includes activities that can be used to introduce students to SEPs as well as Recurring Themes and Concepts in science.
- For example, in 1st grade, teachers assign the “How can you make a car move farther?” activity to students. This activity asks students to build a ramp and use tools to build, investigate, explain, and predict. In addition, the 1st-grade teachers assign the “The Parts of a Plant” activity to students. In this activity, students learn about a plant by identifying, explaining, discussing, and sequencing.

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

- Materials provide a topic overview at the beginning of each topic showing the scientific and engineering TEKS present in the lessons. An example, Topic 3 lists several SEPs TEKS along with recurring themes and concepts TEKS present in the lessons in this topic.
- For every topic in the Teacher's Guide, an explicit explanation of previously learned content is reviewed and spiraled into the current topic. In Topic 1, *Objects,* students will use what they learned in Topic 1 about objects and the properties of matter (TEKS 1.6A) to inform what they are learning about pushes and pulls on objects in Topic 3. For example, in grade 1, Topic 3, Forces and Motion, the Spiraling Activity will include review and practice for Topic 1 (*Objects*) and Topic 2 (*Forces and Motion*). Similar information will be in every topic overview in the Teacher's Guide. In the Topic Wrap-up for every topic in the Teacher's Guide, we have added A Spiraling Content section which will prompt teachers to use the topic Spiraling Activity. For example, in grade 1, the Topic 1 and Topic 2 Wrap-up will include the Spiraling Content section.
- Each topic has a Topic Wrap-up that includes a test and a short constructed response quiz for students to show mastery. Each Topic includes two Experiences with opportunities to support the review and practice through an evaluation tool.
- Materials include station activities to review content that aligns with the topic. For example, Topic 2, *Heat Causes Change*, includes the "Can You Change It Back" station activity to review irreversible changes; however, it is not a spiral review of skills.

Savvas Learning Texas Experience Science Grade 1

Indicator 8.2

Materials include classroom implementation support for teachers and administrators.

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

Meets | Score 2/2

The materials meet the criteria for the 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 include guidance for safety practices, including the grade-appropriate use of safety equipment during investigations.

Evidence includes but is not limited to:

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

- The materials include SEPs and Themes previewed in the Teacher's Guide that gives the teachers guidance on how to utilize the materials to support TEKS 1-5 which are integrated and ongoing throughout the remaining units. A teacher-provided preview includes information on using slides and implementing activities.
- Teachers can access a digital user guide to support teachers in understanding how to use the digital components features, such as the teacher home page, program dashboard, My Library, Digital books, interactive PDFs, assignments and scoring, and the student home page. The digital user guide includes QR codes with links to videos to assist the teacher in understanding how to navigate the digital resources. For example, one QR code is linked to a video detailing how to navigate the teacher home page, which is the starting point for accessing all other features.
- The grade 1 Teacher’s Guide includes several supports to assist the teacher in understanding how to use the materials. The Teacher’s Guide provides information at the beginning of each unit to assist teachers in knowing which components of the materials to use within the unit and how to use them. Sidebars featured throughout the Teacher’s Guide assist the teacher with

items, such as images of which station card to use, addressing misconceptions, vocabulary support, and mastering SEPs.

- The Teacher's Guide includes a Course Planner and Pacing Guide that provides a broad overview of the seven topics included in the materials to support teachers in understanding how to use all materials and resources as intended. For example, the materials have a Getting Started with Texas Experience Science K guide to support teachers. It includes a Program Overview, Teacher Support, Correlations, and Research. The grade 1 planner lists the anchoring phenomena, experiences, and suggested number of days.
- Teacher guidance materials include a planner which provides teacher background, common misconceptions, TEKS information, as well as home and literacy connections. It also lists all necessary components for the topic and suggested time periods. For example, in Topic 2, *Heat*, there are three experiences. Materials provide a sequential plan using the 5E method. For example, in Experience 3, *Properties of Irreversible Changes*, the Engage section is an Everyday Phenomenon Photo. The Explore section is a hands-on station and literacy station. The Explain/Elaborate section includes a key ideas presentation and a key ideas video to embed technology to support and enhance students' learning of science concepts.

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

- Materials include TEKS and ELPS correlations in the planning resources detailing where to find them in the teacher guide. Teachers can access a topic overview showing TEKS progression explaining the standards being taught within the unit and vertical alignment from kindergarten to second grade. Also present in the topic overview is a list of the SEPs of TEKS, the recurring themes, and concepts of TEKS, ELPS, and cross-content standards. For example, Topic 3, *Force and Motion*, lists the math standards 1.7A and 1.7C. It also lists the ELAR standards 1.3D, 1.6E, 1.6H, and 1.7E.
- Topic overviews include a section titled "Math and English Language Arts and Reading TEKS" to illustrate standard correlations, including topic overviews include a *Connect to Literacy* section in the sidebar that lists recommended topic readers and trade books. Materials also include an activity that accompanies the topic readers for each topic. For example, in Topic 5, *Earth Materials*, the three topic readers are: *Earth's Surface* by Marian Llanos, *Modeling Earth's Surface* by Keegan Fong, and *How Is Glass Made?* by Laurie Thomas. Materials provide suggestions for trade books. For example, *Beavers: Radical Rodents and Ecosystem Engineers* by Francis Backhouse, *Hello, Earth!: Poems to Our Planet* by Joyce Sidman, and *What a Waste: Trash, Recycling, and Protecting Our Planet* by Jess French.
- Teachers access science standards correlations for topics within the context of the grade level under each Topic: Objects. For example, each topic includes which knowledge and skill are included in the topic. For example, each topic shows alignment to the TEKS and includes a Topic Launch, Experience 1, Experience 2, Topic Wrap-up, and Readers for teachers to support and enhance students' learning of science concepts.

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

- Materials include a comprehensive list of all equipment and supplies needed to support instructional activities. The supplies needed for each station experience are on the station cards with labeled pictures. Teachers can view a Master Materials List for grades K - 5 in the digital

materials under the program resources. The teacher can either click on the program resources tab and scroll to find the link to the Master Materials List or use the search feature to find the material list.

- Materials include an Excel file that lists each activity, the consumable and non-consumable materials needed, and whether materials are school supplied or the Classroom Materials Kit, the Consumable Refill Kit, or the Safety Kit K-5 supplies those materials. In Topic 1, Experience 3, the hands-on station is “What makes ice change?” The file shows that the Classroom Materials Kit and the Consumable Refill kit supply the plastic bag and cup. The Classroom Materials Kit supplies the thermometer, the Safety Kit K-5 supplies the safety goggles, and the school supplies water and ice cubes. For example, the Topic 5 activity “How does the water change?” lists the materials needed: a clear jar, a jar lid, water, a spoon, and a sample of soil.
- Each experience card includes a "What You Need" section that lists the materials for that activity. Topic 6, *Living Things and Environments*, Experience 2, “How do plants depend on nonliving things?” lists the materials: gravel, plants, a 2-liter bottle, water, soil, and the hands-on station activity.

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

- Materials include a Student Activity Companion, which provides a section on laboratory safety. Sections included are Laboratory Safety Rules, a safety contract, and sections on preventative and emergency safety equipment. Sections on safe practices and appropriate use of resources are also included. These are included in a consumable student activity book and are written as if the student would be reading the information, but it is not in the grade-appropriate text.
- Materials provide teacher guidance for safety practices and grade-appropriate use of safety equipment during investigations in accordance with Texas Education Agency Science Safety Standards. Materials provide a student book which includes 47 lab safety rules and a contract for students to sign. A student-friendly contract includes a picture of a caution sign when referencing possibly dangerous materials used during the lab. For example, a station card in the unit on Earth materials warns students to wear gloves and wash their hands after touching soil. Another card in the *Living Things and Environments* unit warns students to be careful when using scissors.
- Teachers can reference experience cards that include safety reminders when necessary. Topic 6, *Living Things and Environments*, Experience 1, “How can you tell something is living?” states, "Do not touch plants or animals." For example, materials include a Hands-On Activity Safety Guide to support teachers and students. Materials include safety practices during Experiences. For example, the Topic 1, Experience 1, hands-on station asks the teacher to remind students to stack blocks with care so they do not fall over. Students follow the safety practices during an investigation as outlined in the TEA-approved safety standards.

Savvas Learning Texas Experience Science Grade 1

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 developmental progression. Materials designated for the course are flexible and can be completed within 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.

- In the Teacher's Guide, teachers can reference a year-long Course Planner and Pacing Guide. The Pacing Guide gives the teacher two options for pacing under each topic. Materials provide a fast-track method designated by a check mark by the activities for those with limited time available to teach science. Teachers can view activities designated with a plus sign to personalize student learning. The Pacing Guide lists how many days are needed for each topic depending on whether the teacher uses the fast track or the personalized track. The Pacing Guide further breaks down how many days are needed to launch the topic, participate in the lab experiences, and wrap up each unit.
- Each unit includes a topic planner which breaks down the time needed for each component of the lesson. Teachers can access a 5E lesson plan, including the optional personalized student-centered options. The planner then breaks down the components in a 5E lesson into the number of minutes needed for each part of the 5E lesson, including the amount of time needed for the activities For example, the Topic Planner details the pacing summary details for each part of the lesson by day and minute. Topic 3, *Force and Motion*, Experiences 1 and 2, last 5 days each or 150 minutes of instructional time.
- The materials include support for specific scheduling considerations, with guidance for covering required science content for the grade level within a variety of schedules. The Teacher's Guide contains a Course Planner and Pacing Guide, which provides scheduling considerations for adjusting the required time for experiences and activities. Materials provide flexibility to focus on core assets that cover the TEKS by taking the fast track or pulling in additional resources to create a more robust experience when there is additional time.
- Materials guide strategic implementation without disrupting the sequence of content that must be taught in a specific order following a developmental progression.

Savvas Learning Texas Experience Science Grade 1

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

- Grade 2 materials provide guidance for strategic implementation that ensures the sequence of content taught in an order consistent with the developmental progression of science. Teachers are provided a planner which states the sequence of the 5E lesson providing instruction following the specific order of engage, explore, explain/elaborate, and evaluate. These various experiences repeat this same cycle to follow the developmental progression of TEKS to ensure that students are supported with instructions that are organized to optimize their learning.
- In Topic 2, Experience 1, the Engage section is an Everyday Phenomenon Photo, the Explore section is stations, the Explain/Elaborate section includes a key ideas presentation, a key ideas video, and the Legends of Learning game, and the Evaluate section is an exit ticket.
- In Topic 1, *Objects*, the students explore changes to materials as they explore what is happening to a glacier. This leads to a natural progression to the following unit, *Heat Causes Change*. These units help support unit 4 with the anchoring phenomenon, "Is Houston or Minneapolis a better place to build a snowman?"
- Materials clearly delineate the order of units to ensure students learn about precursor concepts first. Students first learn to describe and classify physical properties of objects in Topic 1 before observing properties in subsequent units, as noted in the Course Planner and Pacing Guide.

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

- In grade 1, teachers can access seven topics with activities for a full year of instruction. The scope and sequence indicate a majority of the lessons support the development of the TEKS, SEPs, and recurring themes and ideas among all areas of the grade level. The Pacing Guide lists options from 67 to 161 days, depending on which option is chosen. Teachers wanting to get through the material more quickly would be able to teach the components under the fast-track pacing option in 67 days. The personalized student learning option in the Pacing Guide indicates the program would be 161 days. This would not include additional days for differentiating learning to provide extra support to struggling learners, connecting to literacy with trade book suggestions, or additional time spent on other activities, such as related phenomena.
- Materials provide flexible options and guidance for adjusting to time and scheduling constraints to cover the content throughout the course of a school year. Teacher guidance materials include two models for four days of weekly instruction and one three-day streamlined option. The five-day track is considered full instruction with a 5E lesson format and a separate day for each of the following components: Engage, Explore, Explain, Elaborate, and Evaluate. The four-day track combines the Engage and Explore components on day 1. A fast-track plan, noted by a green check mark, removes the Elaborate portion when time is limited so that the lessons can be completed in three days. "Got More Time?," designated by a blue check mark, provides activities that can be used to personalize students' learning when additional time is allowed.

Savvas Learning Texas Experience Science Grade 1

Indicator 9.1

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

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

Not Scored

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

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

Evidence includes but is not limited to:

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

- Materials include an appropriate amount of white space and a design that supports and does not distract from student learning. The visual design of the materials is clear and easy to understand. Digital and print student materials include an appropriate amount of white space and overall design that does not distract from learning.
- The Teacher's Guide and digital platform are designed with clear, designated places for important information. The Teacher's Guide is designed in a way that teachers can locate important information easily for planning and implementation. The guide includes titles and headings that are prominent and clear, along with photos of included materials for the lesson. The digital platform may be accessed by topic, standard, or by category.
- Student materials are appropriately designed to support student learning. Student materials include the following: titles and headings are prominent and clear, sections are marked with subheadings, pages in the student book have "cut lines" so students can add work pages to a journal, and the content is organized in a logical progression.
- The Literacy Station Cards in every Experience include optimal grade-appropriate font size, text, and colors for ease of reading for all students. Station cards can be utilized by students online or in a printed version. All station cards have a prominent, clear title, a photo of the activity in hands-on stations or related to the text for literacy stations, and a box labeled, "What You Need," with black-line illustrations and labels. The left edge of each station card is color-coded green for literacy stations and purple for hands-on stations. The station directions on the lower half of each card include large numerals indicating each of the 2-3 steps for the station and text at a beginning reader level in a large, easy-to-read font.
- The literacy station Read About It texts and Topic readers available in print and online have an overall design that does not distract from learning. The texts feature vocabulary-based titles in a

large font with a photo correlated to the topic. Pages within the readers feature large photos and one or two simple sentences. The font size, spacing, and white space around the text make the content easy to read. Sidebars and labels, used sparingly so they do not distract from the text, are simple and in an easy-to-read large font.

- The Topic 1, *Objects*, student Read About It Text: *Building with Parts* features ample white space and uses a large font for vocabulary-based titles and subheadings. The text includes short sentences and ample white space between sentences. The vocabulary word system is highlighted in yellow and appears within the sentence along with its definitions.
- Topic 5, *Soil*, Literacy Card for Experience 3, *Movement of Earth Materials*, "How does water move rocks and soil?" uses large colored types for the headings and the steps to help students follow the steps to do the activity. Instructions are written in single short sentences, use pictures, and include ample white space between the lines to help struggling readers. For example, Step 1, Read and Think about what you read; Step 2, Draw and Show how water moves rocks and soil; Step 3, Describe and Write about your drawing.
- Topic 5, *Soil*, includes Read About it Text: *Soil* features an appropriate amount of white space and uses titles and subheadings. The text includes short sentences and ample white space between sentences. The vocabulary words soil and particles are highlighted in yellow when used in a sentence.
- The Topic Cards feature ample white space and use large colored font for the headings and the steps. Topic 6, *Living Things and Environments*, Experience 3, *Food Chains*, Hands-On Station includes the title "How can you model a food chain?" in a large, bolded font at the top, The required materials are in a box labeled "What You Need" and include illustrations of each item. Instructions are given using single short sentences, such as, "Look at the parts of the food chain," with ample white space between the lines of type.
- The literacy station cards are organized with a clear title on the top and a picture that supports the title. To the right of the picture is a "What You Need" box that provides pictures and words describing what the students need to complete the station. The bottom half of the card is labeled with large numerals, and the print is in a large, easy-to-read font. The amount of white space is optimal and does not distract from student learning.

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

- The materials include age-appropriate pictures and graphics that support learning and engagement. Hands-on station cards include a photo of children performing the activity and a box beside it labeled, "What You Need," with black-line, labeled drawings of all materials needed. Literacy station cards have the same design, but the photo is an age-appropriate photo related to the topic. A hands-on station card in Topic 3, *Force and Motion*, Experience 2, *Speed and Direction*, features a photo of children building a ramp with a ball next to it. The box next to the photo contains labeled drawings of a ramp, blocks, balls, and Station Activity Paper. The literacy station card included in the same experience includes a photo of a child on a tire swing with another child pulling on the tire. The box beside the photo contains a drawing of a book labeled, "Read About It" and a paper labeled, "Literacy Station Activity."
- The Key Ideas PowerPoint presentations use age-appropriate photos and graphics that support student learning and engagement. Topic 2, *Heat Causes Change*, Experience 1, *Heat*, includes a PowerPoint featuring a photo of two melting ice cream cones on the first slide. Additional slides show photos of a family roasting marshmallows around a campfire, an adult taking something out of the oven as children watch, and a toy truck on dirt for students to identify which are

sources of heat. The final slide is an exit ticket showing simple color drawings of a beach scene for students to use in a discussion about sources of heat.

- The Station Cards feature photos that illustrate the content they read about and saw pictured earlier in the lesson as well as diverse representations of students engaged in the hands-on activity that they will be doing in class. Topic 1, *Objects*, Experience 1, *Building With Parts*, Station card: “What can you build?” shows a photo of a boy and two girls completing the building activity. The card includes simple black-and-white line art illustrations and captions of the materials needed to do the activity, which are blocks, the Hands-On Station Activity, and crayons.
- The Topic 6, *Living Things and Environments*, student Read About It Text: *Food Chains* features age-appropriate photos and graphics that support student learning and engagement without being visually distracting. The reader includes photos of a food chain with a sun, grass, mouse, and bird. The food chain includes the caption, ”Food chains start with the sun.”
- Materials embed age-appropriate pictures and graphics that support students learning and engagement without being visually distracting. For example, the Read About it: *Soil* in Topic 5, *Soil*, includes six different photos to represent differences between soils. It also includes simple graphics and a magnified photo that clearly shows animals that live in soil.
- The Hands-on Station Card on each Experience includes age-appropriate pictures and graphics that support students' learning. Topic 5, *Soil*, Experience 1, *Soil*, Hands-on Station Card features a photo of an adult male and a girl using a handheld magnifying glass. The visual reinforces what is being taught. Materials needed for the activity are represented by simple art illustrations. Graphics and color are used to help students and provide clear navigation and tracking through the activity.
- The materials include Read About It readers with clear and authentic images and graphics to support the new vocabulary students are learning. Vocabulary words within the text are highlighted yellow and serve as captions of the pictures. For example, in the Weather reader, the word *weather* is highlighted in the text, "Weather is what it is like outside. You can observe the weather. You can see clouds." Also on the page is a picture of a boy laying in the grass looking up at the clouds and blue sky.
- The Key Ideas Presentation contains slides with the important concepts within a topic. Each slide has a corresponding photo, graph, or picture that supports the content of the slide. For example, in the Weather Key Idea Presentation, the Make Meaning slide asks, "What is the weather in this picture?" The slide presents a sentence stem, "The weather is..." To the right of the question and sentence stem, there is a picture of a row of palm trees blowing in the wind and rain.
- When creating classes on the online platform, the teacher can choose between the Default Theme and the Early Learning Theme. Both are appropriate for students and provide a clear and useful platform to find content and tools. The Early Learning Theme is a simpler platform that is age appropriate for K-2 learners. Instead of having three tabs at the top to Browse, toggle between Classes, and see Grades. The Early Learning Platform has two color-coded tabs, one for My Work and one to Explore. The Assignments for the Early Learning Theme are listed as the main listings on the page, with a large Get Started button for each assignment. To the left of the screen, there are tabs for Assignment, eTexts, and Tools. Each of these tabs is labeled with an accompanying symbol, for example, the eTexts has a book icon to identify it.

Savvas Learning Texas Experience Science Grade 1

Materials include digital components that are free of technical errors.

- The materials include digital components that are free of spelling, grammar, and punctuation errors. The Short Constructed Response Test in Topic 3, *Force and Motion*, contains a question that shows an illustration of a soccer ball headed toward a goalie. The text reads, "Mateo is playing goalie in a soccer game. The ball comes toward him. What can Mateo do to stop the ball? The question is free of spelling, grammar, and punctuation errors."
- The student activity pages are free of spelling, grammar, and punctuation errors. The pages may be assigned and utilized online or printed. The pages are free of inaccurate content materials or information. A sample page from Topic 2, *Heat Causes Change*, Experience 2, *Reversible Changes*, includes the heading, "How can some changes be reversed?" Student directions include, "Draw how you can change an object using heat." A large box provides ample space for the drawing. Additional directions provided are, "Tell how to reverse the change."
- For example, in Topic 4, *Weather and Seasons*: Wrap Up, all documents and links are free from spelling and grammar errors. The Hip Hop Science Song, “Weather,” included in the topic wrap-up, displays the lyrics on the screen as the song plays, and is free of spelling and grammar errors, as shown in the chorus of the song, “What’s the weather? What’s the forecast today? Is it sunny? Is it clear? Can I go out and play? Or is it rainy? Grab my boots and umbrella. And if it’s really cold, I’ll be sure to grab a sweater.”
- Topic 5, *Soil*, Read About It: *Soil* is free of spelling errors and includes no grammar concerns. It uses simple sentences starting with a capital letter and ending with a period, for example, Topsoil is dark and feels wet.
- In Topic 4, *Weather and Seasons*, Experience 2, *Seasons*, the Literacy Station Activity, "How do seasons change?" provide directions and questions to students that are error-free and accurate. The activity sheet is numbered according to the steps students are to take, and the main verb in the instructions is bolded. For example, the first step is "Predict Which season comes next?" Predict is bolded. The second step is "Sequence Color and label each season." "Sequence" is bolded. The students are given a black-and-white drawing of each of the four seasons. The pictures accurately show the patterns of each season, such as a clear day with a kite flying, a sunny day at a waterpark, a snowman being built in the snow, and leaves falling off a tree.
- The materials are free of inaccurate information and wrong answers. In Topic 1, *Objects*, Experience 3, *Changes to Materials*, Key Ideas Presentation: Changes to Materials, the content is accurate, and the answer key for the question, “What happened to the cheese?” is correct. The key suggests, “The cheese changed because heat changed it. The heat made the cheese melt and become soft. Heat changed the color of the bread.” The answers to the Topic 4, *Weather and Seasons*, Test are correct and correctly computed within the online system. In Topic 5, *Soil*, the Topic test includes the correct answers to all questions. On question two, students look at three pictures that show the grain sizes of three different soils, then they answer the question, Which soil has the smallest grain? The answer is B Clay, and it is accurate and correct. The online Topic 6, *Living Things and Environments*, Test is free of inaccurate information and wrong answers. When selecting correct answer choices, such as “Heat from the sun will melt the ice,” the answers are counted correctly.

Savvas Learning Texas Experience Science Grade 1

Indicator 9.2

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

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

Not Scored

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

Materials integrate digital technology and tools that support student learning and engagement. Materials integrate digital technology in ways that support student engagement with the 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.

- The online platform includes Key Ideas videos that can be utilized in a whole group setting or assigned to individual students, small groups, or the class to be viewed online. While viewing the video, the students can change the volume, turn closed captioning on or off, control the speed of the video, and change the video to full screen.
- Digital technology and tools enhance student learning through the features in online videos. The video player allows students to control when to play or pause the video, control the volume, turn on closed captions, increase to full screen, and control the speed of the video.
- The Hip Hop Science Song: “Matter” in Topic 1, Objects, enhances student learning and engagement. The song reviews content and vocabulary through a song with lyrics embedded in the video.
- The materials include Key Ideas PowerPoint presentations designed to be projected on a screen for each experience. Topic 2, Heat Causes Change, Experience 2, Reversible Changes, includes a slide presentation to review the key ideas in a group discussion as the slides are projected on a screen. The presentation includes slides that prompt students to discuss their observations from their explorations and slides that prompt them to apply their learning. Slides review key vocabulary and an exit ticket to assess learning. A slide reviewing their explorations includes a picture of coconuts, question prompts, "How did heat change the coconut oil? How was the

change undone?" and sentence frames, "Heat changes the coconut oil...." and, "The change was undone when..."

- In Topic 4, Weather and Seasons Wrap Up, the materials provide a Hip Hop Science Song: “Weather.” This digital tool is a song video that "helps students reinforce their understanding of weather." It can be assigned to students individually or shown to a whole class. The song is a rap and engages students in thinking about the weather and the decisions that are made because of the weather. The first stanza of the song is: "What’s the weather? What’s the forecast today? Is it sunny? Is it clear? Can I go out and play? Or is it rainy? Grab my boots and umbrella. And if it’s really cold, I’ll be sure to grab a sweater."
- In Topic 4, Weather and Seasons, Experience 1, Weather, the materials provide a Key Ideas Presentation that is "designed for front-of-classroom instruction to explain and review the content of Weather" and a Key Ideas Video to "support and enhance student understanding of the key ideas" of the experience.
- Materials feature Legends of Learning, an educational game that brings curriculum-aligned science games to engage students in assessing their science knowledge and support with vocabulary comprehension. These games enhance hybrid, blended, and distance learning environments. In Topic 5, Earth Materials, Experience 2, Water, students play the World of Resources game. Students play the game in pairs or in groups to learn more about the properties of different bodies of water and how they change the Earth's surface.
- Features included are learning games, interactives, and online assessments. Each topic includes an option for the teacher to administer the topic test online or on paper. Topic 5, Earth Materials, Experience 2, Water, includes a "Legends of Learning Game: The Roles of Water in Earth's Surface Processes. This game lets students learn about properties of different bodies of water and how they change Earth's surface.

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

- The Topic 1, Objects, Experience 3, Changes to Materials Key Ideas Presentation includes an interactive slide show about the topic content. The teacher presents the slides with embedded questioning that supports scientific thinking with the topic content. Questions include, “How does heating change materials?” and “How does cooling change materials?”
- The materials provide topic readers covering grade-level content that can be assigned to students in the online platform to be viewed digitally. Topic 2, Heat Causes Change, includes the topic readers: Energy in Our World, Energy Around Us, and How Heat Changes Food. The readers contain engaging photos that correlate with the print. When accessed online, the reader can read the text by scrolling down.
- The materials provide a Science and Engineering Practices (SEPs) and Themes Preview PowerPoint presentation designed to be projected on a screen to explain and review the scientific and engineering practices and themes of the TEKS. The presentation covers the key ideas Investigate or Design, Analyze Data and Use Models, Share Ideas, Scientists' Help, and Themes and Concepts. The final slide includes a turn and talk prompt, "How will you be a scientist or an engineer today?" as an exit ticket.
- Digital technology is utilized to support student engagement. At the beginning of each topic, there is an Anchoring Phenomenon Video that introduces students to the question that will recur throughout the topic and be revisited at the end of the topic. For example, Topic 4, Weather and Seasons, begins with the Anchoring Phenomenon Video: “Is Houston or Minneapolis a better place to build a snowman?” The video introduces and engages students in

the idea of needing to know more about the weather and seasons so you can make decisions such as “What is the relationship between weather patterns and location?”

- The integration of digital technology is used to support student engagement with grade-level content. In Topic 4, Seasons and Weather, Experience 1, Weather, the materials provide a Key Ideas Presentation that is "designed for front-of-classroom instruction to explain and review the content of Weather" and a Key Ideas Video to "support and enhance student understanding of the key ideas" of the experience.
- Materials include Key Ideas Presentations with embedded classroom activities that integrate digital technology that supports student engagement with science and engineering practices. Teachers use them after completing the stations in the Explore phase of the experiences. Topic 7, Animals, Experience 1, Animal Structures, includes a Key Idea Presentation that includes an activity where students compare a structure that helps animals move to a picture of an animal. Teachers use it to check for students' sense-making and understanding of the concept taught. Students can interact with the presentation by participating in a class discussion.
- Materials include videos and songs to reinforce science and engineering concepts taught in topics. Topic 7, Animals, includes a video and song on “Animals.” The video includes animation and lyrics for students to follow.

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

- The online materials provide the opportunity for teachers to create discussion prompts to assign to students to respond to on the online platform. Students and teachers can link files up to 10 MB in their comments. Supported file types include .doc, .docx, .ppt, .pptx, .jpg, .png, .mp3, .mp4, or .pdf. "Teachers can create, monitor, moderate, and reply to comments from students in these discussions." There is no speech-to-text, an option to make a recorded response or to respond by a drawing to make this accessible for young students that are typically in the beginning stages of writing at this age.
- The teacher can assign PDF activities included with the materials or a teacher-created PDF uploaded to My Library. The students receive their copy which they can interact with utilizing the PDF toolbar features. The student can "add text, highlights, notes, and use various formatting options and other tools to complete the assignment." The teacher is able to view the assignment while it is in progress or after it is completed and use the toolbar to "add text, highlights, notes, and use various formatting options to provide feedback."
- The materials provide a discussion forum for teachers to post class discussion topics. Students can collaborate via an online discussion.
- Topic 1, Objects, Experience 3, Changes to Materials, contains a Key Ideas Video that provides an opportunity for students and teachers to collaborate. Students watch a video of examples and explanations of how materials can be changed by heating and cooling. The Teacher's Guide directs the teacher to facilitate a classroom discussion about the content.
- Topic 5, Earth Materials, includes an Anchoring Phenomenon Video, "Why do beavers need to collect rocks, soil, and parts of trees?" that students watch at the beginning of the topic. Throughout the topic, students gain knowledge that helps them explain how beavers use natural resources. The teacher leads a class discussion by asking questions and accepts all student's ideas.
- Materials include Key Ideas Presentations for teachers to use after completing the stations in the Explore phase of the experiences and include embedded classroom activities and notes for teachers to use. Topic 7, Animals, Experience 1, Animal Structures, includes a Key Idea

Presentation that includes an activity where students compare a structure that helps animals move to a picture of an animal. Teachers utilize the presentation to check for students' sense-making and understanding of the concept taught. Students can interact with the presentation by participating in a class discussion.

- Within the Getting Started teacher tools, there is a guidance document named Support for Collaborative Tools in Realize. Within this document, there is a description of four collaboration tools within the materials, including Collaboration in Assignments, Discussion Prompts, PDF Toolkit, and Playlists. In the Collaborating in Assignments, the "Teachers can preview assignments in progress and provide comments to help students with their work. Teachers can do the same after grading an assignment and reassign the work so that students can improve their grade." Students can see and respond to their teacher's comments. Discussions between students are supported by online materials. "Discussions on the Savvas Realize Learning Management Systems (LMS) enables the teacher to facilitate class and group discussions on important academic and social topics." Teachers are provided guidance on how to set up these collaborative discussions. The final collaboration tool addressed in this guide is the PDF Toolkit. "When a teacher assigns a PDF activity from a Savvas Realize program (or a PDF the teacher has uploaded to My Library) to a class, each student receives an individual copy of the PDF that enables the student to interact with the assignment. Using the PDF toolbar features, the student can add text, highlights, notes, and use various formatting options and other tools to complete the assignment." Teachers and students can interact and collaborate on the PDF by adding text, highlights, and notes. The last tool mentioned is playlists. Teachers are guided so that they can create a playlist with the program content as well as their content. "Once teachers have a playlist, they can assign content items from a playlist to students, share playlists that contain content with other teachers within their district, and collaborate with students and/or caregivers to create playlists as tasks or a tool to support co-teaching."

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

- The materials are accessible and compatible with Chromebooks, iPads, PCs, and Mac computers. The Realize and Realize Reader operating systems requirements include Windows 10, Chrome OS 90, Mac OS 10.15, iPadOS 14.5.1, iPad OS 13.7, and Android 10. "The Realize and Realize Reader system requirements include the latest versions of Google™ Chrome™, Microsoft Edge®, Mozilla® Firefox®, and Apple® Safari®."
- The materials are accessible through a variety of Learning Management Systems. The materials can be accessed through systems such as Classlink, Oneroster, Aeries, Infinite Campus, Canvas, Google Classroom, Onedrive, PowerSchool, and Schoology. Teachers can assign an assignment in Seesaw, Microsoft Teams, or any other format they can post a link. The link will recognize the student and send them to the digital platform to sign in and complete the assignment.
- The digital learning platform is accessible via desktop and mobile devices through the publisher's website and individual login. The interface is the same on desktop and mobile.
- The System Requirements page of the online platform indicates that the program is compatible with Windows, Chrome, and Mac operating systems.
- Materials integrate digital technology that is the "most versatile LMS on the market" as stated in Digital User Guide.
- In the Realize Integrations Overview, the materials indicate that the online platform will integrate with the learning management systems of Canvas, Google Classroom, and Schoology.
- The online platform supports "deep linking" assignments by teachers. "This means teachers can assign a Realize assignment in their platform of choice (Seesaw, Microsoft Teams, and anywhere

else you can post a link), and when accessed by the students, that link will recognize them and send them to log in and complete the assignment in Realize."

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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.	No
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

Grade 1 Not Scored

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.

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

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.

- Lexile levels in the assessments for grade 1 are not developmentally appropriate.
- The planner in the Teacher's Guide provides the amount of time students access digital materials via screens in each topic. Most materials are available to be printed, reducing the amount of screen time. The components that are accessed digitally only are 30 minutes or less in length each. Topic 2, Heat Causes Change, includes three Key Ideas in PowerPoint Presentations that are projected on a screen and are 20 minutes each. There are four video clips in the 15-day topic. The videos range in length from 30 seconds to 2.75 minutes. The online topic test is 5 minutes long and is available in a printed version.
- The video clips provided in the materials are developmentally appropriate for the grade level. The videos are an appropriate length and include bold, easy-to-read text, with simple explanations. Topic 3 includes an Anchoring Phenomenon video to introduce the topic, Force and Motion. The clip shows a dog running through an obstacle course. The text, "What does the dog need to do in order to change direction?" is in bold print on a purple bar across the video as the topic is presented.
- The topic tests provided as summative assessments are at a reading and writing level that is not typical of a first-grade student. For example, the Topic 4, Weather and Seasons, test question 1, reads "Look at the picture. How would you describe the weather? The temperature is _____."
- The online tests have an icon that reads the directions to the test but does not read the questions or answer choices to the student.
- The Hip Hop Science Songs provided in the materials are developmentally appropriate for the grade level. The videos are an appropriate length of time and include the lyrics as part of the

animation. The Topic 4 Weather song is titled “Weather.” Lyrics include, "I wake up and I look outside Gotta see if it’s rainy or if it’s dry Is the sun out? Or is it covered by clouds? Listen closely, hear the wind moving air around.”

- Digital technology and online components are aligned with the scope and approach to science knowledge and skills progression. The online component provides the standards listed on the top right-hand side of the online site. It indicated the standard number for the Topic or Experience covered according to the scope and sequence with a link to its definition. Topic 5, Earth Materials, Experience 2, Water, covers first-grade standards.
- The online components are developmentally appropriate and align with the science knowledge and skills progression. The Read About It text, Parents and Offspring, for Topic 7 presents text at an appropriate level for Grade 1. The vocabulary utilized is able to be decoded easily by a first grader. The text is repetitive and is supported by visuals. For example, page 4 begins, "This is a polar bear. Polar bears have babies." Page 4 also contains a close-up picture of an adult polar bear. Page 4 reads, "The babies grow," and has a picture of a baby polar bear rolled over on his/her back. The next pages continue this pattern for sea turtles and frogs.
- The online components are developmentally appropriate and align with the science knowledge and skills progression. For example, in Topic 4, Weather and Seasons Wrap Up, the materials provide a Hip Hop Science Song: “Weather.” This digital tool is a song video that can be assigned to students individually or shown to a whole class. The song is a rap and engages students in thinking about the weather and the decisions that must be made because of the weather. The first stanza of the song is: "What’s the weather? What’s the forecast today? Is it sunny? Is it clear? Can I go out and play? Or is it rainy? Grab my boots and umbrella. And if it’s really cold, I’ll be sure to grab a sweater."

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

- The materials provide a user guide for the digital platform. The user guide includes topics such as navigating the digital platform, assigning and assessing content, helpful class tools, managing class assignments, scoring student work, and student experience. The user guide also includes the topics, available integrations, and help and support. The user guide is designed for the Learning Management System utilized for several programs and is not specific to this set of materials.
- The Realize user guide includes QR codes with links to videos to assist the teacher in utilizing the technology included in the digital platform support and enhance student learning. Videos included are Realize and Google Classroom Setup, Getting Started with Realize, Playlist Sharing, Interactive PDFs, Transfer Student Data, and Realize for Parents and Students. The user guide also includes QR codes with links to e-text translation and accessing e-text online but states this is available by program. The user guide is designed for the Learning Management System utilized by several materials and is not specific to this set of materials. The user guide provides illustrated instructions on navigating the software, accessing and assigning content, managing assignments, scoring work, and what the student experience looks like.
- The My Savvas Training platform provides teacher guidance for the use of embedded technology to support and enhance student learning. The self-paced learning modules provide a video tutorial and printable handouts. There are topics to support getting started, assessments and reporting, and Google integration. My SAVVAS training platform is a self-paced learning module that provides a video tutorial and printable handouts for teachers to use during the year. One example of training is Explore Elevate Science K-5: "Learn how to fill out a lesson

planning template one step at a time, see the purpose of phenomena-based learning, and even try a virtual teaching scenario complete with reflection and next steps."

- The Teacher Support section on SAVVAS Realize includes guidance for teachers to use technology. The Navigational Support link includes the link to the Realize User Guide that includes Navigation Realize, Accessing and Assigning Content, Helpful Class Tools, Managing Class Assignments, Scoring Student Work, Student Experience, Available Integrations, and Help and Support Resources.
- Within the Getting Started guidance documents, there is a Digital User Guide to provide teachers guidance on the use of embedded technology. The guide includes content about Navigating Realize, accessing and assigning content, helpful class tools, managing classroom assignments, scoring student work, student experiences, available integrations, and help and support resources.
- The Getting Started Page includes guidance and support for using digital materials, including links to several online training modules. These training modules include the synchronous Virtual Program Activation Training, Additional Technical Support and Training, and mySavvas training on Google Docs/Google Classroom and Realize/Realize Reader.

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

- The materials provide a video titled Realize for Parents and Students. The video assists parents with navigating the dashboard for the digital platform The video shows parents where to access digital textbooks, where to access each of the student's Realize classes, where to find and access assignments, how to help the student find and participate in class discussions, and view grades. The video shows parents where to find additional resources and where to go in settings to change the language they wish to use. The video shows parents where to navigate for additional help with the digital platform and how to sign out of the platform.
- The materials provide a one-page Parent Access Instructions document. The document includes an image of the Realize dashboard with labels and descriptions of the various components found on the dashboard. Information highlighted includes Navigate Anywhere, Student Profile, Find Content, At-a-Glance Info, and Get Help.
- Materials provide a parent letter in English and Spanish with instructions for families on how to log into digital and online components and how to support student engagement with digital technology and online components. The letter includes space for the student’s username and password. It contains instructions on how to get started and troubleshoot errors. The Parent Letter includes a brief explanation of the program, instructions on how to get started, a troubleshooting checklist, and how to get help when needed.
- Materials provide a parent website called Parents Corner to assist caregivers navigate the Realize platform. The website includes pages for the Realize Parent Guide, Realize Help for students and parents, how-to videos for students and parents, and tips for learning at home.
- The Teacher Support section on SAVVAS Realize includes a Realize Parent Support link. This link includes four links as support for parents using Realize. The Realize Parent Guide is for caregivers to support student engagement with digital technology and online components. The guide includes topics such as: Viewing & Accessing Assignments, Completing And Submitting Assignments, Grades & Teacher Feedback, and Browsing Realize & Offline Access.
- In the Getting Started with Texas Experience Science section of the online materials, there is a Realize Parent Support section under Navigational Support. The resource consists of a Realize Parent Letter, Realize Parent Guide, Realize Learner Tips for Parents, and Realize Parents Corner.

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The Parent Letter explains how parents and students can access the program from home. Students are given a username and password to access their assignments at home.

- The Realize Parent User Guide gives parents visual instructions on how they can view and access assignments, complete and submit assignments, see grades and teacher feedback, and browse program content and offline access from home.