EduSmart Science Grade 1

EduSmart 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 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.

EduSmart Science Grade 1

Indicator 2.1

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

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

Meets | Score 4/4

The materials meet the criteria for this indicator. Materials are designed to strategically and systematically integrate scientific and engineering practices, 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.

- In the Scientific and Engineering Practices learning category, there are multiple opportunities for students to practice, develop, and demonstrate mastery of grade-level-appropriate scientific and engineering practices (SEPs) as outlined in the TEKS. For example, the reader Sally Ride includes concepts from TEKS 1.4(B). In this reader, students meet the female astronaut Sally Ride and learn about her contributions to space travel. At the end of this reader, students can demonstrate their mastery of this TEKS through a grade-level-appropriate assessment by answering questions such as, "Which woman astronaut will be the first black woman to work on the space station?"
- Interactivities provide opportunities for students to practice grade-level-appropriate scientific and engineering practices. For example, the interactivity for TEKS 1.12(B)(C), Snap It Up,

provides students the opportunity to observe and record different examples of interdependence among plants and animals in a park, forest, and pond environment. This interactivity aligns with scientific and engineering practice TEKS 1.1(E) and 1.1(F).

- The materials provide multiple opportunities to show mastery of grade-level-appropriate SEPs. During the lesson "How Does Water Make Dirt Move? Student Investigation: Making a Model," students make predictions and draw a picture of their model in the box provided. The materials include questions to challenge students, such as, "Reflection Questions 1. Could you make the whole pile of sand or dirt move if you poured enough water down it? Why? 2. Do you think adding more plants would keep your model safer from a rainstorm? Why? 3. Do you think adding more rocks would keep your model safer from a rainstorm? Why? 4. How is your model different from a real mountain or sand dune? How could it change what happens?"
- The materials provide multiple opportunities to practice grade-level-appropriate SEPs. During the lesson "How Does Water Make Dirt Move? Student Investigation: Making a Model," students participate in a group discussion. The students discuss what they have learned and think about what happened to their model. The teacher states, "Did it change? Why did it change? Do you think that real mountains and sand dunes change when it rains? Be sure to listen to your classmates when they say what they think. You can use your picture *Our Model After the Rainstorm* to show your classmates as you talk." The lesson also includes an extension that states, "You have been exploring how water changes Earth. Scientists who study these changes are geologists. Geologists study volcanoes. Geologists also study earthquakes. They help us learn how to protect ourselves from volcanoes and earthquakes. Find out more about geologists on the internet or in the library."

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

- Materials provide multiple opportunities to make connections between overarching concepts using recurring themes. The resource guide for every TEKS includes the anchoring phenomenon and an explanation of how the anchoring phenomenon will be addressed throughout the content instruction. Additionally, the EduSmart vertical alignment document provides side-by-side comparisons of recurring themes and concepts as they have been taught in previous grades and how they will be taught in future grades.
- Through the design challenges, students have multiple opportunities to make connections between the overarching concepts using recurring themes. The engineering design challenges support science and engineering practices (SEPs), recurring themes and concepts (RTCs), as well as phenomena, and are available in each reporting category. The Engineering Design Challenge for TEKS 1.13(A), Stay Warm, requires students to design a covering to keep a bottle filled with water as warm as possible. This specific Scientific Engineering Design Challenge addresses TEKS 1.13(A) as well as the RTCs TEKS 1.5(B) and 1.5(G).
- Recurring themes are used to make connections between concepts. For example, the Scope and Sequence Document notes that the lesson, Matter and its Properties, integrates the recurring theme TEKS 1.5B (predict cause and effect relationships). TEKS 1.5B is also integrated when teaching the concept of Force, Motion, and Energy. Additionally, the level Reader- 1.5A, The Pattersons Beach Trip, in the RTCs category, integrates the recurring theme 1.5A (identify and use patterns to explain scientific phenomena or to design solutions) with a real-world scenario: the patterns of the sun during a family trip to the beach.

EduSmart Science Grade 1

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 include lessons grouped by reporting category and standard. These reporting categories are broken down into smaller units that allow for a more specific and in-depth comprehension of the TEKS. For example, within the reporting category for Force, Motion, and Energy, content is broken down into units for TEKS 1.7(A)(B) Pushes and Pulls, 1.8(B) Heat in Everyday Life, and 1.8(C) Changes Caused by Heat. This specific design of content allows students to build their content knowledge at appropriate pacing while allowing for an in-depth learning opportunity for each TEKS.
- Materials strategically and systematically develop students' content knowledge and skills as appropriate for the concept and the grade level as outlined in the TEKS. Each core content standard has an Instructional Module. For example, in the Instructional Module for TEKS 1.10(A), activity Properties of Soil, students observe the properties of soil, such as particle size, shape, texture, and color, and the components of soil. They also learn about the different types of soils, such as topsoil, clay, and sand. This addresses the core concept as outlined in TEKS 1.10(A). The Instructional Module is the focused component of a lesson cycle and prepares students with the necessary content knowledge to put into independent practice through later content. For example, content within the Instructional Module for TEKS 1.10(A) prepares students for the hands-on activity, Soil Components, in which students must work together to gather soil samples for different parts of the playground and then compare the soil samples. Then students will plant the same type of seed in the different soil samples and record their observations as well as measure the growth of their plants using paperclips or other non-standard units of measurement.
- Materials systematically develop students' content knowledge as explained in the SEPs Category of the Scope and Sequence. The Scope and Sequence document divides the instructional year into three types of units: SEP units, RTC units, and Reporting Category units that integrate the three dimensions of science. The document also provides systematic content knowledge and the best order to introduce topics to build understanding. 1.11(A) Using Natural Resources- Students are introduced to concepts for 4–5 days and then to recurring themes and concepts for 3–4 days to create connections across skills.
- Materials systematically organize content knowledge as evidenced by the Anchoring Phenomena and Instruction Module resources in the Instruction icon for each concept unit. For example, in the Matter and its Properties category, 1.6A/B Sorting and Changing Matter Concept unit, the Instruction Icon provides two student resources: an Anchoring Phenomena in the form of a picture (in this case, fruits of different shapes, colors, and flavors) and an Instruction Module in the form of an interactive video for students to review sorting and changing matter by physical property.
- The materials develop students' content knowledge and skills appropriate for the concept and grade level as outlined in the TEKS. During the lesson, Weather and Seasons, students describe and predict the patterns of seasons of the year, such as order of occurrence and changes in nature. The TEKS covered are 1.1A, 1.1C, 1.1F, 1.2B, 1.3B, 1.3C, 1.4B, 1.5A, 1.5G. The materials state, "In Kindergarten, students explored weather changes day to day and over the seasons. Now, students will investigate the seasons further by noticing their patterns and changes in nature."
- The materials support teachers in developing students' content concepts and skills by giving them resources and cues at varying points in lessons and units throughout the grade level. The

materials provide teacher guidance for the lesson "Weather and Seasons." The guidance states, "1. Start by letting students know that today they will do the work of meteorologists! Meteorologists study weather and weather patterns. We are going to be observing and describing pictures of the weather. 2. Hand out the picture cards to groups of 2–4 students. Have students: a. Explain what they see in each picture, such as colors, brightness, and the objects in the pictures. b. Have students group pictures together by ones they believe have something in common. At this point, do not mention seasons, have students explore on their own without much direction. c. Have students discuss with their group and the full class why they grouped particular pictures together. 3. Next, hang up the names of the months in the year. If months in the year are still a developing concept, the teacher can give reminders about what events happen during some months (December is the holiday season, July has Independence Day with fireworks, etc.). 4. Have students take turns predicting what months each picture could have taken place. They can paste or tape them under the months as they go. This could be a good opportunity to create a collaborative class poster. 5. Finally, bring up the four seasons if they have not been mentioned already. Write the name of the season above each section of months."

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.

- Materials include sufficient opportunities, as outlined in the TEKS, for students to ask questions and plan and conduct classroom, laboratory, and field investigations and to engage in problem-solving to make connections across disciplines and develop an understanding of science concepts. The curriculum is designed around inquiry-based learning, which encourages students to ask questions, plan, and conduct investigations, and engage in problem-solving to develop a deeper understanding of science concepts. Lessons provide opportunities for students to design and carry out investigations in the classroom, laboratory, and field.
- Each concept unit anchors learning using phenomena in the form of a picture or a quick video clip. The Anchoring Phenomena activity prompts students to come up with their own questions related to phenomena that are presented to them, which can be used for future investigations. For example, the anchoring phenomena for TEKS 1.11(C), Polluted Waters, presents students with an image of a beach that is littered with trash. Students ask their own questions regarding the image, but teacher guidance provides prompts to scaffold student questioning. This Anchoring Phenomena activity supports TEKS 1.11(C). Additionally, the Anchoring Phenomena for concept Unit 1.6C, Systems and Parts, is a video clip of a small robot bumping into a castle made out of three-dimensional block figures. The teacher can guide students to ask their own questions by prompting them to talk about what they see/notice and ask questions about what they wonder. Questions that students may come up with include: What other structures can I build with the blocks? How could my structure look if I only used the pink squared blocks?
- Hands-on activities included for every standard in every grade level provide opportunities for students to work together to plan and conduct investigations and solve problems. A hands-on activity icon provides a link to an investigation or an engineering design challenge. Group projects and discussions allow students to share ideas and learn from one another. For example, in the hands-on activity for TEKS 1.6(A), Matter Takes Up Space, students work collaboratively to conduct a classroom investigation to determine what will happen to the water level in a cup when different-sized rocks are dropped inside of it. Students must observe, draw, and record

their findings, as well as discuss their observations and why they believe these phenomena happened. This activity supports TEKS 1.6(A), 1.1(A), 1.1(E), and 1.5(C). Also, in the Force, Motion, and Energy category, concept Unit 1.8A, Heat in Everyday Life, the inquiry "Investigating and Describing Changes from a Hair Dryer" engages students in a hands-on investigation that helps them identify the changes to an ice cream sandwich.

EduSmart Science Grade 1

Indicator 2.2

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

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

Meets | Score 4/4

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

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

Evidence includes but is not limited to:

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

- Materials embed phenomena and problems across lessons to support student learning. The Instructional Modules are available for each core content standard and support students' content knowledge by presenting information directly aligned with grade-level TEKS. For example, in the Instructional Module for TEKS 1.10(A), Properties of Soil, students observe the properties of soil, such as particle size, shape, texture, and color, and the components of soil. They learn about the different types of soils, such as topsoil, clay, and sand. Additionally, phenomena are embedded within the Instructional Modules. Within the Instructional Module for TEKS 1.10(A), students observe the phenomena that soil contains water, air, and tiny pieces of rock, plant, and animal matter. Through embedded strategic questioning within the Instructional Modules, students are able to construct and develop their knowledge of grade-level content TEKS.
- Materials use phenomena to drive student learning and mastery of science content and concepts. Each concept unit has an icon called Instruction. Each Instruction icon has a link to Anchoring Phenomenon, where students will view a picture that encourages them to notice, think, and ask questions as they engage in new content. For example, in the category Matter

and its Properties, concept Unit 1.6A/B Sorting and Changing Matter, the anchoring phenomena link to a picture of fruits with different colors, tastes, textures, and shapes. This anchor allows students to notice the properties of the fruit and ask questions that are aligned with the student's expectations.

- Materials support students' ability to construct, build, and develop knowledge through the authentic application of scientific and engineering practices (SEPs) at multiple entry points. One entry point is the landing page of the LMS; it provides a SEPs Icon that links to Hands-On activities, which includes four 1.1 – 1.4 Scientific and Engineering activities: Innovation in Technology, Innovation in Transportation, How Scientists and Engineers Make Discoveries, and Organizing Data Using Numbers. Another entry point in each reporting category is engineering design challenges. For example, Magnetic Toy Push or Pull, Pull or Push?, an engineering design challenge in the Force and Motion category asks students to solve a problem: moving a box without picking it up. Students practice the engineering design process as they design a solution to the problem. Additionally, in the engineering design challenge for TEKS 1.13(A), Stay Warm, students must use what they know about animal coverings to design a cover for humans that will keep them warm when it is cold outside. This engineering design challenge supports scientific and engineering design TEKS 1.1(A), 1.1(B), 1.1(E), and 1.1(G).
- Lesson Phenomena is the anchor that drives student learning across grade-level content in all disciplines. During the first-grade lesson, The Sum of Our Parts, students participate and learn with a hands-on activity. The materials state, "1. Let students know that today they are going to be engineers! Scientists that study and build are called engineers. 2. They will work in small teams to build what the contractor (you) asks of them." The teacher groups the students and distributes the building materials, which can differ from class to class and group to group. The materials state, "The first thing students will be asked to build is a house. It is recommended that the teacher does not show a picture of a house, as to let students build based on their own ideas." The teacher discusses the following: "a. What are the different parts of your house? (Windows, walls, doors, roof, etc.) b. What does your house have in common with the ones other groups have made?" The students take apart their houses and answer if they think they could build the exact same house the way it was." The student is incorporating reading, math, writing, science, art, and higher-order thinking skills.
- The materials provide opportunities for first-grade students to develop, evaluate, and revise their thinking as they engage in phenomena and define and solve problems. Students and teacher discuss the following: "a. What individual parts make up this whole house? Same as before, windows, doors, walls, etc. Students can also discuss the plumbing, electricity, furniture, etc. b. Could we take apart this house like we did our houses? Would it be as easy to put back together? Yes, but probably not as easy." The teacher shows the picture of the toy and discusses the following: "a. What individual parts make up this toy? Blocks, wheels, screws. b. Could we take this apart? If so, could we put it back together? Yes, and we could put it back together. It would probably be easier to put together than the house. c. How do all the parts work together to make the whole train? The blocks make up the body, the wheels allow it to move, and the screws hold the wheels in place."

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

- The hands-on activity for TEKS 1.7(A)(B), Push or Pull? Pull and Push? requires that students use what they know about pushes and pulls to figure out two or more ways to move a box from the

center of a taped-off area on the floor to one of the corners of the taped-off area without touching or directly lifting it. This activity leverages students' prior knowledge of the phenomena of force, motion, and energy through TEKS K.7, in which students learned that forces could cause changes in motion and position in everyday life.

- The hands-on activity for TEKS 1.6(A), Matter Takes Up Space, builds on the students' prior knowledge of describing objects by observable physical properties, which they learned in kindergarten TEKS K.6(A). The activity builds on their prior knowledge, asking students to observe that matter takes up space that can be observed, measured, recorded, and compared. Students also apply this prior knowledge when they observe that different-sized objects take up space that can be measured and compared.
- Materials intentionally leverage students' experiences related to phenomena. For example, in the Earth and Space Category, 1.9A Patterns of Seasons, the scientific but kid-friendly anchoring phenomenon is a picture of a tree during the winter and a picture of the same tree during the summer.
- Materials intentionally leverage students' prior knowledge and experiences related to engineering challenges. Challenges build on information and experiences relevant to students in first grade. For example, the engineering design challenge: 1.13A Stay Warm? builds on students' own experience of the need to stay warm during cold weather as they use scrap materials to design a coat that will keep water warm inside a bottle.

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

- Materials outline for the teacher the scientific concepts and goals behind each phenomenon and engineering problem. The teacher exemplar for the Engineering Designs provides the appropriate information to support the concepts and goals for each of the engineering designs. For example, the Engineering Design for TEKS 1.13(A), Stay Warm, provides teachers with the appropriate core concept standard [TEKS 1.13 (A) identify the external structures of different animals and compare how those structures help animals live, move, and meet basic needs for survival]. Additionally, the teacher document provides the recurring theme and science and engineering practices TEKS that align with the activity. The teacher document provides step-by-step instructions on how students will complete the design challenge as well as the success criteria for gauging student mastery of the goals.
- The hands-on activity for TEKS 1.4(B), Innovation in Technology, asks students to identify a device or piece of technology around their house or classroom that they could improve. The teacher guide for this activity outlines the scientific concept by explicitly stating the core concept 1.4(A), explaining how science or innovation can help others. The teacher guide also provides background information on the phenomena of transportation and how transportation has changed over time. Additionally, the teacher document provides the objective and goal that students should be able to master by the end of the activity. For TEKS 1.4(A), the teacher is guided to understand that students should be able to create a model of innovation and explain how the improved object can help others.
- Teacher materials for each concept unit's phenomena include a goal statement. For example, in the category Organisms and Environments, 1.12A Basic Needs of Living Things, Instruction, Anchoring Phenomena 1.12A Are You Alive, the goal statement reads: "Anchoring phenomena are designed to help engage students with real-world challenges and situations." Additional materials that clearly outline the scientific concepts and goals behind each phenomenon for the

teacher include an Anchoring Phenomenon – Are You Alive Teacher Version document. This document is also found in the introductory icon as a link that can be printed by the teacher.

- Materials clearly outline the scientific concepts and goals behind each engineering problem for the teacher. For example, the Engineering Design Challenge: 1.13A Stay Warm includes the scientific goals: “Many animals have outer coverings that help keep them warm during the winter. Polar bears have fur, seals have thick blubber, and penguins have feathers. In this activity, [students] will be engineers that use what they know about animal coverings to design a cover for humans that will keep them warm when it is cold outside.”
- The first-grade materials outline the scientific concepts and goals behind each phenomenon and engineering problem for the teacher. The Content Standard for the lesson, Investigating and Describing Changes from a Hair Dryer, states, “1.8A Investigate and describe applications of heat in everyday life such as cooking food or using clothes [hair] dryer.” The TEKS included are 1.1A, 1.1B, 1.1C, 1.1D, 1.1E, 1.1F, 1.3A, 1.5B, 1.5E, and 1.5G. The teacher’s instructions state, “Share with students that energy such as heat/thermal energy can be observed in our daily life. This type of energy can be used when we are cooking food or using a blow dryer to dry our hair. When we use this type of energy, we are applying heat.” The teacher asks the students the following questions before beginning the activity: “1. What are some tools in your kitchen that apply heat? 2. What happens to food when heat is applied? 3. What are some other tools and appliances in your home that apply heat? 4. Have you ever eaten an egg for breakfast? What did the egg look like before it was cooked and after it was cooked? 5. What do you think would happen if an ice cream cone was put into a microwave?”
- The materials identify student learning goal(s) behind each phenomenon or engineering problem. In the first-grade lesson, Investigating and Describing Changes from a Hair Dryer, the objectives state, “Students will be able to describe and implement an investigation to describe what occurs when heat is applied with a hair dryer.” The materials also state, “This activity can be differentiated for struggling learners or English learners by selectively assigning word bank and sentence stems. Create a circle map on an anchor chart for students with “What Happens When Heat is Applied.” Prompt students to share responses and observations from the prompting questions. Collect responses to support investigation such as: melt, heat, hot, liquid, and cooked.”

EduSmart Science Grade 1

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

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

Evidence includes but is not limited to:

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

- Materials are vertically designed for students to build and connect their knowledge and skills within and across units and grade levels. For example, in the lesson, TEKS 1.8A, Heat in Everyday Life, students are asked to brainstorm different items in their home or life that make or produce heat. Students use this discussion of ideas to progress to TEKS 1.8B, which covers Changes Caused by Heat. Students answer the question, “What is in your home that can heat things up?”
- The materials provide a vertical alignment document that outlines the knowledge and skills for each grade level. This helps teachers as they guide students to connect their knowledge within and across units and grade levels. For example, in TEKS 1.6A/B, Sorting and Changing Matter, students learn to classify matter by recognizing properties such as size, mass, color, and texture. This builds upon and connects students' prior knowledge from TEKS K.6A, in which students must sort objects based on characteristics like color, texture, bigger or smaller, and heavier or lighter.
- Materials are vertically aligned. For example, in the Force and Motion category in first grade, students have the opportunity to work on a 1.7A engineering design challenge where they have to explain how pushes and pulls can start, stop, or change the speed or direction of an object’s motion. Vertical alignment is evidenced as we look at the resources in the grade level before and the grade level after. This builds on the K.7A engineering design challenge, where students

explain how pushes and pulls can start, stop, or change the speed or direction of an object's motion, and builds students' content knowledge for connecting to learning in the 2.7A investigation, where students compare what happens to different objects when pushed with the same force and when they collide.

- The materials are vertically aligned to build knowledge and skills as the students move up in grades. For example, in the kindergarten lesson, K.13B, Plants and Animals, students learn about animal structures and how these structures help them interact with their environment. Then, in the first-grade lesson, 1.13A, Organisms and Environment, students learn about different animals and compare how they use their structures to help them live, move, and meet their basic needs for survival.
- The materials connect new learning goals to previous and future learning across grade levels. A vertical alignment document is provided to show how students build and connect their learning across grade levels. For example, the vertical alignment document shows that in first grade, students will explain and predict changes in materials caused by heating and cooling (1.6B). Then, in second grade, students conduct a descriptive investigation to explain how physical properties can be changed through cutting, folding, sanding, melting, or freezing processes (2.6B). Then, in third grade, students connect to and build on the knowledge from previous grade levels when they predict, observe, and record changes in the state of matter caused by heating or cooling in a variety of substances (3.6C).
- It should be noted that some materials are not vertically aligned for students to build their knowledge and skills. For example, the grade-level TEKS 1.9A (describe and predict the patterns of seasons of the year) is presented in the reporting Category "Earth and Space," and the Concept Unit 1.9A, Patterns of Seasons, lists leveled readers: 1.9A, Patterns in the Sky; 1.9A, Stars in the Sky; and 1.9A, Our Changing Weather. The readers do not align with the target TEKS 1.9A for 1st-grade Earth and Space concepts. The content of the readers is more aligned with K.9B: Observe, describe, and illustrate the Sun, Moon, stars, and objects in the sky such as clouds.

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

- Lessons are designed to scaffold learning in a way that allows for increasingly deeper conceptual understanding. The lessons begin with the anchoring phenomenon, a real-world scenario that students relate to. This allows them to anchor their learning to something that is familiar to them. The instructional module then guides the teacher and the students through learning via visual literacy and real-world examples. The instructional module is designed to allow for student discussion facilitated by the teacher. For example, in 1.9A, Patterns of Seasons, students watch the video of changing seasons and use that to activate their prior knowledge of observations made in real life.
- The lesson cycle is set up for the gradual release of students to scaffold support for student mastery. After the anchoring phenomena, students can work on several different activities. For example, in TEKS 1.6A, Sorting and Changing Matter, students work collaboratively to observe that matter takes up space and can be observed, measured, and recorded, as well as observe that different-sized objects take up space and can also be measured and compared. Without the knowledge gained from the direct-teach through the Instructional Modules, students would lack the necessary foundational knowledge to put their learning into practice. The independent

mastery opportunities at the end of the lesson cycle allow students to apply their conceptual understanding to their content mastery.

- The materials ensure students experience a phenomenon or problem before utilizing models as a tool for reasoning. Materials give students opportunities to use models to depict relationships and form explanations. Teachers can view Concept Units in two ways: by Resource Type or by 5E Model. When viewed by the 5E model, materials are sequenced to scaffold learning. For example, learning begins with the anchoring phenomena in Engage, then students explore using EDP challenges of investigations in Explore. Next, students solidify concept knowledge through an Instructional Module in Explain, then continue forming their understanding of concepts through an interactive glossary in Elaborate. Finally, teachers check for understanding in the form of a quiz for Evaluate. In Concept Unit 1.6A/B, Sorting Matter, students engage and anchor their learning by looking at picture 1.6A/B, Variety fruits, noticing and asking their own questions. Then, during Investigation 1.6A, Matter Takes Up Space, students explore and see that material, when submerged in water, will displace the water showing the amount of space taken. Students explain as they view and interact with Instruction Module 1.6A/B, Sorting and Changing Matter. Students elaborate their understanding of what is matter, through reader 1.6A/B, Observable Properties, and finally, the evaluation is in the form of an online 5-question quiz.
- The materials include guidance for the teacher to connect new learning to previous and future learning within and across grade levels. Implementation strategies allow for the teacher to use the resource with a short overview of how to use the materials to deepen the concept and its understanding. The teacher can do direct instruction through videos, whole-group instruction, games for student engagement, and exploration of deep concepts with hands-on labs, investigations, and applications of practice and research. Students practice planning and conducting simple descriptive scientific investigations and use engineering practices to design solutions to deepen the concept.
- The materials sequence instruction in a way that activates or builds prior knowledge before explicit teaching occurs. For example, the lesson, Observing Soil Components, provides the following teacher guidance: “1. Begin by discussing with the students what soil is and why it is important. You can talk about how soil is the foundation for all plant growth and how it provides nutrients and support for plants. 2. Ask them if there are any safety concerns when touching soil.” The teacher also shows the students different types of soil samples (topsoil, clay, and sand) and asks them to describe what they see. The students compare the three types of soil samples using hand lenses and observe the differences in particle size, shape, and texture between the three samples. The students use the data chart provided to record data. The students also draw pictures or write descriptions of the different properties they observed for each type of soil. The materials include a progression of concrete and then representational before abstract reasoning when presenting concepts. The students make more detailed observations, such as the feel of the soil when it is wet or dry. They record their observations with the group.

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

- Materials incorporate all grade-level scientific and engineering practices as outlined in the TEKS. For example, in TEKS 1.11A, Plants Rock, students will identify and describe how plants use rocks

to survive. The grade-level appropriate scientific and engineering practices that are supported by this activity are 1.1A (ask questions based on observation), 1.1F (record and organize data), and 1.2B (analyze for features and patterns). The activity for TEKS 1.13A, Stay Warm, clearly presents the grade-level TEKS 1.13A, identifies the external structures of different animals, and compares how those structures help different animals live, move, and meet basic needs. This engineering design challenge also clearly presents the recurring themes and concepts, TEKS 1.5B (predict cause and effect relationships) and 1.5G (describe factors or conditions that cause change or stay the same). Additionally, SEPs presented are 1.1A (ask questions based on observation), 1.1B (plan descriptive investigations), 1.1E (observation and measurements as evidence), 1.1G (develop and use models to solve a problem), 1.2A (identify advantages and limitations of models), 1.2D (evaluate a design or object using criteria to determine if it works as intended), 1.3A (develop explanations and propose solutions supported by data and models), 1.3C (listen actively to others' explanations to identify important evidence and engage respectfully in scientific discussion), and 1.4A (explain how science or innovation can help others).

- The materials clearly provide instruction in grade-specific core concepts, recurring themes and concepts, and SEPs. For example, the first lesson, Water Bodies, helps students "differentiate between freshwater and saltwater, and that saltwater covers three-fourths of Earth's surface." Students conduct an experiment by filling "three glasses with drinking water. Leave one as is. This is the water we use for daily consumption." The materials state, "Add a pinch of table salt to the second, and the water may taste fresh or slightly salty. Add a teaspoon of salt to the third, about the same salt content as a glass of seawater. Provide wooden ice cream sticks (Three per student, one for each glass)." The students dip their ice cream sticks in each of the three glasses and taste the water. The teacher asks them to guess which has the same salt content as seawater. The students learn that most of the Earth is covered with water (seventy-one percent). The materials state, "Using a piece of white construction paper, fold the paper in half, then into fourths." The students color three sections blue and one brown. This creates a visual picture of land vs. water mass.
- The Scope and Sequence document presents all associated TEKS for grades K-2. The document clearly segments broad science learning concepts into reporting categories that include Scientific and Engineering practices, Recurring Themes and Concepts, Matter and its Properties, Force, Motion and Energy, Earth and Space, and Organisms and Environments. These reporting categories are sectioned into unit titles, suggested days of instruction, essential questions, TEKS, and possible activities. This structure provides a clear organization that teachers can use to present core science concepts to students.

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

- The materials define the boundaries of content that students must master for the grade level. For example, the materials include quizzes that assess student mastery of the core concepts of each grade level. Each quiz includes questions and the TEKS each question is assessing. For example, the quiz for TEKS 1.10B, Rocks on the Move, assesses a student's mastery of investigating and describing how water can move rock and soil particles from one place to another. Including the TEKS within the assessment ensures that student mastery is being assessed within the boundaries of their appropriate grade level main concepts.

EduSmart Science Grade 1

- The materials clearly define the boundaries of content that students must master for the grade level. The scope and sequence document presents the TEKS and objectives that need to be mastered in kindergarten. Target lessons also provide guidance on the learning objectives that must be accomplished for grade-level mastery. For example, Engineering Design Challenges are available for each reporting category. For example, in the TEKS 1.7A lesson, Push or Pull? Pull or Push? students act as engineers that use what they know about pushes and pulls to figure out two or more ways to move a box from the center of a taped-off area on the floor to one of the corners of the taped-off area without touching it directly or lifting it. This design challenge addresses the core concept TEKS 1.7A, which explains how pushes and pulls can start, stop, or change the speed or direction of an object's motion. The mastery requirements for this material are included within the teacher guide through the success rubrics. These rubrics outline students' mastery category as either advanced, proficient, developing, or beginning through their design and presentation.
- Mastery requirements of the materials are within the boundaries of the main concepts of the grade level. Each Concept Unit concludes with a quiz that aligns with the SEs and content of the unit. For example, the 1.12A, Basic Needs of Living Things, Concept Unit includes a 5-question quiz. The quiz questions fall within the boundaries of the TEKS for first grade. Examples of the questions are: "Plants do not need…," "It is important for plants to get water because…," "Which of the following is a living thing?" "Look at these pictures of living things and their shelters. Which of these is not a correct match?" and "Some nonliving things can produce offspring. True or false?"
- The materials define the boundaries of the main concepts that students must master for the grade level or course. For example, the lesson, How Does Water Make Dirt Move? states, "investigate and describe how water can move rock and soil particles from one place to another." The TEKS addressed are 1C, 1D, 1F, 1G, 2A, 2B, 2C, 2D, 3B, 3C, and 4A. The materials include learning targets for grade-level concepts. The materials provide a scope and sequence document that outlines when learning targets are introduced, developed, and mastered. The materials also include a vertical alignment document that specifies the TEKS for each objective.
- Mastery requirements of the materials are within the boundaries of the main concepts of the grade level. One example is investigation 1.8A, Investigating and Describing Changes from a Hair Dryer. This descriptive investigation lists the core content TEKS 1.8A Investigate and describes applications of heat in everyday life such as cooking food or using a clothes [hair] dryer. It integrates the SEPs: 1.1A, 1.1B, 1.1C, 1.1D, 1.1E, 1.1F, 1.3A, 1.5B, 1.5E and 1.5G. In this activity, students take turns using the hair dryer to apply heat to an ice cream sandwich. Students record their findings on a data table noting observations before applying heat and after applying heat.

EduSmart 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.

- The materials include guiding documents that support teachers in understanding how new learning connects to previous and future learning across grade levels. The vertical alignment document provides teachers with the knowledge of the core concepts, scientific and engineering practice, and recurring themes and concepts of TEKS that are taught in the previous, current, and future grades. This allows teachers to build on students' previous knowledge while preparing them for current content in the future. One example of the vertical alignment document providing teacher clarity is TEKS 1.11A (identify and describe how plants, animals, and humans use rocks, soil, and water.) The vertical alignment document allows teachers to see that in the previous grade, through TEKS K.11, students had to observe examples of practical uses for rocks, soil, and water. Teachers can also anticipate that in the future grade, TEKS 2.11A, students must distinguish between natural and manmade resources. Using the vertical alignment document, teachers can provide clarity on current concepts by addressing previous concepts learned and connecting current concepts to future concepts.
- The materials support teachers in understanding how new learning connects to previous and future learning across grade levels. The vertical alignment document gives teachers recurring

themes and concepts that have been taught in previous years as well as in upcoming years. Teachers help students make connections by using this prior knowledge. For example, the vertical alignment document shows that K.6A (Identify and record observable physical properties of objects) is the prerequisite TEKS for 1.6A (Classify objects by observable physical properties.) The vertical alignment document shows that second-grade students will connect to previous learning when they classify matter by observable physical properties, including texture, flexibility, and relative temperature, and identify whether a material is a solid or liquid (2.6A).

- Unit Teacher Guides are printable documents that provide background information, prerequisite knowledge, essential questions, and common misconceptions. For example, the Teacher Guide for 1.6A provides information about what students should already know prior to beginning the lesson. Materials state that "In kindergarten, students identify and record observable physical properties of objects, including shape, color, texture, and material, and generate ways to classify objects."
- The instructional materials include guiding documents that support teachers in understanding how new learning connects to previous and future learning across grade levels. The vertical alignment document explains how student learning in kindergarten (Physical Properties) connects to and extends learning in subsequent grade levels as student expectations change from grade one to grade two. For example, the materials for K.6A state that students will identify and record observable physical properties of objects, including shape, color, texture, and material, and generate ways to classify objects. The document states that in first grade, students will classify objects by observable physical properties, including, shape, color, and texture, and attributes such as larger and smaller and heavier and lighter (1.6A), and in second grade, students will classify matter by observable physical properties, including texture, flexibility, and relative temperature, and identify whether a material is a solid or liquid (2.6A).
- The materials support teachers in understanding the horizontal alignment of concepts, and how learning connects across learning categories and within grade levels. For example, the materials list the SEPs that are addressed throughout the Systems and Parts 1.6C lessons. The SEPs include 1.1A (ask questions based on observation, 1.1C (safe practices), 1.1D (use tools), 1.1E (observation and measurements as evidence), 1.1F (record and organize data), 1.2B (analyze for features and patterns), 1.2D (evaluate design), 1.3A (develop explanation supported by data and models), 1.3B (communicate explanations individually or collaboratively), 1.3C (listen actively, engage respectfully), and 1.4A (explain how science/innovation helps others). Suggested RTC connections include 1.5B (predict cause and effect relationships), 1.5C (describe properties in scale), 1.5D (examine parts or whole of systems model), 1.5F (relationship of structure & function), and 1.5G (describe factors or conditions that cause change or stay the same).

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

- The Teacher Guide, found in the teacher resources section, contains explanations and examples of science concepts including common grade-level misconceptions to support teacher's subject knowledge and recognition of barriers to student conceptual development as outlined in the TEKS. The expanded Unit Teacher Guide identifies the target TEKS, and provides the teacher with background information on the standard as well as the prerequisite knowledge. The teacher guide also states the common misconceptions that students may have for teachers to anticipate. For example, the Unit Teacher Guide for lesson 1.6C, System and Parts, states that

a misconception students might have is that "students may think that if something like wooden building blocks are painted different colors, that they have changed their physical properties. Even though a wooden block may change colors due to being painted, the block is still made of wood."

- The materials identify common grade-level misconceptions students may have about the science concepts. For example, the Engineering Design Challenge for TEKS 1.13A, Stay Warm, provides the teacher with insight and clarity on common misconceptions that students may have regarding the grade-level content for TEKS 1.13A. The document explains that a common misconception students may have is that some materials have the property of making things warm such as putting on a coat, and the coat is what makes you warm. However, the coat acts as an insulator which reduces the movement of thermal energy in either direction.
- The materials identify common grade-level misconceptions students may have about the science concepts and provide guidance for teachers about concepts that may be difficult for students. The materials include Unit Teacher Guides that provide teachers with background information, prerequisite knowledge, essential questions, and common misconceptions. For example, in the Unit Teacher Guide for 1.10D, Weather Information, a common misconception that students may have is that students may think that raindrops have a teardrop shape. Raindrops are spherical. They may also think that rain falls because we need it. Rain will fall whether we need it or not. It is determined by how much water vapor condenses inside a cloud. They may also think that the atmosphere is made up solely of air. There are many other tiny particles of soot and dirt that are solids, not air. They are just very tiny and hard to see.
- The materials include background information for teachers that provides explanations and examples of science concepts. For example, the lesson, Force, Motion & Energy, provides the following background Information for the teacher: "Playing on the playground at recess can be fun and exciting. But have you ever wondered how the playground equipment moves? In this activity, you will predict and investigate how pushes and pulls can start, stop, or change the speed or direction of an object's motion."

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

- The materials provide a rationale for the instructional design of the program. Materials provide an explanation for why the materials are designed as they are. The Implementation Strategies Early Elementary (K-2) Guide highlights key features of the instructional design. It states, "Each grade band is designed to align with student ability and content level. Unit Teacher Guides are found in the teacher resources for each of the TEKS. These guides were written to help teachers facilitate learning in their classrooms and provide them with the essential knowledge to teach the concepts."
- The Implementation Strategies document, which is found in the teacher resource section for every standard, provides teachers with the intent and purpose of the instructional design of the program. The implementation strategy document states that the anchoring phenomenon is designed to help students with real-world challenges and situations. This activity also allows students to generate questions about the phenomenon to captivate their curiosity and activate prior knowledge. For example, in 1.11A, Messy Elephants, students identify and describe how plants, animals, and humans use rocks, soil, and water. Questions for students include, "What is this mother elephant doing?" "Why do you think she is throwing soil over herself?" and "How is she picking up the soil to throw?"
- The vertical alignment document provides information about the intent and purpose of the instructional design. The document states, "progression of the content and skills across K-5 and

EduSmart Science Grade 1

6-Biology provide a cohesive overview of the science curriculum vertically from one grade level to the next, ensuring a seamless and logical progression of learning." The purpose of the vertical alignment is to "provide teachers with an understanding of how the TEKS build upon each other and what the student should have learned in previous grade levels and what they will be expected to learn in the next grade levels." This allows teachers to plan lessons and discuss best practices. The vertical alignment document is designed to allow teachers to see the progression of standards and content across grade levels and covers grades kindergarten through fifth. "This can be used as a reference or planning document when creating intervention or remediation groups."

EduSmart 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

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

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

Evidence includes but is not limited to:

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

- The materials include Hands-on Activities that support students' meaningful sensemaking through acting as scientists and engineers. These activities allow students to actively participate in science and engineering experiences by performing a hands-on investigation in their classrooms or outside. For example, in the Hands-on Activity for TEKS 1.12A, Is it Living or Nonliving? students take a nature walk outside their classroom. Like scientists, they observe living and non-living things, then list three living things and three non-living things.
- The engineering design challenges support students' meaningful sensemaking through thinking and acting as scientists and engineers. During these challenges, students think and act like scientists and engineers to solve problems. For example, in TEKS 1.7A, Push or Pull, Pull or Push, students address the challenge of moving a box from the center of a taped area to the corner without lifting it. Before creating their design, each group of students has to "explain their design and tell others why they think their material(s) will work best." After students try their

individual and group designs, they then "explain if their design met the success criteria and what they would do differently if it did not meet the criteria"

- In the Engage section of Unit 1.8A, Heat in Everyday Life, students act as scientists when they make observations and ask questions about the Anchoring Phenomena picture of a person ironing a shirt. During the Explore activity in 1.8A, Changes from a Hair Dryer, students act and think like scientists and engineers as they record observations about what happens to ice cream before applying heat and after applying heat.
- Materials provide opportunities for students to think and act like scientists and engineers to support meaningful sensemaking. In Unit 1.8B, Changes Caused by Heat, students use the interactive Glossary tool to understand concepts such as heat, thermal energy, and energy. The Hands-On Activities section of the unit provides an opportunity for inquiry-based investigations. Students investigate and describe applications of heat in everyday life such as cooking food or using a clothes dryer. They describe how some changes caused by heat may be reversed, such as melting butter, and other changes cannot be reversed, such as cooking an egg or baking a cake. The Online Activities - Interactivity section of the unit includes a virtual experiment in which students predict the changes that may be caused by heating and cooling different materials. Then, the students place the materials in the oven and the freezer and observe the changes caused by heating and cooling.
- The materials provide learning activities that support students' meaningful sensemaking through reading, writing, thinking, and acting as scientists and engineers. For example, in the lesson, Structure and Function, Student Investigation, students participate in a class discussion about systems, their parts, and the structure and function of parts. The students work in pairs or small groups to examine the rest of the systems in the collection. After examining all of the systems, they choose one object to draw and record drawings of separate parts on a datasheet. The datasheet table has room to include details about the object's structure and function in each drawing. Students explain what system they drew and the structure and function of its parts, and why they chose to draw it. Students also actively listen to others' explanations to identify important evidence and engage respectfully in scientific discussion. Materials also include a reader titled "Functions on a Farm," that can be assigned to students.

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 with grade-level appropriate scientific texts to gather evidence and develop an understanding of the topic. The materials include leveled readers for each of the TEKS for the grade levels. These leveled readers have options for students who are below, at, or above grade level and include a five-question probe. For example, in TEKS 1.7A/B, Pushes and Pulls, students read about energy, force, and motion through examples where pushes and pulls are used to move small and large objects. Some examples in the reader are things like playing on the playground, racing a car, and walking a dog. The students then gather evidence from the text to answer questions related to force.
- The materials include research projects where students gather information and complete a presentation. For example, in TEKS 1.4B, How Scientists and Engineers Make Discoveries, students explore what a scientist and engineer are and make connections between examples of science and engineering in their own lives. Students can also read the text, "Katherine Johnson" to gather information and evidence to support how engineering and math helped send astronauts to space.

- Materials include grade-level texts to support a greater understanding of concepts. The Organisms and Environment category, Concept Unit 1.12A, includes multiple opportunities for students to engage in grade-level appropriate science texts. For example, the Elaborate phase includes two readers, “Observing Living and Nonliving Things” and “What on Earth?” It also includes a virtual Glossary activity where students read and practice content vocabulary. The next Concept Unit, 1.12B/C, includes similar opportunities. For example, the Elaborate phase includes the reader, “Organisms and Environments,” and a virtual Glossary interactive activity where students read and practice content vocabulary.
- The Vocabulary & Literacy section provides gravel-level appropriate texts for gathering evidence and developing an understanding of concepts. In Unit 1.6A/B, Sorting and Changing Matter, there are four text opportunities which include, “What on Earth?” a reader that introduces nonliving things such as rock, soil, and water, and living things such as animals and plants found on earth. At the end of the text, the teacher prompts students to gather evidence from the text with questions such as, “What is an example of a non-living thing?” “How do we know something is non-living?” and “ How could we sort rocks found on Earth?” Students can also use the interactive Glossary tool to guide them to a definition of science concepts including evaporation, freezing, melting, and physical property.
- The materials provide opportunities for students to engage with scientific texts and vocabulary to help them develop an understanding of concepts. The “Seasonal Changes” reader provides students with vocabulary terms and a quiz. For example, the reader introduces each season (Fall, Summer, Winter, Spring) using pictures. After the reading, students take a quiz.

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 provide opportunities for students to engage in various written and graphic modes of communication to support students in developing, displaying, and understanding scientific concepts. For example, in TEKS 1.8A/B, Can Changes be Reversed, students observe, draw, and verbally describe a group of semisweet chocolate chips placed in a shallow pan. Students then predict what will happen when the pan is heated. After the heating occurs, students will observe, draw, and verbally describe how the chocolate changes.
- The Activity section of the units provides students with multiple opportunities to engage in various written and graphic modes of communication. A few examples are found in TEKS 1.6A and 1.6B. In 1.6A, Matter Takes up Space, students investigate how matter takes up space that can be observed, measured, recorded, and compared. Students place different-sized rocks in a bowl of water to see if the water level changes each time a rock is placed in the water. Students draw and write to record their observations. In TEKS 1.6B, Investigating Evaporation Stay Warm, students explore and observe how water evaporates. Students place water in two containers, one that stays open and another that is sealed. Students record their observations on a data sheet over the course of a few days.
- The materials include opportunities for students to engage in graphic and written modes of communication. For example, in Concept Unit 1.9A, Explore activity 1.9, Weather and Seasons, students sort graphic representations of the seasons, then as an extension activity, they complete a meteorologist Weather Patterns graphic organizer showing the different seasons in order and describing what they look like. Another extension activity involves students writing down or coming up with a song to help them remember the order of the seasons.

Additionally, in Concept Unit 1.10B, Explore activity 1.10B, How Does Water Make Dirt Move? students create a model of a mountain or a sand dune. They create a rainstorm to discover what happens to their model when it rains. Written communication happens when students make predictions and collect data on what they see happen to their mountain or sand dune.

- In Unit 1.10D, Weather Information, students describe and record observable characteristics of weather, including hot or cold, clear or cloudy, calm or windy, and rainy or icy, and then explain the impact of weather on daily choices. The Hands-on Activity provides interactive opportunities to practice and research related science concepts. In this unit, students will demonstrate an understanding of how weather affects their daily lives by selecting appropriate clothing based on different conditions. Students complete a weather checklist to determine the weather conditions before choosing appropriate clothes to wear.
- The materials provide opportunities for students to communicate thinking on scientific concepts in written and graphic modes. The lesson, Organizing Data Using Numbers, states, “It is important to make organizing data using numbers fun and engaging. This activity teaches students how to sort and count objects, and how to organize data using numbers. It also introduces them to the concept of graphs and visual representations of data.” The students sort a small bag of colored candies by color and count how many of each color they have. The materials state, “For example, they might have 5 red candies, 3 blue candies, and 2 green candies. 3. Using the chart on the paper, have them write down the number of candies they have for each color. You can show them how to make tally marks or write the number directly in the box. 4. Once everyone has filled out their chart, have them share their data with the class.” The teacher asks, “Which color has the most candies?” or “How many more red candies are there than green candies?” The students also use the data to create a bar graph or other visual representation of the data. The students count and draw the number of candies in each color on the graph, or do this as a whole class activity.

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.

- Materials include Hands-on Activities to support students in acting as scientists and engineers who can learn from engaging in phenomena and engineering design processes, making sense of concepts, and productively struggling. For example, TEKS 1.4A, Innovation in Transportation, provides students with the opportunity to explore and discuss how new versions of modern transportation have improved people's lives. Students think of a way to innovate a bicycle or skateboard to make it better, easier to use, or more useful. Students view pictures of old forms of transportation such as bicycles, cars, boats, and planes, but are not given information on how each one works or was created. Students proactively wonder about each and their purpose which allows them to actively engage with inquiry about the concept.
- Real-world examples of science and engineering problems are relevant and interesting to students. This helps students see the practical applications of what they are learning and how it relates to their own lives, making them more engaged and invested in the learning process. For example, 1.12B/C, Hungry Bear, shows an image of a grizzly bear catching a salmon in a river. There are no hints for the students, so they proactively wonder what the phenomena are and anything they may notice. This allows the student to actively engage with an inquiry about the concept.
- Materials support students to act as scientists and engineers who can learn from engaging in phenomena exploration through hands-on investigative activities. All lessons begin with a

phenomenon-based video or a picture. Students act as scientists and engineers in all unit lessons during the Activity section that links to either an investigation or an engineering design challenge. For example, in Explore activity 1.8B, Can Changes be Reversed? students describe the physical properties of chocolate chips and pancake batter before heating, after heating, and after sitting for 10 minutes.

- Materials support students acting as scientists and engineers in the category, Force, Motion, and Energy, Concept Unit 1.8B, Changes Caused by Heat, Investigation Activity 1.8B, Causing Changes by Heating and Cooling. In this investigation, students demonstrate how solid chocolate melts when heat is added using a hot pad but it turns to a solid again when heat is removed. Students observe the properties of chocolate chips before adding heat, after adding heat, and after removing heat noting the changes in the state of matter.

EduSmart 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 verbal arguments that justify explanations to phenomena and/or solutions to problems using evidence acquired from learning experiences.

Evidence includes but is not limited to:

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

- Materials prompt students to use evidence to support their hypotheses and claims. For example, Activity 1.8A/B, Can Changes be Reversed? is an investigation where students observe, record, and discuss how materials such as pancake mix, tap water, and chocolate chips can be changed by heat using a hot plate. Step two of the procedure states, "Have students predict what will happen when the pan with chocolate chips is placed on a hot plate." Students support their predictions by drawing their observations on a data table of the items before heating, after heating, and after sitting for ten minutes.
- Materials prompt students to use evidence to support their hypotheses and claims. For example, for Activity 1.10B, How Does Water Make Dirt Move? students build a model of a mountain or a sand dune then create a "rainstorm" and record what happens to their model. Step eleven of the procedure states, "Write down what you think will happen to your model when it 'rains'. What do you predict?" Students draw a picture of their model before a rainstorm and after the rainstorm, record and discuss their observations by answering questions like, "What happened to the dirt or sand as the water ran down the model" and "Was your prediction right? What was the same? What was different? Discuss with our group. Write down what you think about your prediction." Then they answer reflection questions using the

evidence they collected like, “Could you make the whole pile of sand or dirt move if you poured enough water down it? Why?”

- Materials prompt students to support their hypotheses and claims. The Engineering Design Challenges prompt students to use evidence to support their claims. The Engineering Design Challenge guides students through the process of working together to solve a problem. Students collect data and discuss options together to find the best possible solution. For example, TEKS 1.13A, Stay Warm, requires students to design a covering to keep a bottle filled with water as warm as possible. Students must then convince others that their product uses materials that keep people warm better than other products.

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

- Materials include embedded opportunities to develop and utilize scientific vocabulary in context. For example, the reader for TEKS 1.7A/B, “Pushes and Pulls,” provides students the opportunity to use scientific vocabulary as it relates to different kinds of movements such as in a straight line, back and forth, zig-zag, fast and slow. Lesson vocabulary includes *direction*, *force*, *push*, *pull*, and *speed*.
- The materials include embedded opportunities for students to develop and utilize scientific vocabulary in context. For example, lesson 1.10B, Rocks on the Move, gives students several opportunities to develop their understanding of scientific vocabulary including *erosion*, *gravity*, *stream*, and *slope*. Students investigate and describe how water can move rock and soil particles from one place to another by building a dirt model and then pouring water over the model. Students discuss what happened to their models using the target scientific vocabulary. If needed, students can use the glossary to look up words for the activity (erosion, gravity, stream, and slope) and view an image and a definition that can be read aloud.
- The materials allow students to apply scientific vocabulary within context. During 1.12B/C, Depending on Each Other, in the Organisms and Environments unit, students learn that animals and plants are interdependent. The materials introduce or use the words *producers, make, consumers,* and *food chains* and explain each word in relation to the others. Then, students use the new vocabulary to answer the following questions: “Where do living things get their energy? Where do plants get their energy? Why are plants called ‘producers’? What is a food chain? What is an organism? In a diagram of a food chain, what do the arrows represent or show?”

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 argumentation and discourse to support students’ development of content knowledge and skills as appropriate for the concept and grade level. For example, Anchoring Phenomenon 1.6A/B, Variety of Fruits, includes a picture of different fruits with different properties. The materials suggest that students ask their own questions and include the following prompts to be used to get a conversation started: “What do you notice? What colors do you see? Are some fruits heavy? Do the fruits have different textures? What questions do you have?”
- Materials integrate discourse to support students’ development of content knowledge and skills as appropriate for the concept and grade level. The anchoring phenomenon is intentionally designed to have no text or audio so that there is no front-loading of information and allows the students to discuss what they are seeing freely. An example is found in the category, Matter and its Properties, 1.6A/B, Sorting and Changing Matter, Engage activity, where Anchoring

Phenomenon 1.6A/B, Pancakes, includes a short video clip of pancake batter pouring on a hot pan, showing how when the pancake begins to cook, it is flipped. The materials suggest, "Students should ask their own questions, but you can use the prompts below to get a conversation started." The prompts include: "What is happening to the pancake? What will happen to the pancake batter while it cooks? What caused the pancake batter to turn from a liquid to a solid? What questions do you have?"

- The Engineering Design Challenges integrate argumentation and discourse to support students' development of content knowledge and skills as appropriate for the concept and grade level. The Engineering Design Challenges allow students to discuss and work together in groups. As they work together to solve a problem in groups, students practice argumentation by discussing their ideas and solutions. For example, for 1.7A/B, Push or Pull? Pull or Push? students act as engineers using their knowledge of pushes and pulls to find two or more ways to move a box. In the beginning, the box is in the middle of a taped-off square. From there, student groups need to move the box to one of the corners without touching it directly or lifting it. Then they must convince others that their product or method is the best solution for moving objects without touching or lifting them.
- Materials integrate discourse to support students' development of content knowledge, skills, and grade-level concepts. In Unit 1.13B/C, Life Cycle of Animals, Activity, Are You My Mother? students practice discourse when they discuss animal pictures and how the adult animal matches the baby animal. The materials suggest that teachers remind students to listen actively to others' explanations to identify important evidence and engage in respectful scientific discussion. Additionally, in the same Unit, 1.13B/C, Comparing Life Cycles of Animals lesson, students compare the life cycles of several different animals. In groups, each student draws the life cycle of one of three animals: frog, fish, or chicken. Then, each student discusses the life cycle of their animal with the others in the group. The teacher leads students to discuss the similarities and differences in each life cycle. The students also describe the life cycle of their animal. The groups follow the same procedure for each type of animal, then compare and contrast the different life cycles with the class.

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.

- Materials provide opportunities for students to construct and present verbal arguments that justify solutions to problems using evidence acquired from learning experiences. For example, in the Engineering Design Challenge, 1.7A/B, Push or Pull? Pull or Push? students act as engineers to design a solution to the problem of moving an object by pushing and pulling without picking up the object. In this activity, students use their knowledge of pushes and pulls to find two or more ways to move a box. In the beginning, the box is in the middle of a taped-off square. From there, students need to move the box to one of the corners without touching it directly or lifting it. Student groups use provided materials to design a solution. Each group will explain their design and tell why they think their material(s) will work best.
- Hands-on Activities provide opportunities for students to construct and present written and verbal arguments that justify explanations of phenomena. For example, 1.11A, Plants Rock!, allows students to identify and describe how plants use rocks. Students work collaboratively to analyze a series of images and identify the images that show plants using rocks in different ways

while using a datasheet to record their observations. During a turn-and-talk activity, students share their thoughts about how plants use rocks.

- Engineering Design Challenges provide opportunities for students to construct and present developmentally appropriate written and verbal arguments that justify explanations of phenomena and solutions to problems using evidence acquired from learning experiences. In the Engineering Design Challenge for TEKS 1.13A, Stay Warm, student groups act as engineers to design and construct an outer covering to keep water warm inside an 8-ounce bottle, to simulate making an outer covering for humans to keep warm. Each student explains their design and tells why they think their material(s) will work best to make their model. Once their models are complete, students discuss the limitations of their model and explain if their design met the success criteria. These practices allow students to engage in developmentally appropriate verbal argumentation as it relates to the TEKS. The materials also include success criteria stated in a rubric that grades construction, communicating results, and redesign as advanced, proficient, developing, or beginning.
- Materials provide opportunities for students to construct and present verbal arguments that justify solutions to problems using evidence acquired from learning experiences. For example, in Unit 1.13A, Animals and their Environments, Activity, Animal Body Coverings: Vertebrates, students practice sorting and classifying, by sorting animals with similar structures into the same category. For example, Scales: lizard, chameleon, gecko, alligator, guppy, iguana, red snapper. Students discuss what advantages scales provide for the animals that have them and choose another 2 categories (fur, no fur) and repeat sorting the process. They also discuss the advantages feathers have for the animals who have them and use statement cards to recall specific characteristics and which animals have them.

EduSmart Science Grade 1

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 Unit Teacher Guide provides the teacher with common misconceptions that students may have about the content. This allows teachers to anticipate student responses and address them effectively. The guide also provides the teacher with essential questions and possible example answers to them so that the teacher can guide the students toward conceptual understanding. For example, the Unit Teacher Guide for 1.6C, System and Parts, provides background information that "some objects are a system made of organized parts." The Unit Teacher Guide also states the common misconception that students "may think that if something like wooden building blocks is painted different colors, that they have changed their physical properties." Additionally, the Unit Teacher Guide, 1.12A, Basic Needs of Living Things, includes the common misconception that "generally young children think that living things move and non-living things do not move. They may think living things breathe and nonliving things do not. They will think that a seed doesn't do anything (seemingly), but a young plant changes and grows. So, a seed must be non-living."
- The Essential Questions section of the Unit Teacher Guide supports teachers in anticipating student responses to questions and extending learning through follow-up questions. The Unit Teacher Guide for 1.12A, Basic Needs of Living Things, includes three essential questions with

their corresponding explanations. First, “What are living organisms? Living organisms are those that have basic needs that must be met in order to reproduce. Animals need water, food, air, and shelter. Plants need water, food, air, and space to grow.” Second, “What are non living things? Nonliving things cannot reproduce. They do not have basic needs that must be met in order for them to exist. Non-Living things include water, soil, and air.” Third, “How do living things depend on their environments and their structures to stay alive? Living things have structures and behaviors that help them use the living and nonliving parts of their environment to survive and reproduce.”

- The materials provide teacher guidance on the use of questioning to deepen student thinking. The Anchoring Phenomenon is designed to engage students. For example, the Anchoring Phenomenon for 1.6C, Parts to Whole, engages students in explaining that a whole object is a system made of organized parts such as a toy that can be taken apart and put back together. The teacher document for this phenomenon provides background information for the teacher to share with students as well as background information to support the teacher in deepening students’ thinking through questions such as, “What is being made with building blocks?” and “What have you made with building blocks?” The teacher document for this phenomenon provides background information for the teacher to share with students as well as background information for the teacher to support deepening students’ thinking through questions such as, “Can you use the castle building blocks to build another type of building? What questions do you have? What do you notice?”
- Materials provide teacher guidance in the use of questioning to deepen students’ thinking. For example, in the activity, “Can you change how a ball moves?” in Unit 1.7A/B, Pushes and Pulls, materials provide background information about the activity, then share guiding questions that the teacher can ask such as, “How can the ball go through the tube?” and “How could you stop the ball, Could you push it? Could you catch it?” The teacher also encourages predictions with questions such as, “What would happen if you put the board into a ramp?”

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

- The materials include embedded opportunities for the teacher to scaffold students’ development of scientific vocabulary. For example, in TEKS 1.12A, Basic Needs of Living Things, the teacher materials provide background information that states, “Things can be classified as living or nonliving.” The teacher reminds students that living organisms have basic needs that must be met in order to survive and produce offspring, and that nonliving objects do not have basic needs but can be identified by their physical properties. Students practice the vocabulary words *offspring* and *shelter* using the reader, 1.12A, “Observing Living and Nonliving Things,” as well as in suggested Station Activities from the Implementation Guide. One of these activities states, “Students can create an interactive word wall to demonstrate words from the unit. OR Have students create visual flashcards for the vocabulary with pictures and definitions.”
- The Scope and Sequence provides teachers with new unit vocabulary and vocabulary from prior content. This allows the teacher to scaffold vocabulary based on student needs. The vocabulary listed within the Scope and Sequence allows the teacher to support student development of vocabulary in context. For example, in the Scope and Sequence, under 1.6, Sorting and Changing Matter, words listed under the category “New grade level words” include *melting, freezing*, and *evaporation*. Words listed under the category “Words with Prior Knowledge” include *Physical Property.* Teachers are provided with Vocabulary Essential Questions to prompt the use of

vocabulary in context through conversation. These questions include, “What are some observable properties of objects that can be used to describe and identify them? What other materials change state when heat is added or removed? What tool would I use to determine the mass of an object? What sense would I use to determine the texture of this object?”

- The materials provide some teacher guidance on supporting students’ development and use of scientific vocabulary in context. Instead of scaffolds, the materials include ideas on how to practice vocabulary. The Implementation Guide, K-2, includes Suggested Station Activities for Small Groups or Partners. This section guides the teacher to use the words in the Glossary at the end of each concept unit in three different ways; the first one is, “Vocabulary practice using Glossary to practice all vocabulary associated with a unit” (note, the document doesn’t guide the teacher on how to conduct the practice.) The second one is, “Students can create an interactive word wall to demonstrate words from the unit.” The last suggestion is, “Have students create visual flashcards for the vocabulary with pictures and definitions.” An example of vocabulary words included in a glossary where teachers can implement the three suggested strategies can be found in the Unit 1.8B, Changes Caused by Heat, Glossary. The words are *energy, heat, thermal energy,* and *melting*.

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

- The Anchoring Phenomenon materials provide teacher guidance on preparing for student discourse. By previewing the teacher document ahead of time, teachers prepare themselves to scaffold student questioning and discourse. For example, students see a pancake being cooked in the Anchoring Phenomenon for 1.6B, Pancakes. By previewing the teacher document ahead of time, teachers access background information that guides teachers not to explain what is happening to the pancake batter as it cooks or provide answers for any of the questions students ask. This guidance creates an opportunity for students to develop their own discourse through questioning. If needed, the materials prompt teachers to start verbal claims/conversations: “What is happening to the pancake? What will happen to the pancake batter while it cooks? What caused the pancake batter to turn from a liquid to a solid?”
- The Engineering Design Challenges (EDC) include background information to prepare teachers for supporting students in using evidence to construct verbal claims. For example, the teacher document for the EDC for TEKS 1.13A, Stay Warm!, provides teachers with guidance on design analysis questions that students should be able to answer once their design is complete: “Which material worked best to keep water in the bottle warm? Was the best material similar to what an animal would use in nature? What would make your covering better?” The teacher document also includes a rubric and guides teachers to have students use the rubric to determine if their design met the success criteria.
- Evidence of materials that provide teacher guidance on preparing for student discourse is found in the Scope and Sequence document that is organized by Reporting Category. Each category includes an Essential Questions column with two to five questions. These questions guide teachers as they prepare for student discourse. The Reporting Category, 1.9, Earth and Space, Essential Questions Column reads: “How can you describe winter? How can you describe spring? How can you describe summer? How can you describe fall?”
- Materials provide teacher guidance on preparing for supporting students in using evidence to construct written and verbal claims. Activity 1.8A/B, Can Changes be Reversed? is an investigation where students observe, record, and discuss how materials such as pancake mix,

tap water, and chocolate chips can be changed by heating using a hot plate. Step two guides the teacher to “have students predict what will happen when the pan with chocolate chips is placed on a hot plate.” Students are expected to support their predictions by recording their observations on a data table of the items before heating, after heating, and after sitting for 10 minutes.

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

- Unit Teacher Guides support teachers in facilitating the sharing of students' thinking and finding solutions. By providing common misconceptions, the Unit Teacher Guide allows the teacher to help dispel the misconceptions that students may share. For example, the Unit Teacher Guide for 1.6C, System and Parts, provides the possible student misconception that if something like wooden building blocks is painted different colors, its physical properties have changed. By addressing this shared misconception, teachers support and facilitate students in demonstrating and explaining that a whole object is a system made of organized parts. Essential Questions that students should be able to answer independently are: “What is a system? What is a system that can be taken apart and put back together to make something different?”
- In Unit 1.10D, Weather Information, the teacher guide provides information about the weather. It guides the teacher to explain that “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.” The teacher encourages students to think about how to describe different kinds of weather. Teachers encourage students to find solutions to questions such as, “What should be part of a weather report?”
- The EDC includes information to support and guide teachers in facilitating students' finding solutions. The EDC for 1.7A/B, Push or Pull? Pull or Push? includes a performance task with embedded guidance for teachers in supporting students through their design process as they work to move a box without touching it. The materials provide analysis questions the teacher can use to facilitate students' thinking and solution-finding. These questions include, “Is working alone or with one or more team members the best approach?” “Is pushing better than pulling to accomplish this task?” and “What other materials might you use to accomplish this task?”
- Materials support and guide teachers in facilitating the sharing of students’ thinking. The Anchoring Phenomenon at the beginning of each concept unit is a picture or a short video that engages students in what they are about to learn. The print feature of the Anchoring Phenomena guides teachers in facilitating the sharing of students’ thinking. For example, in the Anchoring Phenomenon Picture, 1.6A/B, Variety of Fruits, the background information section guides the teacher as follows: “Physical properties describe an object by shape, color, texture, size, weight, etc. When fielding questions, do not explain physical properties or provide answers for any of the questions.” It also guides the teacher to “Let students continue to ask questions and then come back and refer to this image when discussing that physical properties are what we use to describe matter.”
- The Engineering Design Challenges provide an opportunity for students to collaborate in designing solutions to real-world problems. There are two EDCs in first grade. One is 1.13A, Stay Warm, where Students will design a covering to keep a bottle filled with water as warm as possible. The other one is 1.7A/B, Push or Pull? Pull or Push? where students work “on the problem of moving an object by pushing and pulling without picking up the object.”

EduSmart Science Grade 1

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 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 diagnostic, formative, and summative assessments that include formal and informal opportunities to assess student learning in a variety of formats. Materials assess 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 a variety of formative and summative assessments to gauge student learning. EduSmart materials allow for diagnostic assessments for students in 1st grade that are appropriate for the grade. For example, quizzes can be used as a diagnostic assessment when assigned as a pre-assessment and then again as a post-assessment. By reassigning the quiz and giving it a unique name, teachers can compare both sets of data and use that data as a form of diagnostic assessment.
- EduSmart provides materials for student assessment, such as an EduSmart Quiz. This quiz is located in the assessment tile. The navigation guides below show how to access the assessment tile on the EduSmart platform. Grade 1 Tx Science> Matter and its Properties > 1.6(A)(B) Sorting and Changing Matter > Assessments.
- Quizzes are developmentally appropriate and standards-based, and provide an opportunity to summatively assess student learning. Teachers can use quizzes to formally assess student learning at the end of a unit or use them as a progress monitor during the unit. For example, in 1.6A/B, Sorting and Changing Matter, a five-question quiz assesses students' knowledge about sorting matter according to properties. The quiz provides teachers with data on their students' learning.

- Interactivities allow teachers to formatively assess their students' knowledge formally or informally. The interactivity takes the student through a content-related game or activity. The student is required to complete the interactivity using knowledge from their learning. The score is then given to both the student and the teacher. For example, in the Lesson 1.13B/C, One...Two...Three...Grow! the students have to match the baby animal to the adult parents; they are then given their score. Teachers will receive this score and can use this data to make informed decisions on intervention, reteaching, or extensions. Additionally, the materials include EduSmart Quiz 1.6A, Sorting and Changing Matter, with three questions in the form of two multiple choices and one true or false.
- Formative assessments are present at the end of each reader. For example, the Reader, "Functions on a Farm" in 1.5F, Structure and Function, formatively assesses the students through a quiz after the reading. Some of the questions include, "Which of these are structures mentioned in the book? Why do you think the author wrote this book? The text states that ducks have webbed feet. What do you think would happen if ducks did not have webbed feet? Based on the structure and functions you learned about animals, what structures and functions do you have?"
- The materials suggest using student portfolios, which could be a summative assessment to assess student growth in scientific knowledge and skills over time. The Teacher Communication Letter provides overview information about Student Portfolios, stating that they can include "work samples from the Engineering Design Challenges, data sheets from hands-on activities, or student answers from the five-question probe at the end of the readers."

Materials assess all student expectations and indicate which student expectations are being assessed in each assessment.

- The materials assess all student expectations and indicate which student expectations are assessed. The Assessment Reports document states, "By identifying which standards have been successfully grasped and which require further attention, teachers can tailor their instructional strategies, design targeted interventions, and adjust lesson plans to align with student needs." This assessment report allows teachers to see which student expectations have been assessed through the EduSmart materials, not just specifically through quizzes. The quizzes assess content that directly aligns with a grade-level TEKS. For example, the quiz for 1.6C, System and Parts, displays the TEKS that is being assessed under each question. The available quizzes assess the following Student Expectations (SEs): 1.6A/B, 1.6C, 1.12A, 1.12B/C, 1.10B, 1.10C, 1.11A, 1.13A, 1.8B, 1.7A/B, 1.10D, 1.11B/C, 1.13B/C, 1.9A, 1.10A, and 1.8A.
- The Interactivities also assess all Student Expectations for grade-level TEKS. For example, the interactivity for 1.12B/C, Snap It Up!, assesses students through a virtual experiment in which "students observe and record different examples of interdependence among plants and animals in a park, forest and pond environment."
- The Teacher Guide provides the student expectations for lessons. The Teacher Guide, Grade 1, Basic Needs of Living Things, TEKS 1.12, Organisms and Environments, states, "The student knows that the environment is composed of relationships between living organisms and nonliving components." The student is expected to classify living and nonliving things. The students are evaluated with the EduSmart Quiz which includes the following questions: "Plants do not need…. It is important for plants to get water because…. Which of the following is a living thing? Look at these pictures of living things and their shelters. Which of these is not a correct match? Some nonliving things can produce offspring. True or false?"

EduSmart Science Grade 1

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

- The materials include quizzes that assess Science and Engineering Practices (SEPs), Recurring Themes and Concepts (RTCs), and scientific concepts. Although SEPs and RTCs may be assessed on quizzes, this is not consistently identified. For example, the quiz for 1.10C, Rivers, Lakes, and Oceans, integrates the recurring theme and concept TEKS 1.5AB, but is not explicitly stated.
- The Engineering Design Challenges integrate and assess scientific concepts, SEPs, and RTCs. Two of the Engineering Design Challenges in the materials include 1.13A, Stay Warm, and 1.7A/B, Push or Pull? Pull or Push? Both of these challenges ask students to work as a team and design solutions to real-life problems (create a cover that will keep water warm and create a prototype that will move a box without using hands). This provides the learner an opportunity to integrate the learning content, SEPs, and RTCs. Each Engineering Design Challenge includes a teacher document and rubric to determine student proficiency. One example includes the Engineering Design Challenge for 1.7AB, Push or Pull? Pull or Push? 1.7A, where students must explain how pushes and pulls can start, stop, or change the speed or direction of an object's motion. This challenge also integrates the SEPs and RTCs 1.1A, 1.1B, 1.1G, 1,2A, 1.2D, 1.3A, 1.3B, 1.3C, 1.4A, 1.5B, 1.5D, and 1.5G.
- The materials include formative assessments that integrate scientific knowledge and SEPs and RTCs. For example, in the lesson, Organizing Data Using Numbers, students learn how to sort and count objects and organize data using numbers, and are introduced to the concept of graphs and visual representations of data. Students use a chart to write down the number of candies they have for each color. The teacher shows them how to make tally marks or write the number directly in the box. The materials state, "Once everyone has filled out their chart, have them share their data with the class." The teachers ask questions such as "Which color has the most candies?" or "How many more red candies are there than green candies?" The students also use the data to create a bar graph or other visual representation of the data. The students count and draw the number of candies in each color on the graph or do this as a whole class activity. This activity aligns with SEP TEKS 2.1-2.3 and RTC TEKS 2.5D and 2.5A.

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

- The Readers contain assessments that require students to apply knowledge and skills to novel contexts. The Readers are designed to connect a standard to the real world and end with a five-question quiz that requires the student to apply their knowledge to a novel context. For example, the Reader for 1.5E, Let's Go Camping, explains matter and energy during a camping experience. The reader concludes with a five-question quiz that requires the student to apply their knowledge of matter and energy.
- The materials provide Engineering Design Challenges that allow students to apply knowledge and skills to novel contexts. Teachers can use the provided Assessment Rubric to assess the challenges as formative assessments. The Engineering Design Challenge 1.10B, Water Erosion Explorers: Investing in the Power of Water, encourages students "to become Water Erosion Explorers and investigate how water can move rock and soil particles from one place to another. You will observe and describe the effects of water erosion and share your findings." The assessment or "Success Criteria" reads: "Your team will be successful if your model effectively demonstrates how water can move rock and soil particles. Your team will also be successful if you are able to present your model and explain the process of how the water moves the rocks

and soil while using correct science vocabulary." In this challenge, students are creating a model that shows how water can move rock and soil particles.

- The materials include assessments that require students to apply knowledge and skills to a new phenomenon or problem. In the extension for Scientific and Engineering Practices 1.1, How Scientists and Engineers Make Discoveries, the instructions state, "Show students a picture of a Henry Ford and a Model T production line. Ask students how they think Henry Ford was able to envision making so many cars at once." The students design an assembly line for their favorite toys and discuss "How would it look? How would it work?" The teacher shows videos of other toy assembly lines to give students ideas.

EduSmart Science Grade 1

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 provide support for teacher 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 provide guidance for the teacher in evaluating student responses that is appropriate for the grade level. The materials include information to guide teachers in evaluating student responses in a teacher guidance document included with each Anchoring Phenomenon. The guidance document also provides background information on the topic to assist teachers in evaluating student discussion and responses. For example, the document for Pancakes (1.6A) advises the teacher as follows: "Let students continue to ask questions and then come back and refer to this video when discussing how adding heat energy to some materials can change those materials such as solidifying liquid pancake batter or eggs (as in the video) or melting as in a chocolate candy bar. Taking away heat energy (cooling) can also cause changes to some materials such as putting Kool-Aid in the freezer to make ice pops or rain falling on a cold day and turning to snow or ice."
- Materials also provide a guidance document for each grade 1 Engineering Design Challenge as a resource for evaluating students. For example, the Stay Warm (1.13A) challenge guidance document includes a performance task and guidance for the design discussion, analysis, and group discussion.

- Each Engineering Design Challenge also includes an assessment rubric for the teacher to use for evaluating teams' responses as advanced, proficient, developing, or beginning. For example, the rubric for the Stay Warm Challenge (1.13A) evaluates construction, communicating results, and redesign. The rubric for the Push or Pull? Pull or Push? Challenge (1.7A/B) evaluates construction, communicating results, redesign of the design, process, results, and redesign of the product. Additionally, the Stay Warm Challenge includes the following questions to evaluate student thinking about design: "Which material worked best to keep water in the bottle warm? Was the best material similar to what an animal would use in nature? What would make your covering better?" and an assessment rubric to provide guidance for evaluating responses/product.

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 video titled "How to With EduSmart: Reports" provides an overview of how to access student data and reports. The materials also reference customizable assessment reports detailing questions missed, student answers, minutes of taking the test, and progress-tracking tools that enable teachers to identify areas where students may be struggling and provide targeted support. It should be noted that teacher guidance for utilizing these reports to respond to individual students' needs, in all areas of science, based on measures of student progress appropriate for the developmental level, is present. Teachers can utilize the reports to determine how to intervene or accelerate based on student needs for specific concepts.
- The implementation strategies guide provides guidance and direction to teachers on how to effectively use their resources to support individual student needs. For example, the guide states, "differentiated instruction enables teachers to respond to individual student needs in all areas of science, based on measures of student progress."
- The "My Groups" section of the website contains Assignment Reports, Quiz Reports, and StaarSmart Reports. The data included in these reports are presented in ways teachers can easily analyze and interpret. For example, in the Student Quiz section, teachers find reports on student performance on any quiz. These reports show the student's name, how many quizzes they were assigned/completed, their average score, and the median score. Teachers can also click on individual student names to observe their score on their first attempt of the quiz, the last attempt, and their growth from first to last.
- The materials provide resources for teachers to assess learning, such as the rubrics in the four engineering design challenges and four essential questions per unit with a quiz for each unit.
- The EduSmart data report (a PDF available off the platform for reviewers) provides an overview of available data analysis systems, including progress monitoring, activity reports, and assessment data reports. The document states that it "...supports analysis of a student's performance, progress, and strengths and weaknesses on every TEKS." The document also states that "this data provides an expedited way to reteach students as a group, going over the answers that were distractors or they can address students individually for more one-on-one support."

EduSmart Science Grade 1

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

- The assessment tools embedded in instruction, challenges, and activities yield information that teachers can use when planning instruction, intervention, and extension. Quiz responses, interactivities, and quick reteach and test features can help teachers respond to individual student needs and ensure that all students are making progress toward their academic goals.
- The EduSmart Data Reporting document states, "EduSmart also provides progress monitoring tools that enable teachers to track student progress over time. This can include tracking student performance on specific skills or concepts, as well as tracking overall growth and development. By monitoring student progress, teachers can identify areas where students may be falling behind and provide targeted support to help them catch up." The materials include teacher guidance that provides instructions on how to access these reports.
- Materials include a computer-generated report that groups students and generates group reports, student reports, progress monitoring reports, and item analysis reports. Students can be placed in groups based on their content proficiency. The Student Report references reports on student performance on any assessment. The Progress Monitoring Report references reports on students' performance on different standards in an assessment. The Item Analysis Report references reports on group performance on different standards in an assessment. The Quiz Reports and Student Quiz reference group and student performance on any quiz. The Quiz Progress Monitoring references reports on student performance on different standards in the quizzes.
- The data included in the computer-generated reports is presented in ways teachers can easily analyze and interpret. For example, in the Student Quiz section, teachers find reports on student performance on any quiz. These reports show the student's name, how many quizzes they were assigned/completed, their average score, and the median score. Teachers can also click on individual student names to observe their score on their first attempt of the quiz, the last attempt, and their growth from first to last. Additionally, The Quiz Progress Monitoring report shows student performance on different standards in the quizzes. Results are separated into Performance Bands labeled Masters, Meets, Approaches, or Did Not Meet Grade Level. Each Performance Band is labeled with a percentage. For example, Masters Grade Level is 85%-100%.

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

- The Implementation Strategies Guide provides teachers with guidance on how to use the resources to support student learning and respond to individual student needs based on data. The guide includes differentiated instruction strategies, small group instruction strategies, and targeted interventions that can be used to meet the needs of all students. For example, "Accelerated Learners: Glossary- The glossary can be used for a range of activities. Students can use the reader to create their own glossary in their notebook, create cards for a word wall or find examples of the vocabulary word in the classroom or at home."
- The Implementation Strategies Guide recommends resources and activities for additional support. For example, "Additional Support: Leveled readers feature an at-grade level reading level and text-to-speech accommodations. Students can use this accommodation to listen to a fluent reading of the reader to gain information from the reader. Students can also be paired to

practice partner reading with a classmate. Teachers can use this in a small group setting, allowing students to practice their reading while reinforcing the science skills being addressed."

- The Implementation Guide suggests strategies for Station Activities for small groups or partners. Teachers can use data from the assessments to plan small-group instruction to address gaps in learning. The materials state, " Station 1: Vocabulary practice using Glossary to practice all vocabulary associated with a unit. Students can create an interactive word wall to demonstrate words from the unit. The students create visual flashcards for the vocabulary with pictures and definitions. Station 2: Interactivities Station 3: Reader Workshop with 5 questions formative probe Station 4: Maker Space to create a 3D model of concept Station 5: Small Group Intervention with teacher."
- The Implementation Strategies Document provides suggestions on how to use Instruction Modules, Quizzes, and Leveled Readers for students with different needs. The Instruction Modules "can be used whole group or assigned virtually for small group or individuals." The presentation feature on the quizzes "allow the teacher to discuss the questions of the whole group for review or re-teach." The Leveled Readers feature an above-grade reading level allowing accelerated learners to "read at a level that is appropriate for them." It should be noted that materials include resources intended for intervention or enrichment along with those for general instruction, rather than designating additional resources for closing learning gaps.

EduSmart Science Grade 1

Indicator 6.3

Assessments are clear and easy to understand.

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

Meets | Score 2/2

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

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

Evidence includes but is not limited to:

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

- The quizzes contain items that are scientifically accurate, avoid bias, and are free from errors. Quizzes provide teachers with scientifically correct questions that address the standard that is being assessed. For example, in the quiz for 1.12A, Basic Needs of Living Things, students are presented with five questions pertaining to living things and their needs. The questions are based on the students' content knowledge and provide straightforward questions that avoid bias and are free from errors. Example Questions: "Plants do not need…. (sunlight, shelter, water) It is important for plants to get water because…. (water keeps the plants clean, plants get oxygen from the water, water is a basic need of plants) Which of the following is a living thing?(tree, truck boxes pictures only) Some nonliving things can produce an offspring. True or false?"
- The assessments contain items for the grade level that are scientifically accurate. For example, the quiz for 1.6C, System and Parts, includes items that align with taught objectives and present grade-level content and concepts, science and engineering practices, and recurring themes and concepts in a scientifically accurate way. The quiz for this lesson states, "Which object can be put together using wood, a handle, and a lock? (a door) Which item is not part of a bicycle? (Engine) Which object is made up of parts that can be taken apart and put back together again? (a wagon)" These questions avoid bias and are free from errors.

EduSmart Science Grade 1

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

- Quizzes feature pictures that are large enough to be able to be seen clearly. The images are also developmentally and course-appropriate. For example, the quiz for 1.9A, Patterns of Seasons, provides visual answer choices for students for question 4 of the quiz. These images are clear, easy to recognize, and appropriate for the course.
- Assessment tools use clear pictures and graphics that are developmentally appropriate. For example, in 1.9A, Patterns of Seasons, question 3 states, "Which picture shows fall?" The answers include clear pictures of a winter scene, a fall scene, and a summer scene.
- In the quiz for 1.12, A Basic Needs of Living Things, question 3 states, "Which of the following is a living thing?" The answers include clear pictures of a pine tree, a trailer, and wooden boxes.
- The assessments use developmentally appropriate pictures and graphics. For example, in Lesson 2.11A/B, Natural Resources Of The Weather, the Reader, "Natalia and Millie" by Jennifer Roach, contains clear pictures of various weather changes. The images include Natalia and her dog Millie in the rain, looking out the window, and indoors. These images help answer the assessment questions which include, "What are the weather conditions in the Story?"

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

- The materials provide guidance to ensure consistent and accurate administration of assessment tools. The Implementation Strategies Early Elementary (K-2) document provides the following guidance: "Teachers have the autonomy to determine the use of the quizzes and the mode they are assigned. The quizzes can be printed, shown in the present mode, or assigned online." This autonomy allows for individual school districts to determine and implement their own assessment norms to ensure consistent administration across their district and campuses.
- The Implementation Strategies Guide provides information on administering student quizzes and Readers and gives examples of how to use their activities as formal and informal assessments and how to use each activity along with suggestions and time lengths. The document states, "These quizzes can be used as a formal assessment, small group activity, or whole group activity. Can be assigned virtually, conducted whole group, or printed. Presentation features allow the teacher to discuss the questions of the whole group for review or re-teach."
- Additionally, the Implementation Strategies Guide also mentions that the quizzes are STAAR-formatted, and the multiple-choice questions can be assigned virtually. There are also presentation features that allow the teacher to discuss the questions of the whole group for review or re-teach, and five-question multiple-choice quizzes are provided for the students. The materials include an expected time of 10 minutes for the whole group or 15-20 minutes for individuals.
- Materials provide a rubric for the Engineering and Design Challenges that helps the teacher ensure consistent and accurate administration of the challenge to students and how to grade each challenge.

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

- Materials include guidance to offer accommodations for assessment tools that allow students to demonstrate mastery of knowledge and skills aligned to learning goals. The only accommodation for assessment tools is the text-to-speech option in all quizzes. This feature can

be utilized by students at the guidance of teachers to meet accommodation needs allowing all students to demonstrate mastery of knowledge and skills aligned with learning goals. For example, in 1.13B/C, Life Cycle of Animals, all 5 questions have text-to-speech accessibility. Additionally, the 1.13B/C Life Cycle of Animals quiz includes a text-to-speech feature on the web-based assessment platform, allowing students to hover over the text using a speech symbol cursor and convert it into a digital text read-aloud.

- The Implementation Strategies Early Elementary (K-2) states, "The quizzes feature text-to-speech accommodation when assigned online. For each question, there is a speaker icon at the top left below the question number. Students may press this icon for text-to-speech of the question and there is a speaker icon for the answer choices. For each of the questions, the correlating standard is listed below the question number for teacher reference."

EduSmart Science Grade 1

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

Evidence includes but is not limited to:

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

- The Implementation Strategies guide lists the different instructional tools, differentiation suggestions, and station ideas for teachers to include small group intervention. The Implementation Strategies mention some "Differentiation" that includes having students discuss the phenomenon in small groups or pairs before facilitating whole-group discussion to support ELL students and students requiring extra processing time or student talk. The Implementation Strategies guide also provides a Hands-on-Activities section that teachers can use for students who need additional support. Teachers can use them in a small group setting, allowing students to discuss the activity while reinforcing the addressed concepts.
- The Implementation Strategies document is a guide designed to promote a deeper understanding of scientific concepts and to scaffold learning for students needing extra support for mastery. In Unit 1.12A, Basic Needs of Living Things, teachers explain how the environment comprises relationships between living organisms and nonliving components. Once students identify those concepts, students classify living and non-living things based on whether they have basic needs and produce young. Teachers support content mastery by asking questions such as, "What are living organisms?" "What are non-living things?" and "How do living things depend on their environments and their structures to survive?"
- Each video has multiple breaks in the Instruction Modules to facilitate student discussion. The quizzes include features that allow the teacher to discuss the questions of the whole group for review or re-teach. Additionally, the Glossary provides simple, straightforward definitions with visual examples and text-to-speech accommodation.

- The authors designed Instructional Modules to present the TEKS in developmentally appropriate portions for targeted instruction to promote scaffolded learning for students. For example, TEKS 1.8A, Heat in Everyday Life, begins the scaffolding process by explaining that fire is a source of thermal energy, making objects hot or producing heat. This leads to learning that it would be too cold for plants and animals to survive without the sun. Students view a series of images and answer a question about identifying which objects use heat. Students then explore a series of ways that heat is used in everyday life, beginning with living things needing it to survive and then identifying sources of heat within their own homes.
- At the beginning of each unit, the materials provide recommended targeted instruction and activities for students who still need to achieve mastery. The Teacher Unit Guide includes a Common Misconceptions section that provides teachers with information on what students may struggle with so they can plan for misconceptions ahead of time. For example, in the Earth and Space Category, Lesson 1.9A, "Patterns of Seasons," the Teacher Resources Icon lists this common misconception: "...students may not understand that seasons are repeating patterns. They may also think the Earth is closer to the Sun in the summer because it is hotter. This is not true, but it is not appropriate to explain why at this grade level."
- Materials provide Instruction Module Companions (IMC) that continually spiral recurring themes and concepts, science and engineering practices, and content throughout the year on each IMC. Students can complete the IMC as an end-of-year review for maximum retention or as a review before an assessment. However, materials do not provide sufficient access for adequate evaluation of the IMC resource.

Materials provide enrichment activities for all levels of learners.

- The materials include hands-on activities that provide enrichment opportunities for all levels of students. For example, in TEKS 1.12A, "Is it Living or Non-living?" students investigate and classify living and nonliving things by determining if objects have basic needs and produce young. The materials contain an additional extension for students to research what a marine biologist studies and if they would like to be a marine biologist.
- The materials contain enrichment activities for all levels of learners. For example, in TEKS 1.4B, "Scientists and Engineers- What Do They Do?" students explore what a scientist and engineer are and make connections between examples of science and engineering in their own lives. The materials contain an extension activity in which students observe an image of a rubber duck with the information that an inventor named Peter Ganine engineered the first rubber duck. A challenge is presented to students to invent a new toy that could be as popular as a rubber duck.
- The Unit Teacher Guide provides background information, prerequisite knowledge, essential questions, and common misconceptions during activities for all levels of learners. For example, Unit 1.10B, "Rocks on the Move," provides the student with basic background information about Earth materials that are important to everyday life. Students build knowledge through investigation and a description of how water can move rock and soil particles from one place to another. Students work as a group to investigate the question, "How does water make dirt move?" Students build a model of a mountain and create a rainstorm. They then identify what happens to the mountain model when it rains. The activity also provides opportunities to work through misconceptions, such as understanding that rocks can be broken down into pieces to make soil and that even large rocks can be moved if the water runs fast enough.
- The materials provide enrichment activities for all levels of learners that account for learner variability. For example, in the Extension for the lesson, "The Sum of Our Parts," students

demonstrate and explain that objects are made of parts. Students work on creating an invention that would be helpful to have in class and labeling the parts needed to build the device.

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

- Materials provide opportunities for students to adjust their own learning pace independently. The lessons include embedded text-to-speech in all activities for all students. The leveled readers include embedded text-to-speech and allow students to adjust the speed and tone of the reading. Students also have the option to change the colors to grayscale, add color overlays, and change font size. For example, in TEKS1.6A/B, "Nature's Many Sizes and Shapes," students can change the colors to grayscale, color overlays, and font size.
- The Implementation Strategies document provides a section called "Differentiation," which lists suggestions for accelerated learners. Unit 1.12A/B, Basic Needs of Living Things, includes the USS or leveled readers as a differentiation strategy for learning acceleration. The materials state, "EduSmart's leveled readers feature an above-grade-level reading level. This allows for accelerated learners to read at a level that is appropriate for them. EduSmart's readers can be used as an extension activity for early finishers as well. Students can complete the reader and the formative probe. They can then also write a summary, such as a 3-2-1 summary, in their notebook or complete a mini-research project based on the reader topic."
- The lessons provide support and resources for students ready to accelerate their learning. For example, the materials contain challenging activities and assignments that stimulate critical thinking, problem-solving, and creativity. For instance, in the lesson, "Does Force Change an Object's Motion? Student Investigation," students investigate and explain how pushes and pulls cause an object to change speed or direction. The extension activity involves students discovering more about scientists who study forces that cause changes in motion in position.

EduSmart Science Grade 1

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 include developmentally appropriate instructional approaches to engage students in content mastery. The Implementation Strategies Guide suggests ideas for student engagement, including station activities, vocabulary activities, and leveled readers. For example, in the leveled Reader for 1.10B, "Rocks," the text defines rocks, their types, and how they are formed. The materials include readers for three different reading levels; approaching, grade level, and above.
- Materials provide developmentally appropriate project-based learning opportunities through Hands-on Activities. The Hands-on Activities give a variety of activities for students to practice and apply content learned until mastery. Teachers can use the activities to work on content with children individually or in small or large groups. Students actively engage in the process of exploring, discovering, and constructing knowledge. For example, in TEKS 1.4A, Innovation in Technology, students create a model of a device or technology around their house or classroom and develop ideas of how to improve it.
- Additionally, in Unit 1.8A, Heat in Everyday Life, "Can Changes Be Reversed?" students investigate and describe applications of heat in everyday life and how some changes caused by heat may be reversed. Students observe, record and discuss their findings. Students work in

groups to observe, draw, and verbally describe chocolate chips placed in a hot pan. The teacher guides students' understanding by asking questions at the end of the lesson, such as, "What happened to the chocolate chips? When the chocolate chips melted, what did it form?"

- To engage students in the mastery of content, every lesson within the 5E model of instructional units includes a glossary. The glossary activity provides students with high-quality visuals for key vocabulary in the TEKS that is developmentally appropriate. A visual and formal definition pops up when the student selects a vocabulary word. The speaker icon next to the vocabulary word provides text-to-speech accommodations, allowing students to have visual and auditory support as they work on mastering scientific vocabulary development. For example, in the category Organisms and Environments, Unit 1.13B/C, Life Cycle of Animals, Elaborate Glossary 1.13B/C, students clarify their own definitions of *life cycle* and *metamorphosis* through observation, exploration, and inference opportunities within the digital, interactive glossary.
- Instruction Modules provide developmentally appropriate engagement in the mastery of the content. The Instruction Modules are digital, self-paced videos with features students control, such as a closed captioning option, an annotated feature, a repeat button, questions with wait time, and answers to questions that include multiple visuals. For example, in the Instruction Module for Organisms and Environments Category, Unit 1.13B/C, Life Cycle of Animals, students observe the basic life cycles of animals. Students use the repeat button to replay information to learn how animals meet their needs. Students use the closed caption feature to read and follow along with the video to understand animal life cycles and to recognize and compare how young animals resemble their parents. Using the "wait time" feature, students can also take their time when responding to questions.
- The materials engage students in the mastery of the content through various developmentally appropriate instructional approaches. During the lesson "Observing Soil Components," students engage in hands-on inquiry activities to engage with content. The students investigate and document the soil properties of particle size, shape, texture, and color and the components of different types of soils, such as topsoil, clay, and sand. Students observe soil samples (topsoil, clay, and sand) and describe what they see using descriptive words such as color, texture, and particle size. The students compare the three types of soil samples using hand lenses and observe the differences in particle size, shape, and texture between the three samples. Students use a data chart to record data. They can also draw pictures or write descriptions of the different properties they observed for each soil type.

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

- The Implementation Strategies guide supports flexible grouping. The guide provides the teacher with different instructional grouping options. The guide also includes suggested station activities for small groups or partners. For example, in the on-level-reader 1.5D, "Flower Power," students can independently use text-to-speech accommodation to independently listen to a fluent reading of the reader to gain information from the reader. Teachers can also pair students to practice partner reading with a classmate.
- Additionally, in the 1.9A Patterns of Seasons Quiz, the teacher can use the quiz in "present" mode. The teacher can pull a small group or individual student who needs more support and discuss the question-and-answer choices. This strategy allows the teacher to reinforce concepts and test-taking strategies.
- Materials consistently support flexible grouping (e.g., whole group, small group, partners, one-on-one). For example, in the Earth and Space Category, Unit 1.11B/C, Water Conservation, the

Implementation Strategies document lists recommendations on how materials can support flexible grouping. Examples include the following:

- The materials suggest teachers "have students discuss the phenomenon in small groups or pairs before facilitating whole group discussion to support ELL students as well as students requiring extra processing time or student talk."
- The Instruction modules "can be used whole group or assigned virtually for small groups or individuals." For example, in the category Earth and Space, the teacher can use Unit 1.11B/C, Water Conservation, the Instructional Module in whole group instruction, or assign it to small groups or individuals to reinforce concepts of conservation by turning off the faucet when brushing teeth and protecting natural sources of water such as keeping trash out of bodies of water.
- Quizzes "can be used as a formal assessment, small group activity, or a whole group activity."
- The interactivities "can be used as a review activity before an assessment, as a formal assessment, or as a small group activity. [They] can be assigned individually or whole group as well."
- Lastly, teachers can use the readers in small groups, allowing students to practice reading while reinforcing the addressed science skills.

- The Hands-on Activities provide opportunities for flexible grouping. Teachers use guided instruction to work on content with children individually or in small or large groups. For example, in the Activity "Water Bodies," for Unit 1.10C, River, Lakes, and Oceans, students work in small groups to differentiate freshwater vs. saltwater. They engage in a hands-on activity in which they add items to glasses of water to observe the changes. Students then verbally describe their findings.
- The materials support a variety of instructional groupings (e.g., whole group, small group, one-on-one). During the lesson, "How Does Water Make Dirt Move?" students participate in an Investigation: Making a Model. Students work with a group to make a model of a mountain or a sand dune and take turns listening to each person’s ideas. The materials suggest that the teacher allow students to take turns being the reader, artist, or recorder and include a description of what each role includes. After students work collaboratively to create a model, they decide on a name for their model, then predict and write down what might happen to it when it rains.

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

- Materials support multiple types of practices (e.g., guided, independent, group-work) and provide guidance and structures to achieve effective implementation. For example, in activity 1.11A, "How is Soil Used?" students use pictures and a response sheet to guide their conversations about how animals and people use soil. The materials suggest teachers provide students with sentence stems, pre-teach vocabulary, and provide students with visuals with vocabulary to guide students’ comprehension of concepts. Students practice what they learned about how humans and animals use soil. Students can complete this activity in groups, partners, or individually.
- The lesson design allows for a gradual release of responsibility structure. Lesson units start with an anchoring phenomenon. The anchoring phenomenon has a teacher version that guides the teacher in facilitating student-centered discussion. Next, the authors designed the Instructional

Module as the direct-teach or whole-group component. Lastly, the teacher can assign the word explorer, readers, simulations, and hands-on activities to students to complete collaboratively or independently, following the gradual release model. For example, in Unit 1.11 A, Using Natural Resources, students start with the anchoring phenomenon video and direct teach/whole group questions to discuss how people and animals use soil. Students then observe and describe plant growth when they place seeds in a container with soil and without soil. Students can complete this activity independently or with a group.

- Materials support multiple collaborative practices, including engineering design challenges and investigations. For example, in the Matter and Its Properties Category, Unit 1.6C, Systems and Parts, Investigation Activity "Sum of Our Parts," students work in groups of 1-3 to build a house using blocks, legos, connecting cubes or straws, and connectors.
- Under the Explore section of the 5E Model, lessons include activities in which the teacher guides the activity to achieve effective implementation. In the Activity, "Can You Change How a Ball Moves?" for Unit 1.7A/B, Pushes and Pulls, the teacher provides background information on the activity to the group of students and models the use of force when pushing a ball or catching a ball using force to start or stop the ball. The teacher and students work collaboratively to predict possible outcomes.
- The materials provide multiple types of practices (e.g., modeled, guided, collaborative, independent). The materials include lessons in which the teacher models or demonstrates a new skill or concept and provides opportunities to analyze the skill or concept. For example, during the lesson, "Can Changes be Reversed?" the teacher demonstrates "how solid chocolate melts when heat is added but turns to a solid again when heat is removed." After heating the chocolate, the teacher asks students to observe, draw, and describe the chocolate and how it changes. Then they repeat the procedure using pancake batter, letting both heated substances sit at room temperature and comparing additional changes. The students document the results on an observation page.

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

- Unit readers represent a diversity of communities. For example, the Leveled Reader for TEKS 1.7A/B, Pushes and Pulls, includes photographs of different families (families with different cultures and sizes), homes, and communities. Interactivities represent different genders, cultures, and communities throughout the program. For example, the interactivity in 1.10D, "What to Wear?" includes two culturally diverse children of different genders in the video.
- The Reader includes a representation of diversity within the images of their texts. In Unit 1.5A, Patterns, the text "The Pattersons Beach Trip" by Jennifer Roach shows a picture of an African-American family going to the beach.
- The materials represent a diversity of communities using images and information that are respectful and inclusive. The reader, "Ernest Just" by Alexis Markavage, states, "Many years ago, a Black scientist named Ernest Just discovered how cells make new animals. He used a microscope to study sea urchins, sand dollars, and starfish using a microscope. He learned that creating new animals was more complex than what was believed at the time. Scientists knew that when an animal is created, two kinds of cells must meet. By observing these cells, Ernest learned all about how different animals develop from different cells." The text also mentions that Ernest Just is rewarded for his hard work and curiosity. In 1996, a US Postage Stamp included his photo to honor him.

EduSmart Science Grade 1

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.

- The ELPS Strategies document include guidance for linguistic accommodations (communicated, sequenced, and scaffolded) commensurate with various levels of English language proficiency as defined by the ELPS. This document lists five components of Edusmart (Anchoring Phenomena, Instruction Modules, Hands-on Activities, Readers) and lists strategies and techniques teachers can use to scaffold instruction. For example, accommodations for beginner language learners include the following: "allow the use of some language peer native language support, provide wait time, use gestures and movement, and provide clarification in their native language assistance from peers." Additionally, The ELPS Strategies K-2 document offers suggestions for accommodating English Language Learners using the Anchoring Phenomenon. For example, one suggestion reads, "Use gestures and movement when facilitating discussion and provide clarification in their native language including assistance from peers."
- The Implementation Strategies guidance document also offers guidance for linguistic accommodations. This document lists ELPS Skills (the TEKS calls these Language Domains) Speaking, Listening, Writing, and Reading. Each Language Domain includes a suggested activity for students to practice the domain.
- The ELPS Strategies Guide helps teachers provide effective instruction to emergent bilingual students and assists teachers in implementing the ELPS. In the lesson "Soils," in Unit 1.10A, Properties of Soil, the teacher guides linguistic accommodations based on ELPS and grade level. The teacher uses visuals and linguistic supports and allows partner reading, text-to-speech, paired reading, and Read-aloud to model pronunciation and use of English Language Structures.

The guide also provide students with sentence stems and single words for conversation. The sentence stems provided include those for beginner students, such as, "I wonder why…happened? What caused…to happen? What would happen if…?"

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

- The Anchoring Phenomenon encourages strategic use of the student's first language. The Anchoring Phenomenon is a video that does not contain text or audio. The materials encourage teachers to let students discuss or ask questions in their native language and scaffold to English. Allowing students to engage in the activity in their first language will enable students to participate in science with a lower affective filter.
- The ELPS Strategies K-2 encourages using students' first language for beginner students in listening and writing. Listening strategies state, "Allow use of language peer native language support and provide clarification in their native language including assistance from peers." Writing strategies state, "Allow use of native language and drawing to express concepts."

EduSmart 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.

Evidence includes but is not limited to:

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

- The materials provide a Caregiver Letter that explains the program's design, how teachers can use it in the classroom, and how caregivers can use it at home to reinforce student learning. For example, the Caregiver Letter states that "the program is designed to provide a wide range of tools to help your student track their progress, such as an interactive dashboard that displays their scores and allows them to re-try any tricky assignments and together you can go over any question they did not understand if you choose to do so. This will help them understand their strengths and weaknesses and provide an idea of which topics they should focus on."
- The Caregiver Letter includes information about accessing different pieces of materials to support their student. It states, "Your child can also access additional support materials, such as vocabulary practice, online digital labs, and interactive games, to help them further explore the content. Additionally, there are helpful tips and tricks to help them maximize their learning potential."

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

- The materials provide information to be shared with caregivers for how they can help reinforce student learning and development. The Caregiver Letter includes, "To get started, your student will need access to a computer with an internet connection. Once they have logged in to EduSmart through their school digital login, they will find a comprehensive library of activities, videos, quizzes, and games to support their learning. Your child can work through the learning content at their own pace or the direction of their teacher through assignments in their

dashboard, allowing them to practice and review content as needed. Your child can also access additional support materials, such as vocabulary practice, online digital labs, and interactive games, to help them further explore the content." There are also helpful tips and tricks to help maximize their student's learning potential.

- The Caregiver Letter offers possible conversation starters to help reinforce what the student has learned at school and involve the caregiver in their learning. For example, "What was your favorite thing that you learned in science today? How is…related to…? How would you describe…? How would you compare…and…? What was something new that you learned today? Was there anything you learned that confused you? Can you explain…to me? What was something you learned that surprised you? I don't understand…. Can you explain it to me?"
- The Hands-On Activities feature an at-home connection to help caregivers reinforce what the student has learned at school. For example, the Hands-On Activity for TEKS K.7, "One Magnet, Different Objects," encourages caregivers to converse with their child about where they can find magnets at home. The materials state, "Discuss where magnets can be found/are used: refrigerator door decoration magnets, Cabinet door closer/holder, Medicine cabinet door in the bathroom, Magnetic purse 'clasps,' Toys for fishing, Magnetic board games while traveling, so counters do not fall off, etc., Magnetic letters in the classroom, Can opener, and Magnetized screwdriver."
- The materials provide at-home practice activities for caregivers to help reinforce student learning and development. The Teacher Communication Letter in the help section states, "Providing parents with access to their child's platform is another great way to reinforce learning at home." The materials mention that allowing parents to review the Instructional Modules can help them understand the concepts included in the materials. They can also build communication between the caregiver and child about the learning that occurs. The caregivers can use the Readers to engage in reading aloud to their child at home.

Materials include information to guide teacher communications with caregivers.

- Materials include information to guide teacher communications with caregivers. The Teacher Communication Guide offers ways for teachers to communicate with caregivers. This document contains specific examples teachers can use to communicate with caregivers regarding their students' progress. The Guide lists suggested methods to help guide teacher communications with caregivers. The document includes four suggestions: download student reports from your dashboard to send home to caregivers, provide parents with access to their child's platform, keep student portfolios to showcase student work throughout the school year and write classroom newsletters to keep caregivers informed about what is happening in the classroom.
- The materials include Progress Reports as an avenue for teachers to communicate with caregivers. The materials state, "Teachers can download student reports from the dashboard to send home to caregivers. This information will provide them with the student's academic progress and allow them to view which areas their students are progressing in or which areas they are still developing. "
- Parent Access is another avenue for teachers to communicate with caregivers. The materials state, "Providing parents with access to their child's platform is another great way to reinforce learning at home. Instruct parents that reviewing the Instructional Modules can help them understand concepts that are being taught as well as build communication between the caregiver and child about the learning that occurs. Caregivers can also use the Readers to engage in reading aloud to their child at home."

- The materials provide Student Portfolios, a method teachers can use to communicate with caregivers. The materials state, "Student portfolios can be used to showcase student work throughout the school year. These portfolios can include work samples from the Engineering Design Challenges, data sheets from hands-on activities, or student answers from the 5-question probe at the end of the readers. These portfolios can be used to guide conversations with caregivers and also to provide specific examples of the student's areas of strength and areas for improvement."
- Additionally, the Classroom Newsletter is a method of facilitating caregiver-teacher communication. The materials state, "Classroom newsletters can be used to keep caregivers informed about what is happening in the classroom. Newsletters can include upcoming lab investigations, information from the lab safety posters, upcoming units of study from the scope and sequence, and important assessment dates."

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

Evidence includes but is not limited to:

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

- The materials include a TEKS-aligned Scope and Sequence that outlines the order in which the science TEKS should be taught over the course of the school year. The skills are revisited over the course of the entire year.
- In the Scope and Sequence document, there is a strategic order and connection between the TEKS addressing scientific and engineering practices (SEPs), recurring themes and concepts (RTC), and other reporting categories. For example, the Matter and Properties reporting category includes suggested TEKS (1.1A-F, 1.2 A, 1.3A-C, and 1.4A) that can be revisited.
- The Scope and Sequence also list the TEKS, possible activities, suggested days, reporting categories, and essential questions.

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

- The Activities section of the Content Library references inquiry-based hands-on labs, investigations, application practice, and research activities. For example, the Engineering Design Challenge: Stay Warm provides teacher directions, materials, discussion prompts, and clarifications to guide teachers in facilitating the lesson.
- The materials provide teacher guidance for facilitating student-made connections across core concepts and SEPs. The Teacher's Guide for 1.7(A)(B) Pushes and Pulls lists the TEKS for Force, Motion, and Energy, and provides some background information. The materials state, "Students

understand that pushes and pulls can start, stop, or change the speed or direction of an object's motion. A force (a push or a pull) is needed to move an object." The materials also list some common misconceptions, like "Students may not understand that something that is not moving still has forces (pushes or pulls) acting on it. They may also think that pushes and pulls are energy since they can make objects move." The vertical alignment document allows teachers to see what standards spiral from previous grade levels. The Scope and Sequence documents are provided for each grade level. Within these documents, teachers can anticipate when standards will be taught as well as what SEP TEKS and RTC TEKS will be addressed in each unit. This document allows teachers to view when these standards will be spiraled and addressed again.

- The Implementation Strategies document references recurring themes and SEPs. The information listed is detailed and specific for each lesson and grade level.

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

- Materials include opportunities for review and practice of knowledge and skills spiraled throughout the year to support mastery and retention. For example, in the hands-on activity for TEKS 1.8(B), Can Changes be Reversed? students must demonstrate how solid chocolate melts when heat is added but turns to a solid again when heat is removed. Teachers are prompted to use this activity as an opportunity to spiral and review content in TEKS 1.8(A) in which students learned that heat is in everyday life.
- Leveled Readers provide opportunities for students to practice knowledge and skills spiraled from previously learned content. For example, the reader for TEKS 1.13(A), Where Animals Live, allows students to apply previously learned knowledge from TEKS 1.12(A) (basic needs). This practice of knowledge allows students to connect what they previously learned about the basic needs of animals to new knowledge about how an animal's external structures help it meet basic needs for survival.
- The Can Changes be Reversed activity provides practice of the SEPs, and the Animal Coverings activity provides practice of sorting and classifying. The document states how these skills are practiced and reviewed throughout the year. The vertical alignment document allows teachers to see what standards spiral from previous grade levels. The Scope and Sequence documents are provided for each grade level. Within these documents, teachers can anticipate when standards will be taught as well as what Scientific and Engineering Practice TEKS and Recurring Themes and Concepts TEKS will be addressed in each unit. This document allows teachers to view when these standards will be spiraled and addressed again.
- The TEKS identified in the Scientific and Engineering Practices (SEPs) reporting category is spiraled throughout the year and is presented as suggested SEPs connections throughout all the reporting categories except Recurring Themes and Concepts (RTC). In the lesson, Innovation in Transportation, Standard: 1.4.A, the teacher explains how science or innovation can help others. The students explore innovations in technology and make connections to our modern world. The lesson includes terms that will be covered throughout the category. Some background terms that are provided include innovation, scientists, hypothesis (experiment), and engineers. The Scope and Sequence provides suggested SEP and RTC TEKS for each unit of study. Since RTCs are not meant to be taught in isolation, referencing them on the Scope and Sequences provides teachers the opportunity to identify where these concepts are taught at other times in the year.

EduSmart Science Grade 1

Indicator 8.2

Materials include classroom implementation support for teachers and administrators.

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

Meets | Score 2/2

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

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

- The Implementation Strategies Guide is available for every standard and guides all activities along with their design purposes and how to use them. It also provides teachers with ideas for enrichment and scaffolding support as well as station activities.
- Materials use the 5E model, which guides teachers through the learning cycle for students: engagement, exploration, explanation, elaboration, and evaluation. Teachers can toggle to the 5E model using the 5E icon in the top right corner of the content screen. Teachers can sequence their activities and lessons to best scaffold and support student learning. For example, for TEKS 1.10(B) (investigate and describe how water can move rock and soil particles from one place to another) teachers can see the lesson cycle from start to finish.
- The Content Library references direct instruction videos and online quizzes with embedded text-to-speech and language support. Teacher recommendations for using materials are included; for example, some activities say, “great for small-group instruction, small group, word walls, virtual instruction…”

- The Implementation Strategies section provides instruction videos that average 8–12 minutes in length and provide guidance on how to conduct small- or whole-group discussion activities, as well as how to build science terms with visual and literacy support built in.
- In 1.1 to 1.4 Scientific and Engineering Practices (SEPs), the materials are organized in a way that facilitates easy implementation. For example, each category includes a list of required materials for the hands-on activities. The Grade Level Material List is a comprehensive summary of materials and equipment needed for all hands-on activities. The list includes consumable and non-consumable items.

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

- Standards and TEKS are listed in the instructional module. For example, in the Instructional Module for TEKS 1.6(C), Systems and Parts, students learn that a whole object is a system made of organized parts, such as a toy that can be taken apart and put back together.
- Materials include cross-content standards that explain the standards within the context of the grade level. For example, leveled readers explain the scientific content embedded with English Language Arts and Reading (ELAR) standards as well. Students engage in reading about science, and at the end, there is a five-question probe that asks both scientific and ELAR questions about the text. For example, for TEKS 1.9(A), the student reads an explanation of the patterns of the Sun, Moon, and stars seen during day and night. There is then a five-question developmentally appropriate probe that addresses both science and ELAR standards. Teacher information on each reader includes the TEKS for both science and ELAR for correlation.
- The materials include Anchoring Phenomena in several places within the instructional sequence. These Phenomena include TEKS that correlate with cross-content standards and are present in lessons and categories in the same order. The options for Selected Categories include Scientific and Engineering Practices (SEPs), Recurring Themes and Concepts (RTC), Matter and its Properties, Force, Motion, and Energy, Earth and Space, and Organisms and Environments. Additionally, each theme and category include a reader. For example, the reader Katherine Johnson supports science, social studies, and literacy.

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 teacher's version of the hands-on activity includes lists of the materials needed to complete the activity/lab with the students. For example, the hands-on activity, How Does Water Make Dirt Move 1.10(B), includes a teacher guide that provides instructions and the materials list to complete the activity. The activities, 1.8B Causing Changes by Heating and 1.8B Can Changes be Reversed? list a section called Materials per Small Group that identifies the equipment and supplies needed; additionally, the Supply List for Hands-on Activities document includes the consumables and non-consumable materials needed to support instructional activities across grade-level lessons, and the Engineering Design Challenge, Stay Warm, includes a list of materials needed per group.
- The Organizing Data Using Numbers activity includes a list of all equipment and supplies required to support lab investigations. The list includes a snack-sized bag of colored candies (such as M&Ms or Skittles) and a simple data chart. A blank bar graph is provided.

EduSmart Science Grade 1

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

- Materials include guidance for safety practices, including the grade-appropriate use of safety equipment during investigations. For example, the Instructional Module for Scientific and Engineering Practices for standards 1.1 to 1.4, titled Safety and Scientific Processes, guides students through learning how to successfully conduct safe and appropriate science investigations using scientific processes. Additionally, a lab safety poster is in the Hands-on Activities section for each TEKS. The poster can be used to provide guidance for safety practices. Some of the requirements include the following: Always wear safety goggles in the lab, do not touch anything without permission, always wear closed-toe shoes in the lab, no sandals, no food or drink in the lab, never use lab equipment without a teacher in the room, wash your hands before and after using the lab, never touch electric outlets, and listen to the teacher's instructions.
- Activities provide a brief description of safety practices. For example, the Lab Safety Rules for lesson 1.5(A) Patterns include: Always wear safety goggles in the lab, Do not touch anything without permission, always wear closed-toe shoes in the lab, no sandals, no food or drink in the lab, never use lab equipment without a teacher in the room, wash your hands before and after using the lab, never touch electrical outlets, listen to the teacher's instructions, and in case of an accident: tell your teacher immediately. Additionally, the lesson Sorting and Changing Matter includes some lab safety reminders. The materials state, "Safety: Discuss with students the need to wear safety goggles during the investigation."

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

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

Evidence includes but is not limited to:

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

- The Scope and Sequence suggests timelines and a number of instructional days by reporting category, unit, and standard. These timelines allow teachers to cover the required Texas Essential Knowledge and Skills (TEKS) in a reasonable time frame yet remain flexible to provide on-time instruction to learners who need additional time to reach mastery on a topic or who have mastered a topic quickly and are ready to progress to the next sequential lesson.
- The Implementation Strategies Document (ISD) and the Content Library descriptions include an expected time per component guideline.
- The ISD includes a short overview of how to use EduSmart resources. For example, the Instruction Module in 1.1 to 1.4 Scientific and Engineering Practice guidance includes direct instruction videos that average 8–12 minutes in length and can be used whole-group or assigned virtually for small-group or individuals. Each video has multiple breaks to facilitate student discussion – whole class, Think-Pair-Share, or note-taking. When assigned virtually, the student must interact with the video after each break to continue it to reduce student inattention. The expected time for this activity is 10–15 minutes.
- The materials include guidance and recommendations on the required time for lessons. For example, the Grade 1 Scope and Sequence includes The Reporting Category, Scientific and Engineering Practices, and the suggested length of days for the introduction is 4–5 days. The rest of the Reporting categories also have a suggested length of days for each lesson
- The materials within each lesson or unit include pacing suggestions for the grade level. For example, the first-grade Scope and Sequence suggests 11–12 days for the unit, Sorting and Changing Matter.

EduSmart 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.

- Teacher resource guides include strategic implementation instructions that provide teachers with suggested use for each component. The teacher implementation strategies documents give specific guidance on how the components can be used within the lesson cycle, as well as ideas for usage as intervention, remediation, or accelerated learning tools. For example, the Implementation Strategies Document (ISD) suggests the Instructional Modules be used as the instruct/teach component. Additionally, it suggests that the student quiz be used as an extension of the Instructional Module to gauge student mastery. The progression of the activities and content within the ISD reflects a progression from direct instruction, guided learning, collaborative learning, independent mastery, and then possible station activities for enrichment or intervention. The sequence of the suggested content allows for appropriate developmental progression through the TEKS and content required to be taught within one school year. Also included in the documents are details on component use for differentiation with multiple sub-populations of students, including special education, English language learners, dyslexia, ADHD, gifted and talented, and other necessary accommodations. These tools allow users to craft meaningful lesson plans within a flexible curriculum design to meet the needs of their learners.
- The Scope and Sequence document guides the implementation of content following a developmental progression. The Learning Management System (LMS) landing page provides teachers with units on the three dimensions of science which are called Learning Categories. Teachers have the flexibility to use the content of each Learning Category as they are or as a menu of resources to fit locally developed Scope and Sequences without disrupting the sequence of the content. For example, in the Learning Category Recurring Themes and Concepts, Unit 1.5A Patterns, strategic implementation includes a menu for teacher-facing resources and student-facing resources sequenced by an instructional module, a hands-on investigation, and a reader about patterns that can be observed at the beach.
- The Scope and Sequence document provides educators with an understanding of the content and the best order in which to cover topics to help students build understanding. For example, in 1.10(A) Properties of Soil, the guidance information states: The student knows that the natural world includes earth materials that can be observed in systems and processes. The student is expected to: 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.
- The materials include guidance on the implementation that ensures the sequence of content is taught in order. For example, under the Reporting Category, Organisms and Environments, the units are organized in an order that goes through Basic Needs of Living Things, Depending on Each Other, Animals and their Environments, and Life Cycle of Animals. Each unit lists the suggested days, essential questions, TEKS, and possible activities. Materials also include a Unit Teacher Guide that offers options for adjusting the time spent on particular units without disrupting the sequence of content.

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

- The Scope and Sequence suggests timelines by reporting category, unit, and standard. For example, these timelines allow teachers to cover the required TEKS in a reasonable time frame yet remain flexible to provide on-time instruction to learners who need additional time to reach

mastery on a topic or who have mastered a topic quickly and are ready to progress to the next sequential lesson.

- The materials are designed to be flexible for teacher use and implementation. Teachers are able to choose which activities they wish to implement for grade-level content. For example, it is not recommended for teachers to use every resource provided by grade-level standards. This flexibility provides teachers with the autonomy to make their teaching their own while still offering support and scaffolds for students learning. In Variety of Fruits TEKS 1.6A, teachers are given the flexibility of questioning students during the activity or letting students do their own questioning without assistance.
- The Scope and Sequence document provides a suggested pacing guide that allows materials to be covered within one school year. An example of how materials are flexible and can be completed in one school year is the organization of each unit of study. For example, the Sorting and Changing Matter unit of study is organized by materials that can be used for instruction, online activities, hands-on activities, vocabulary, literacy, and assessments. Teachers have the flexibility to choose among the different resources included for each.
- The Scope and Sequence provides flexibility to arrange and complete activities in a specific time frame. The materials also provide lessons within Reporting Categories that incorporate specific TEKS that are taught throughout the school year. For example, in 1.6(A)(B) Sorting and Changing Matter, students are expected to: 1.6A classify objects by observable physical properties, including shape, color, and texture, and attributes such as larger and smaller, and heavier and lighter; 1.6B explain and predict changes in materials caused by heating and cooling. Suggested SEPs connection – 1.1A (ask questions based on observation); 1.1D (use tools); 1.1E (observation and measurements as evidence); 1.1F (record and organize data); 1.2B (analyze for features and patterns); 1.3A (develop explanation supported by data and models); 1.3B (communicate explanations individually or collaboratively); 1.3C (listen actively, engage respectfully) Suggested RTC connection - 1.5A (identify and use patterns); 1.5B (predict cause and effect relationships); 1.5C (describe properties in scale); 1.5D (examine parts or whole of systems model); 1.5E (identify forms of energy and properties of matter); 1.5G (describe factors or conditions that cause change or stay the same).

EduSmart 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 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.

- The materials create a balance between providing enough information and allowing space for students to absorb and process the information being presented. By including an appropriate amount of white space, the content is broken up making it easier for students to read and understand. For example, Anchoring Phenomenon 1.10C, "Pond," has an appropriate amount of white space, colored graphics, and a well-designed layout that makes it easier for students to focus on and learn from the content. Additionally, Activity 1.11B/C, "Investigating Water Conservation," has an appropriate amount of white space and a well-designed layout that makes it easier for students to focus on and learn from the content.
- On pages 2 and 7 of Investigation Activity 1.13A, there isn’t enough white space for the Animal Cards, which makes the pictures spill over and out of the card boundaries.
- The materials include an appropriate amount of white space and a design that supports and does not distract from student learning. In Unit 1.7A/B, Pushes and Pulls, the Reader "How Do Things Move" provides an adequate white space around the text, the content is easy to read and it isn't distracting with overwhelming images. There is consistency in the number of sentences on each page as well. There is a read-out-loud option on the text and it is highlighted in blue for easy tracking. Additionally, in Unit 1.6A/B, Sorting and Changing Matter, the color used in the reader, "Relative Size in the Garden," is used intentionally and consistently to guide the user through the content.
- The materials include an appropriate amount of white space and an overall design that does not distract from student learning. In Unit 1.6A/B, Sorting and Changing Matter, the lesson, "Sorting and Changing Matter," includes white space around the text that makes the content easy to read and comprehend. Also, the margins, edges, and empty spaces around the content are

consistent throughout digital materials. Most of the digital materials are available to download as PDFs. There is also an equal line height of the body of the text, and adequate spacing between paragraphs as the materials change into a different section.

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

- The materials use pictures and graphics to enhance student learning and engagement without being visually distracting. Pictures and graphics are carefully selected to support the content and engage students without overwhelming them. For younger age students, simple and colorful images are used, while realistic photographs and diagrams are utilized for older aged students. For example, Anchoring Phenomenon 1.10C, "Pond," has age-appropriate pictures and graphics that make it easier for students to focus on and learn from the content. Additionally, Activity 1.11B/C, "Investigating Water Conservation" has age-appropriate pictures and graphics that make it easier for students to focus on and learn from the content.
- For the most part, materials embed age-appropriate pictures and graphics that support student learning and engagement. One piece that could distract student learning is a lack of consistency in fonts. For example, on page 3 of Investigation 1.11BC, "Water Conservation," different fonts are used for the letter ‘a’ on the titles of the data table and in the sentence stems and follow-up questions on the same data table.
- The materials include age-appropriate pictures and graphics that support student learning and engagement. For example, in Unit 1.5C Scale, Proportion, and Quantity, the reader, "Relative Size in the Garden," uses photos and pictures with simple labels to help students see important features. The materials show different sizes of bowls and baskets to show relative size. The picture shows a child filling them with blueberries, strawberries, cherries, and apples. The materials embed age-appropriate pictures and graphics that support student learning and engagement without being visually distracting.

Materials include digital components that are free of technical errors.

- The materials are free of technical errors, which can limit student and teacher frustration. For example, Reader 1.1 to 1.4, "Katherine Johnson," and Quiz 1.13A, Animals and Their Environments, are free of spelling, grammar, and punctuation errors and free of wrong answers to problems.
- The materials include digital components that are free of technical errors. For example, the lesson, "Water Bodies," 1.10C, River, Lakes, and Oceans is free of spelling, grammar, and punctuation errors. It is free of inaccurate content materials or information and wrong answers to problems.

EduSmart 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 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.

- Materials integrate digital technology and tools into the educational design to support student learning and engagement. The interactivity components are purposefully designed and align with the learning objectives as outlined in the TEKS. For example, the interactivity for 1.12A, "Match'em," and the Interactive Glossary for 1.11B/C, Water Conservation, are easy to use and navigate while not distracting from the content or target learning objective.
- Materials integrate digital technology and tools for students to engage and expand their knowledge. For example, the Instructional Module for 1.6C, System and Parts, includes an interactive video lesson to help students demonstrate and explain that a whole object is a system made of organized parts, such as a toy that can be taken apart and put back together.
- The materials integrate digital technology and tools that support student learning and engagement. Student digital components include embedded tools such as text-to-speech, a Glossary, annotations, Readers, and Anchoring Phenomenon videos. For example, the Glossary for 1.11B/C, Water Conservation, includes text-to-speech as the students click on the words *conserve*, *natural resources*, and *water,* and the words are read and defined out loud for them.

EduSmart Science Grade 1

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 in ways that support student engagement with science and engineering practices and help students apply the material they are learning. For example, the interactivity for 1.13B/C, "One...Two...Three...Grow!" allows students to digitally match young animals to their adult versions. Additionally, Interactivity 1.1 to 1.4, "Uses of Tools in Science," allows students to match science tools with their use, and the Interactive Glossary for 1.13A, Animals and Their Environments, provides opportunities for students to learn the meaning of new scientific words. In these digital activities, students access concepts in new ways, which can develop a deeper understanding of the material and its real-world applications, as well as allow students to make connections to recurring themes and concepts.
- Materials integrate digital technology in ways that support student engagement with recurring themes. Unit 1.5A, Patterns, includes the Instruction Module interactive video where students learn the definition of and explore examples of patterns. Additionally, the interactive Instruction Module for 1.5B, Cause and Effect (a recurring theme), allows students to learn to investigate and predict cause-and-effect relationships in science. There are questions asked throughout the video, and the students use the provided marking tools to circle the correct answer. For example, the lesson asks the students, "What happens when the ice cream is left out in the sun?" The lesson also includes an interactive whiteboard activity.

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

- Materials integrate digital technology that provides opportunities for teachers to collaborate with one another. Through the use of a digital platform, teachers are able to collaborate with other teachers regardless of their physical location. For example, in the Workspace area, through the use of live lessons, teachers can collaborate with one another in real-time. Additionally, the Workspace area has a shared assignment tab. There is no evidence of Teacher Guidance on how to access or use this feature. There is no evidence of opportunities for students to collaborate digitally.
- Through the use of their digital platform, EduSmart features a lesson-sharing option that allows teachers to collaborate with one another on designing lessons. To get to this feature, the teacher will click on the Workspace link located at the top of the platform. Then click on the Assignments Tab. Once a teacher selects assignments for their class, the teacher can share them by clicking on the Share with Teachers icon located to the right of the assignment. Teachers can share through the EduSmart platform, or they can copy assignment URLs.
- The materials integrate digital technology that provides opportunities for teachers to collaborate. The section labeled "Workspace" includes sections to upload live lessons, create assignments, share live lessons, and share assignments. There is no evidence of Teacher Guidance on how to use this feature to collaborate with other teachers. There is no evidence of opportunities for students to collaborate digitally.

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

- EduSmart's digital technology is compatible with a variety of learning management systems. The assignment URL can also be copied to assign to students through a different platform.

Additionally, the student assignments can be shared to Google Classroom and LMSs like Blackboard, Canva, and Schoology. When a teacher clicks on the Workspace link, Assignments Tab, and then the Assign Icon on the right, three options for sharing with students are available: Assign on EduSmart Platform, Copy Assignment URL, and Share to Google Classroom. LMSs like Canva, Blackboard, and Schoology could use the URLs.

EduSmart Science Grade 1

Indicator 9.3

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

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

Not Scored

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

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

Evidence includes but is not limited to:

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

- The digital technology materials and online components align with the scope and approach to science knowledge and skills progression as outlined in the TEKS. For example, in 1.12A, "Match'em," and in 1.12B/C, "Snap It Up!" the content focuses on the scientific method and inquiry skills that are supported with online components like the Interactivities that provide students the opportunity to collect and analyze data or conduct virtual experiments.
- Digital technology and online components align with the scope and approach to science knowledge and skills progression. In the Scope and Sequence Document, the column "Possible Activities" lists all the digital and online activities per concept unit.
- Digital technology and online components are developmentally appropriate for the grade level. The Readers include a read-aloud feature that allows students to modulate their reading experience. For example, the Reader 1.13B/C, "Life Cycle of Animals," includes a read-aloud feature that allows students to slow down or speed up the rate of speech.

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

- The Implementation Strategies document provides teacher guidance on the use of embedded technology to support and enhance student learning. Each technology component includes guidance for the teacher on how that specific component can be presented and used in their

instruction to support and enhance student learning. For example, the document states, "Quizzes feature text-to-speech accommodation when assigned online. For each question, there is a speaker icon at the top left below the question number. Students may press this icon to have the question read to them and there is a speaker icon for the answer choices. For each of the questions, the correlating standard is listed below the question number for teacher reference. "The implementation document also provides information about the interactive glossary feature of the materials. The guide states, "When the student selects a vocabulary word, a visual and the formal definition pops up. There is a speaker icon next to the vocabulary word that allows text-to-speech. This allows students to have a visual to support their scientific vocabulary development."

- The Implementation Strategies document provides teacher guidance on the use of embedded technology to support and enhance student learning. For example, the document states, "The reader features text-to-speech accommodations for students located at the top right corner of the screen. The students can also adjust the text size, color of the images, and color overlays by using the accommodation toolbar on the top right. At the end of these readers, there is a 5-question probe addressing scientific concepts and ELAR standards. The readers can be assigned individually, in small groups, or whole groups. Students can partner read in a station or listen to the reading online."
- The Implementation Strategies document provides teacher guidance on the use of embedded technology to support and enhance student learning. For example, the guidance for teachers on the use of interactivities includes, "The interactivity can be used as a review activity before an assessment, as a formal assessment, or as a small group activity. It can be assigned individually or whole group as well." The Home tab on the top of the platform includes a video named "Teaching with Live Lessons," which guides teachers on how to create playlists that can be used during asynchronous learning.

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

- The materials are accessible regardless of physical location. This allows students to access materials at home and provides parents and caregivers the opportunity to access the content to support student engagement. For example, the Caregiver Letter states, "To get started, your student will need access to a computer with an internet connection. Once they have logged in to EduSmart through their school digital login, they will find a comprehensive library of activities, videos, quizzes, and games to support their learning. Your child can work through the learning content at their own pace or at the direction of their teacher through assignments in their dashboard, allowing them to practice and review content as needed. "The Caregiver Letter also states," We would love to invite you to be part of this learning process. Students can access their EduSmart dashboard from home by going to https://lms.edusmart.com/ and using their usernames and passwords to log in. Your students' login information is below. Username: _____ Password: _____."
- Materials are available to parents and caregivers through EduSmart's online learning platform. This design allows parents and caregivers the opportunity to access the content to support student engagement at home. A letter to parents/caregivers is found in the Help link on the top of the Home page of the platform. The letter guides parents on how to access student materials and possible questions that parents can ask to reinforce the content that students are learning.

Sample questions include, "How would you compare…and…? What was something new that you learned today?"