Summit K12 Dynamic Science Grade 4

Summit K12 Dynamic Science Grade 4 Executive Summary

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

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

Section 2. Instructional Anchor

- The materials are somewhat 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 somewhat 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 some 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 somewhat clear and easy to understand.

Section 7. Supports for All Learners

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

Section 8. Implementation Supports

- The materials include year-long plans with some practice and review opportunities that support instruction.
- The materials include some 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 somewhat designed to engage and support student learning with the integration of digital technology.
- The digital technology or online components are developmentally and grade-level appropriate and provide support for learning.

Section 10. Additional Information

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

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Indicator 2.1

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.	PM

Partial Meets | Score 2/4

The materials partially meet the criteria for this indicator. Materials are partially 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 limited 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.

- The materials provide multiple opportunities to practice and develop grade-level appropriate scientific and engineering practices as outlined in the TEKS. For example, under each reporting category, some videos are TEKS-based, which develop the understanding of grade-level appropriate scientific practices. The Teacher Lab includes a Scientific and Engineering Practices section that lists the aligned TEKS that are SEPs. The TEKS list aligns with the work of the lab in the student and teacher lab pages. The Scope and Sequence and Pacing Guide states, "Summit K12 suggests introducing the fundamental concepts and principles of science before the beginning of instruction." The materials include a Scientific and Engineering Practices link from the landing page supporting a lesson describing the SEP and academic vocabulary introduction.
- Materials provide opportunities for students to practice grade-level appropriate SEP labs. For example, a lab includes TEKS 4.1E, and students can record observations from the lab in a

graphic organizer. In addition, in grade 4, materials include opportunities for students to analyze and interpret data in the Student Lab, *Friction*, *How Fast Can Your Car Travel?*

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

- The materials provide opportunities for students to use recurring themes in making connections between and within overarching concepts. The Lesson Guide in the teacher's manual contains a section titled Apply/Extend, where opportunities are made to make connections between and within overarching concepts. For example, at the beginning of the 4.9A Lesson Guide, a graphic shows how activities incorporate recurring themes and concepts across lessons. The Scope and Sequence and Pacing Guide states, "Summit K12 suggests introducing the fundamental concepts and principles of science before the beginning of instruction." The materials include a Scientific and Engineering Practices link from the landing page supporting recurring themes and concepts in academic vocabulary introduction.
- Grade 4 materials utilize the recurring theme of patterns. Within a lesson on seasons on Earth, students make observations about the phenomena of the change in seasons, such as changes in temperature and length of daylight. In the Teacher Edition, Category 1, 4.6C Lesson Guide lists recurring themes and concepts TEKS. The Lesson Guide includes the practice of TEKS 4.5G in the section " Demonstrate that Matter is Conserved." In Part 1, students shake 5 objects in a bag and make observations. Students explain conditions that impact stability in objects.
- Materials allow students to make connections between and within overarching concepts using recurring themes. In the Teacher Edition, Category 2, 4.8B Lesson Guide, the students practice TEKS 4.5B in the section Apply/Extend. The investigation has students build a model to test different objects in an electric circuit for conductivity or insulation. The students are investigating the cause-and-effect relationships of different materials interacting in a circuit.
- Another example in the Teacher Edition, Category 4, 4.12C Lesson Guide, the teacher instructs students to write a scenario that includes "How the environment changed, and what would have caused these changes to the environment."

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 provide teacher support designed to guide teachers through the development of content concepts and skills. For example, in the Lesson Guide, under the teacher's manual, there is a section titled Apply/Extend, where teachers strategically and systemically develop students' content knowledge and skills. Grade-level content knowledge and skills are taught using SEPs and recurring themes so students can build and connect knowledge and apply it to new contexts. For example, as students plan and conduct investigations across the year, materials provide support for increasing complexity in student-led inquiry and investigations, including guidance for teachers to revisit topics with students to review previous learning; however, it is limited on revision and thinking on topics. The materials for the grade 4 Pacing Document include an overview document that explains how the program is structured and gives a rationale for the sequence of units, showing how the program systematically presents content and concepts for students to make connections across units throughout the program.
- An example of systematic design within the materials is how the Lesson Guides shift the discussion from 3.8AB to 4.8A to 5.8A. Each guide strategically develops student understanding as outlined in the specific TEKS for each grade level. An example of systematic design within the

materials is how the Lesson Guides shift the discussion from 3.6D to 4.6BC to 5.6C. Each guide strategically develops student understanding as outlined in the specific TEKS for each grade level. For example, Lesson Guide 3.6D focuses on how materials can be combined to create objects through building. Lesson Guide 4.6C focuses on the conservation of matter within mixtures, such as a bag of objects. Lesson Guide 5.6C furthers students' knowledge about the conservation of matter in solutions.

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 materials include limited opportunities for students to ask questions and plan and conduct investigations. While the Lesson Guide includes questions and activities that allow students to ask questions, the materials present experiments that are mostly teacher-led. This includes asking preplanned questions, planning and conducting investigations, and explaining phenomena using appropriate tools and models. For example, in Category 3, TEKS 4.10C, the Student Lab, the prescribed lab is meant to answer the provided question, "What is the difference between weather and climate?" The lab lists specific materials and includes a specific procedure for students to engage in the laboratory investigation.
- The materials provide Student Labs alongside Teacher Labs that provide a question, procedure, and lab outline for students to conduct lab investigations. Still, students do not plan their own investigation around their own questions. For example, in Category 1, TEKS 4.6B, the student lab provides the question, “How does overgrazing impact an ecosystem? What activities can humans do to solve this problem?” and the students follow the steps to achieve the desired outcome. This process does not allow students to ask questions, plan, or conduct investigations.
- The materials include limited opportunities for students to identify problems and use engineering practices to design solutions using appropriate tools and models. Most opportunities for investigations support the development of scientific practices, with fewer opportunities for students to develop engineering practices.
- While materials provide a Phenomenon Inquiry Guide, this document guides student thinking about a phenomenon to create a model. While the guide, in Step 3 of the teacher notes, does indicate teachers should elicit student ideas for investigations, this document does not include any opportunity for students to plan procedures to conduct classroom, laboratory, or field investigations.

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Indicator 2.2

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

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

Partial Meets | Score 2/4

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

Materials partially 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.

- The materials partially provide opportunities for students to develop, evaluate, and revise their thinking as they engage in phenomena and define/solve problems. For example, in grade 4, materials embed opportunities for students to make scientific investigations; however, phenomena-based activities that allow students to construct, build, and develop their knowledge of the grade-level content is minimal and infrequently anchors instruction.
- The materials provide minimal student support in using and understanding science and engineering practices and recurring themes. For example, in the Teacher Edition, Category 2, Lesson 4.8B, the lesson states students will engage in TEKS 4.1B "use engineering practices to design solutions to problems.", 4.5E, "Investigate how energy flows and matter cycles through systems and how matter is conserved," and 4.5G, "Explain how factors or conditions impact stability and change in objects, organisms, and systems" However, none of these are directly addressed in the lesson in a way that students would know and be able to demonstrate understanding at its conclusion.

- The materials do not consistently ask the students to make connections or provide opportunities to ask student-led questions. Most experiences are teacher-driven or provide step-by-step directions that are not authentic applications of science concepts. For example, in the teacher edition for the *Rapid Changes* lesson for 4.8B, the materials state, in bold blue type, "The teacher will also ask discussion questions about the content." There is a single opportunity for a Turn and Talk during the lesson, but it is a response to a question provided by the teacher. There are no opportunities for students to make connections to their understanding of matter and the properties of matter as it relates to energy flow and transfer. However, there is an attempt at connections between conductors and insulators as it relates to thermal and electrical energy.
- Throughout the lessons, there is minimal evidence of opportunities for students to generate their own questions and provide authentic applications of SEP, RTC, and grade-level content. For example, in the student lab for 4.6A, students classify and describe the experience. At no point in the lab do they generate their own questions. The question is provided to them at the top of the first lab page. There is no authentic application of SEP, RTC, or grade-level content in this lab, as students are testing observations to place into a pre-created table. The lesson does not ask students to solve a problem, discuss a recurring theme or concept, or extend their thinking to a real-world experience.

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

- The materials provide opportunities to leverage students' background knowledge and experiences related to the phenomena or an engineering problem and adequately address potential areas of misunderstanding For example, in a grade 3 Engage portion in the Lesson Guide, students are prompted to activate prior knowledge using guiding questions. Materials in the 3.6A Lesson Guide provide a teacher Common Misconceptions guidance section to help teachers gauge where some students may have inaccurate or inadequate prior knowledge.
- The materials provide teachers with opportunities to leverage students' prior knowledge and experiences before and during the lessons. In the Teacher Edition, Category 1, 4.6A Lesson Guide, the Engage section of the lesson has students describe a textbook from the classroom using physical properties. In the Teacher Edition, Category 1, 4.6B Lesson Guide, the Engage section of the lesson has students describe what kind of groups they see in their daily lives. For example, students are asked to compare the clothes in their closet to a glass of orange juice, considering the ability to separate the ingredients. In the Teacher Edition, Category 3, 4.9A Lesson Guide, the Engage section of the lesson suggests that students share their favorite time of year, describe the temperatures throughout the year, and predict what the weather will be like when the school year ends. The discussion points during the Engage section leverage students' prior knowledge by providing opportunities to share what they already understand about the patterns of the seasons, relevance to phenomena, and engineering problems.

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

- The materials identify student learning goals behind each phenomenon or engineering problem. Materials include a Lesson Guide that begins with a section titled Students will: where the materials clearly outline for the teacher the scientific concept covered in that lesson and the goals behind each phenomenon and engineering problem. Throughout the Teacher Edition in

the Lesson Guide, the Teach and Discuss section describes each specificity within the TEKS and the goals behind each phenomenon and engineering problem.

- Materials clearly outline for the teacher the scientific concepts and goals behind each phenomenon and engineering problem in the following examples. For example, in grade 4, a lesson on the properties of matter presents students with the question of how matter is conserved. Materials clearly outline the lesson goal: "[Student will] demonstrate that matter is conserved when mixtures, such as soil and water or oil and water, are formed."

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Indicator 3.1

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

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

Meets | Score 6/6

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

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

Evidence includes but is not limited to:

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

- Materials are vertically aligned and designed for students to build and connect their knowledge and skills within and across units and grade levels. Materials include a vertical alignment table that supports fostering connections between students' prior knowledge and skills to current grade-level knowledge and skills. Placing this vertical alignment table within the Lesson Guide and following it with activities that directly provoke prior knowledge and are student-centered exemplifies how the materials allow students to build and connect to prior knowledge.
- Materials are vertically aligned for students to connect their prior knowledge and skills across the units. There are also grade-level concept connections that allow teachers to spiral through prior learning or anticipate future learning. For example, Lesson Guide 4.6A has a section titled *Grade Level Concept Connections* which states, “Students have an opportunity to extend and enhance their understanding of this concept through lesson 4.6C demonstrating that matter is conserved when mixtures such as soil and water or oil and water are formed. Lesson, 4.8B Identify conductors and insulators of thermal and electrical energy. Lesson 4.10A describes and illustrates the continuous movement of water above and on the surface of Earth through the water cycle and explains the role of the Sun as a major source of energy in this process.” This earmarks the learning for the teacher so that students make connections across units within the

grade level. Providing this information in the Lesson Guide supports the educator in building a coherent story of science with their students.

- Materials are vertically aligned for students to connect knowledge and skills across grade levels and units. The 4.6A *Study Guide* reviews the Core Vocabulary of 3.6A concepts such as float, sink, magnetism, mass, and temperature. In the *Apply* section of the 4.6A *Study Guide*, students preview future learning. The directions state, "Compare the physical properties of the ice and the rubber duck." This looks forward to TEKS 5.6A, "Compare and contrast matter based on measurable, testable, or observable, physical properties…" This shows vertical alignment within the materials and supports students in making connections across grade levels.
- Materials are vertically aligned for students to connect knowledge and skills across grade levels and units. In Category 1 Teacher's Guide, 4.6A Lesson Guide includes opportunities for students to build on their knowledge of vertically aligned TEKS 3.6A, "Measure, test, and record physical properties of matter, including temperature, mass, magnetism, and the ability to sink or float in water." For example, the Apply/Extend facilitation has students create a graphic to identify and describe items using relative density to water, magnetism, and the physical state of matter.
- Materials are vertically aligned for students to connect knowledge and skills across grade levels and units. Category 4 Teacher's Guide includes a 4.12B study guide. In the Apply section, students use information about organisms to fill out a food web graphic organizer. The Wrap-Up section prompt states, "A fire destroys a forest. What will most likely happen to the birds that live in the forest?" This is a review of vertically aligned TEKS 3.12B, "identify and describe the flow of energy in a food chain and predict how changes in a food chain such as removal of frogs from a pond or bees from a field affect the ecosystem." The opportunity for this written response aids in students connecting their knowledge and skills across grade levels.

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

- Materials are intentionally sequenced to scaffold learning in a way that allows for increasingly deeper conceptual understanding. The vertical alignment framework shows how concepts build on one another by being organized by category and vertically aligned concepts. This supports the teacher's understanding of the ways concepts increase in depth over time. The listed lessons demonstrate a coherence of science concepts as well as an allowance for deeper conceptual understanding. For example, the table outlines that the lessons progress from *Everyday Energy* in 3rd grade to *Transfer of Energy* in 4th grade. The table also shows that in 2nd grade, students study The Sun, The Earth, The Moon, and Objects in the Sky followed by Models of The Sun, Earth, and Moon and Planets in third grade.
- The materials provide a 4th *Grade Pacing Document* that includes a *4th Grade Pacing Guide* that intentionally sequences the lessons based on the reporting categories set forth by the TEKS. Teachers are able to access the pacing document to view the vertical alignment of TEKS across grade levels. The materials provide a Lesson Launch Pad with lessons covered in grade 4, along with lessons vertically aligned to that same concept in grade 3. The lessons linked in the Lesson Launch Pad are stand-alone lessons that are TEKS-based and vertically aligned. This is one way the materials suggest teachers scaffold learning for students to develop mastery in grade-level knowledge and skills and build understanding.
- Materials include activities for students that support conceptual understanding. In Category 1, 4.6B *Student Lab: Beach Clean-up* students use a hands-on investigation to compare different mixtures. Students use tweezers, filters, and magnets to separate the mixture. Making observations of the inability to separate the "beach water" leads to a conceptual understanding

of solutions. The 4.6B Lesson Guide also includes hands-on investigations to support conceptual understanding in the Check for Understanding section. The Apply/Extend section in the 4.6B Lesson Guide includes representation and abstract demonstrations of understanding through opportunities for students to write and draw graphic representations of TEKS content.

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

- Materials clearly and accurately present grade-level-specific core concepts, recurring themes and concepts, and science and engineering practices. A section titled *Teach and Discuss* includes a thorough description of each content TEKS. For example, in Category 4, 4.12C Lesson Guide Teach and Discuss section outlines Fossils and Common Texas Fossils.
- Materials include a presentation of science and engineering practices. On the grade 4 landing page, a link to scientific and engineering practices includes a slideshow with accessible text-to-speech. An explanation of scientific and engineering practices is linked in the Teacher's Guide.
- Recurring Themes and Concepts are embedded throughout the different Category Lesson Guides. For example, in Category 1, Lesson Guide 4.6C includes RTCs 4.5E and 4.5G. TEKS 4.5E states, "Investigate how energy flows and matter cycles through systems and how matter is conserved." This RTC is embedded within the student lab when students demonstrate the conservation of matter with a mixture of oil, water, and confetti.
- Materials include clear and accurate presentations of the RTCs and SEPs. This is noted within each learning activity box in Lesson Guide 4.6A. For example, at the bottom of the box that describes the "Anchoring Phenomenon," there is a list of connected RTCs and SEPs. These include [SEP 4.1A] [RTC 4.5A] for this particular activity.

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

- The materials include a 4th Grade Vertical Alignment which demonstrates the grade level TEKS and their expected outcomes for student mastery of that specific grade level and evidence of guidance around the boundaries of each TEKS.
- From the landing page, the Concept Mastery button links to Student Learning Resources for all 4 Categories. Each Category includes 2 Formative Assessments and Vocabulary tasks aligned to each grade level TEKS. For example, Category 1, Matter and Energy 4.6A Formative Assessment 1 includes 8 questions that are within the main concepts of the grade level. Questions included assessing magnetism, relative density, mass, and physical states of matter. All of these concepts are included in TEKS 4.6A aligning the mastery requirements to the grade level. For example, Category 2, TEKS 4.7A Vocabulary practice assesses student knowledge of Core Vocabulary associated with Exploring Forces. Words included are aligned to the grade level and Vocabulary Boosters listed in the 4.7A Lesson Guide.
- The materials include a section Check For Understanding within the Lesson Guide for each TEKS. For example, Category 4 4.13A Lesson Guide provides a list of teacher discussions to allow students an opportunity to demonstrate their understanding of content. Each prompt is aligned to the grade level content TEKS 4.13A relating to the structures and functions of plants.

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Indicator 3.2

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

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

Meets | Score 6/6

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

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

Evidence includes but is not limited to:

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

- In the grade 4 sample provided, the Classify by Physical Properties lesson offers a Vertical Alignment table, which serves to support teachers in comprehending students' prerequisite knowledge as per the TEKS standards. Additionally, it aids in preparing for future grade-level focus.
- In addition, the *Teacher Resources* page TEKS Lesson Guides and Instructional Resources include previous concepts in each Category that are vertically aligned to the grade-level content TEKS. For example, Category 2, Force, Motion, and Energy, include previous learning in 3rd grade for TEKS 3.7A (Describing Forces), 3.7B (Changing Position and Motion), 3.8A (Forms of Energy), and 3.8B (Speed and Mechanical Energy). There is support for teachers to understand the horizontal alignment, such as how skills are developed and conception understanding is built across the lesson.
- Materials support teachers in understanding the horizontal and vertical alignment of the science and engineering practices and Recurring Themes and Concepts standards. Each Lesson Guide lists the standards that are embedded. For example, in Lesson Guide 4.8C there are 4 RTC (4.5B, 4.5D, 4.5E, and 4.5G) that are listed. There are recurring themes and concepts aligned within and across grade levels supporting teacher understanding. The materials provide a Teach and

Discussion section that while presenting content and concepts in bulleted lists, provides vertical or horizontal alignment support.

- The materials include a TEKS-SEPs-RTCs Crosswalk that shows where each TEKS, SEPs, and RTC is covered in the materials. It uses a color coding system to indicate which TEKS-based lessons include SEPs and/or RTCs. One color illustrates for the teacher that the SEPs/RTCs are embedded in the lab investigation, another color indicators they are embedded within an inquiry or explore activity. This document supports teachers in understanding the horizontal alignment of the TEKS, SEPs, and RTCs within the materials.

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.

- In the grade 4 sample provided, the Classify by Physical Properties lesson offers an *Anchoring Phenomenon* section where students observe a video of a little girl washing marker ink from her hands. Then students develop an initial explanation to respond to the question: “Why do some markers wash off, and others do not?” Students create and refine models and document evidence about the phenomenon which serves to support teachers in comprehending students' prerequisite knowledge as per the TEKS standards.
- A guide for student misconceptions has been addressed. In the grade 4 sample provided, the Classify by Physical Properties lesson offers a *Student Investigation:* “Addressing Misconceptions where students work in groups to investigate misconceptions about matter’s physical properties. Students choose one misconception, ask an investigable question, and plan an investigation to answer their question. “
- The materials contain Lesson Guides that include a section for Misconceptions to support teachers in eliminating barriers to student understanding. For example, in Lesson 4.12A, the Misconceptions section states, "Dead things disappear. Dead animals and plants do not disappear; they decay and decompose with the help of bacteria and fungi."

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

- The materials explain the intent and purpose of the instructional design of the program. The Teacher's Guide includes a section on Course Design. A link to Summit K12's philosophy includes claims with evidence and reasoning to support instructional design of the curriculum For example, Summit K12 claims, "Scientific Inquiry is the Essence of Learning Science." In order to support this claim, students are provided opportunities to investigate, explore, and experience science as scientists as engineers within opportunities provided in the curriculum.
- The materials state, "We believe in providing comprehensive support for all Texas students and subpopulations." To support this claim, instructional design includes Science Cognates K-12, accommodations such as Text to Speech, and differentiated science writing skills practice for EB students.
- In the Dynamic Science Course Overview, the materials explain the intention for annual updates of the curriculum. This includes the idea that science is dynamic and changing every day. In order to ensure students are always learning the latest and most relevant science content, annual revisions are necessary. The overview also includes blueprints of several different teacher-facing materials within the curriculum such as the teacher resource link's page, lesson guides, and links on the landing page (Science Videos and Animations, Concept Mastery, Science Literacy, and Scientific and Engineering Practices).

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Indicator 4.1

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

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

Meets| Score 4/4

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

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

- Material consistently supports students' meaningful sensemaking through reading, writing, thinking, and acting as scientists and engineers. Materials include opportunities for students to engage in thinking like Engineers. For example, the 4.11B Lesson Guide provides facilitator guidance to engage students in *Research time*. This task suggests students research to complete an input-output graph that describes the cause and effects of recycling. This supports students in thinking like engineers when they are discovering how recycled products can be turned into useful items.
- Materials provide opportunities for students to engage in meaningful critical thinking and sensemaking as a scientist and engineer. In the *Lesson Guide*, the *Check for Understanding* section includes a question that ties back to relevance. This supports students' meaningful sensemaking by asking why the science knowledge they are exploring is important. For example,

in the 4.12A Lesson Guide, the Check for Understanding section asks the relevant question, “Why is it important to know that producers make their food?”

- Materials provide opportunities for students to engage in meaningful sensemaking through writing. For example, the 4.7A Student Lab includes an Extend question that supports students writing as engineers. The students are prompted to explore and write about different sports and how friction affects the sports. Studying the ball of each of the sports alone can lend itself to the students thinking about friction and why the ball might be engineered the way that it is.

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 concepts. For example, from the landing page, the Science Literacy link includes Differentiated Science Literacy. Reading Strategy foci are included with the provided digital books. These scientific texts are grade-level appropriate for fourth graders. For example, the informational text *Matter's Many Properties* includes multiple text features such as images with captions, diagrams, bolded words, subtitles, and key idea boxes.
- Materials provide students with opportunities to explore cross-curricular texts. For example, from the landing page, the Science Literacy link includes Science Cross Curricular Passages. The science passages provide a scientific text with questions about the scientific content. For example, the science passage, "Break, Take, and Make: How New Landforms are Created" provides the opportunity for students to read about slow changes to the Earth's surface and answer questions about these processes as a formative assessment. In addition, from the landing page, the Scientific and Engineering Practices includes an *Explore* opportunity on STEM careers. These one-page scientific texts explain multiple different STEM careers using appropriate grade-level readability.
- The materials provide science videos that include grade-level appropriate scientific texts. These videos are engaging and provide students with an alternative way to consume traditional textbook information through an electronic medium.

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 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. Students have the opportunity to represent information in graphic format during the Apply/Extend section of the lesson. In the Teacher Resources, a Graphic Organizers link provides supplemental aids for all the graphic representation assignments.
- 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. For example, the Lesson Guide 4.13A Core Vocabulary section task 4, Graphic - Students work with a partner to create a graphic for plants on chart paper. The students include the Core Vocabulary Words to make a connection to the word *plants*. In addition, the Apply/Extend section provides opportunities for students to work in partners to create a T-chart. Students create a T-chart on chart paper to explore and explain how plants'

structures and functions enable them to survive in their environment. The students present their graphics to the class. The 4.8A Lesson Guide incorporates the use of a diagram in the Apply/Extend section of the lesson. Students create a tree diagram on how energy transforms from one form of energy into another form of energy. First, students select a form of energy and differentiate forms of energy it can transform into. Then, underneath each form of energy, they write two examples of energy that provide a variety of written and graphic activities for students to partake in.

- The materials provide investigations that include opportunities for students to engage in written and graphic modes of communication. For example, in Lesson 4.6A, students work with partners to conduct an investigation that tests the physical properties of matter. During this investigation they use their lab handout and the Phenomenon Sensemaking Guide to record observations, data, and their conclusions. This is an opportunity for students to draw and write about their experience to develop their understanding of matter and its properties.

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

- The materials support students acting as scientists and engineers who can learn from engaging in phenomena and engineering design processes, make sense of concepts, and productively struggle. For example, the 4.6B Student Lab includes scientific practices when students investigate mixtures and solutions. Students are provided with the guiding question and then expected to develop a plan for investigating this, which affords them the opportunity to engage in work as scientists. Since the lab is clearly outlined for the students, there is minimal opportunity for productive struggle, and allows students to engage in picking out their own materials and questions. The Sensemaking Guide is provided for students to formalize their scientific thinking and learn to record their thoughts and ideas just as scientists do, but engage in it in a more formalized way than students are familiar with doing.
- The materials provide authentic student engagement and perseverance of concepts through productive struggle while acting as scientists and engineers. For example, the 4.8C Student Lab includes a diagram of how to build a closed circuit. It also includes an Extend section that prompts students to describe how they would create a simple closed circuit another way. This affords an opportunity for students to productively struggle because it provides an exemplar of a closed circuit and then demands students engage in productive struggle to consider how they might arrange the materials in order to create a complete path of electricity. In another example, the 4.6A lesson provides students with a video of a little girl washing marker ink from her hands. The students then have to wrestle with the question “Why do some markers wash off, and others do not?” The students explore this using the Sensemaking Guide and work with partners to answer the question. This opportunity to act like a science engaging with a phenomenon, and the working to make sense of the concept while engaging in productive struggle provides evidence of meets.

Summit K12 Dynamic Science Grade 4

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' content knowledge and skills development 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 provide opportunities for students to make claims while prompting students to support these with evidence. The Phenomenon Sensemaking Guide prompts students to use evidence multiple times. For example, in Part 2, Connecting Knowledge and Phenomenon, students record the evidence observed, then apply what they already know, and then use that to revise their model. In Part 3, Explaining the Phenomenon, students are prompted to gather evidence in order to plan for Part 4: Claim, Evidence, Reasoning. The Part 4 section has students record their claim, their evidence and their reasoning on the first page and then refine their ideas into a more formal written composition. This document focuses students on collecting observations and evidence in order to make a claim about phenomena.
- Materials students write a hypothesis and use evidence to support their claims. For example, in the lesson guide for 4.10C students are observing a phenomenon and the teacher guide states students will "complete Part 3 of the Phenomenon Sensemaking Guide. They will . . . write a CER (claims, evidence reasoning) defense for their model using evidence gathered by students during the lesson. Later in the same lesson, the students engage in a performance task where students discuss and research severe weather events looking for causes and how these storms impact different areas. The materials prompt students to "independently make a claim about

what causes the severe weather events and their impacts. Students will provide evidence to support their claim . . ."

- Materials prompt students to write a conclusion supported by evidence. In Category 4, Lesson Lab for TEKS 4.12A provides a section where students write down their conclusion after investigating how plants need light, water, and carbon to make their own food. The materials prompt students to "reflect on the lab experiment and write something new that you learned." The students use scientific vocabulary and evidence from their experience in their reflections. The materials also provide Teaching Notes to remind teachers to "encourage students to use academic vocabulary from the word wall" to support organizing their ideas and recording evidence using scientific language.

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

- Materials consistently embed opportunities to develop and utilize scientific vocabulary in context throughout the curriculum in grade 4. The materials include a section titled Vocabulary Mastery where students have access to scientific vocabulary words in context. The materials also embed a variety of representations to facilitate the learning of new vocabulary words. The materials include a Vocabulary section with direct opportunities to practice academic vocabulary. Guidance at the beginning of the section states, "Core Vocabulary should be emphasized and taught in context throughout the lesson." This provides guidance to the teacher to create opportunities for students to develop and utilize scientific vocabulary in context.
- Materials embed opportunities to develop and utilize scientific vocabulary in context. In grade 4, Category 2, Lesson 4.8B materials in the Vocabulary section of the lesson, students participate in the Four Corners *a*ctivity. Students create a concept map for each core vocabulary word in their science journal. Students write the word, identify an example, draw a picture, and write a sentence with the word. Students then practice their responses and the application of the vocabulary before sharing it with the class. This provides an opportunity that gives students the ability to apply scientific vocabulary within context.
- Throughout the materials, students are provided multiple opportunities to develop scientific vocabulary in context. In Category 4, Lesson Lab 4.12A, students reflect on the lab experiment and write something new that they learned. They are directed to use scientific vocabulary in their reflection. In the Lesson Guide for TEKS 4.13B under the Apply/Extend section, students illustrate and explain inherited and acquired traits and are encouraged to use core vocabulary words. These activities provide students opportunities to apply and utilize scientific vocabulary words in context.
- The teacher guides of the lessons provide Teacher Notes. These notes often include reasons why teachers should utilize world walls and graphic organizers to support students' use of academic and scientific vocabulary. In lesson 4.10C, the teaching note reads "encourage students to use academic vocabulary from the word wall and consider providing a graphic organizer to students who need additional support organizing their ideas before writing about survival in the rainforest ecosystem."

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 partake in discourse, as well as opportunities to develop the skill of *how* to engage in the practice of argumentation and discourse. For example, in Lesson 4.10C students use their Phenomenon Sensemaking Guide to create a CER defense of

their model of a weather phenomenon. Students use the defense created in their guide to discuss and engage in argumentation. The teacher guide suggests "to support student discussion, discourse, and argumentation of the concept, some suggested sentence frames might include: I observed the same thing as ... and want to add that I also noticed…, I agree with ... because…, I have a question about…, Can you tell me more about…, I understand your point, and I wonder…" These sentence frames are critical to supporting students' development of content knowledge through argumentation and discourse.

- Materials include opportunities for discourse as a way to support students' development of content knowledge and skills. In Category 3, Lesson Guide 4.11C provides facilitation guidance to place students in groups to work on illustrating and explaining one of the key concepts presented in the Teach and Discuss section. The process of placing students in groups at strategic points in this lesson as well as other lessons, supports student discourse and the ability of students to create arguments and listen to arguments from others that will support their conceptual development and skill acquisition.
- Materials integrate discourse to support students' learning. For example, in lesson guide 4.6A, students explore their thoughts about a phenomenon video of a girl washing markers off of her hands. They were previously prompted to create their own explanation for why some markers wash off and others do not. Now, the materials prompts students to "turn and talk with their neighbor about the following questions" and to encourage and support student "discussion reflecting students' application of prior knowledge and critical thinking skills" based on their earlier observation. Later in the lesson, students also discuss "why we need to study how objects can be described and classified."

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 developmentally appropriate written and verbal arguments. The materials include a Teacher Resource page that includes teacher-facing material about science writing. This document explains the Claim, Evidence, and Reasoning framework for responses to a scientific question. The Science Writing support document also includes an example of a graphic organizer and rubric. In addition, the implementation guidance states, "This CER framework should be introduced at the beginning of the course, and reinforced by application and review throughout the school year." To support this, the materials provide a student-facing Claims, Evidence, and Reasoning document where students are able to record their observations, evidence, their claims, and the reasoning for those claims. This document aligns with the teacher materials. The Phenomenon Sensemaking Guide, also student facing, contains a similar structure to support students in constructing written arguments to justify their explanations using evidence. These two student-facing documents are referenced in the teacher guide so that they can be employed at strategic points in the lesson to scaffold student understanding and formulation of their written arguments.
- Materials provide opportunities for students to construct written and verbal arguments. For example, in lesson 4.8B, students explore conductors and insulators. After exploring and collecting evidence students are prompted to "write a paragraph in their journal to identify and explain conductors and insulators of thermal and electrical energy, using academic vocabulary." Once students have created their written argument, the students then "present their paragraph" with peers, "making connections to the real world and give(ing) examples they see in their classrooms, outside of school, or at home." This support then allows students to engage

in verbal discourse at home with the materials' home connection where students are prompted to "ask the person that cooks in their home to identify items that conduct and insulate thermal or electrical energy." Students' written and verbal arguments in the classroom using evidence they acquired from learning at school is then used in discourse at home and even puts students in the place of the teacher, using their understanding and written/verbal arguments to confirm or correct the caregivers' responses.

- Materials provide opportunities for students to construct appropriate written arguments to justify explanations of phenomena. For example, in Category 4, Lesson Lab 4.12A, students observe a bean plant and see its progression in growth. In the student-facing document, students are asked to draw what they observe and write down their conclusion and a reflection of their learning based on the observations. This development of gathering evidence and writing their arguments sets the stage for students to later discuss and share their findings with peers.

Summit K12 Dynamic Science Grade 4

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

Partial Meets | Score 2/4

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

Materials provide some teacher guidance on anticipating student responses and the use of questioning to deepen student thinking. Materials include little 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 provide support and guidance for 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.

- Materials provide some teacher guidance on anticipating student responses and the use of questioning to deepen student thinking. Materials provide some guiding questions in the Engage and Discuss section, yet there is no evidence of follow-up questions throughout the materials to deepen students' understanding.
- Materials provide some teacher questions and potential student responses yet, they do not provide teacher responses to possible students' responses and in turn do not explicitly guide the teacher on how to build on students' thinking. In Category 2, Lesson 4.8B in the Teach and Discuss portion asks, "Why is it important to identify conductors and insulators? Turn and Talk with your group to answer the question. We use conductors and insulators every day. We use them when we use electrical appliances and to light our homes. To identify if a material is a conductor or insulator that can protect us from getting hurt." Materials include some prompts to check for understanding, like "Identify three conductors of electrical energy and write them in your science journal. Possible answers- materials made of copper, iron, steel, or gold)."
- Materials provide some guidance on anticipated student responses within the Key to the Study Guide. For example, in Category 4, 4.11A Study Guide Key provides sample responses to the two prompts provided. The sample responses are: "It is important to conserve renewable resources.

Even though they can be replaced naturally or within a short time, it is possible to overuse them. This depletes them too quickly, so they cannot be replaced." "It is important to conserve nonrenewable resources because there is a limited supply of them. They will eventually run out, so it is important to use them wisely." The Wrap-Up section includes limited additional questions to deepen student thinking beyond the aforementioned prompts.

- Materials include minimal opportunities for students to deepen their thinking through teacher guidance. For example, Lesson Guide 4.11C Teach and Discuss section provides 2 questions that build on each other in the Physical Properties of Rocks section. First, students are asked to name the physical properties of rocks and then expand on the physical properties by explaining luster. The Check for Understanding section includes the question, "Why is it important to know the properties of rocks?" Alongside the question, an anticipated student response is provided. Yet again, it is unclear what questions a teacher might follow up with to deepen student thinking.
- The materials partially provide teacher guidance on anticipating student responses and the use of questioning to deepen student thinking. In Category 4, Lesson Guide 4.12A provides a section titled Engage, and teachers present students with questions and possible answers, such as, "What are some examples of animals you might see in a desert?" which includes possible answers such as "bobcats, foxes, quails, coyotes, lizards." Another question listed is, "What are some plants you might see in a desert?" which includes possible answers such as "cacti, grass, trees." Even though the materials include a list of questions to engage students and possible answers, there is unclear guidance on how these questions would deepen student thinking.

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

- The materials include partial guidance on how to scaffold and support students' development and use of scientific vocabulary in context. The materials provide limited embedded support for the teacher in how to scaffold students' development of scientific vocabulary. The materials include the use of an e-poster and a lot of pointing to the pictures. The grade 4 Study Guide provides an essential overview that introduces the core vocabulary used throughout the unit. The Study Guide includes a vocabulary prioritization section for application in helping students grasp the concepts covered in the unit; however, there is no scaffolding in support of student development of the vocabulary.
- Materials provide some student activities to use vocabulary in context. The materials do not explicitly name the opportunity or provide explicit guidance on how the teacher can support possible problems students might have in acquiring academic vocabulary. In grade 4, Category 2, Lesson 4.7A in the I Say, You Say! activity in the Vocabulary section of the lesson, materials prompt the teacher with short phrases that students must associate with a corresponding vocabulary word. In Category 2, Lesson 4.8B, the materials provide students to use vocabulary in context in the What Am I? activity in the Vocabulary section of the lesson. Materials prompt the teacher with short clues that students must associate with a corresponding vocabulary word. There is no guidance for teachers about what to do if these clues do not resonate with students.
- The materials include partial teacher guidance on how to scaffold and support students' development and use of scientific vocabulary in context. In Category 3, Lesson 4.11C e-poster incorporates images, labels, and sentences with keywords in bold to define scientific terms. The second poster offers sentence frames and blanks for labels in order to facilitate and build vocabulary knowledge. Although this is a valuable instructional tool, the Lesson Guides do not frequently indicate optimal opportunities to reference this anchor of support throughout instruction. Instead, it is an isolated activity. Lesson Guide 4.11A includes a Core Vocabulary

section with teacher guidance on supporting students' acquisition and use of vocabulary. For example, the four Literacy Strategy Options are e-poster engagement, quick-draw, sentences, and a Vocabulary Cube. However, the materials do not state that the teacher will introduce vocabulary words at strategic points within the learning sequence.

- The materials include partial guidance on how to scaffold and support students' development and use of scientific vocabulary in context. In Category 4, Lesson Lab key for 4.12C, the materials provide some guidance, such as, "Use scientific vocabulary in your reflection." Additionally, in the same Lesson Lab key, the teachers are provided with possible answers the students may have along with core vocabulary words students can potentially use; however, there is no clear guidance for the teacher on how to scaffold or support students' understanding of the vocabulary in context. In Lesson Guide 4.13A, teachers are guided to conduct a vocabulary activity where students write down questions, and a ball is tossed around to determine who will answer the question. When the ball lands on a student, they answer the question and pass the ball to the next student. This activity partially includes guidance on how to support students' development of key scientific concepts; however, teacher guidance does not provide scaffolds for students and is not done in context with the lesson.

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

- The materials provide teacher guidance on preparing for student discourse and supporting students using evidence to construct written and verbal claims. The Teacher's Guide provides information in the section Science Writing about the process and rationale of the Claims, Evidence, and Reasoning framework with examples. This, when combined with the student sensemaking guide and prompts for teachers in the lessons to provide opportunities for students to engage in discussion with their peers using evidence to support their claims.
- Materials provide teacher support for student discourse by providing discussion questions. In Lesson 4.6A Investigate and Learn section, the materials asks, "How should this matter be classified?" Questions like these, when used in conjunction with the student Sensemaking Guide and other questions in the Check for Understanding sections, provide structures and guidance for preparing students to discuss concepts and content. The student investigation guides teachers to expect students to "write an explanation using evidence collected during their investigation and then share their findings with their peers."
- The materials provide a Teacher Guide for each performance task that provides teacher guidance to support students in using evidence to construct written and verbal claims . These guides provide guidance in Part 2: Writing a Claim for students to support the claim with evidence from the investigation, the Sensemaking Guide, and other learning experiences.
- The materials provide general question stems for supporting student discourse. The materials often state, "To support student discussion, discourse, and argumentation of the concept, some suggested sentence frames might include: I observed the same thing as ... and want to add that I also noticed…, I agree with ... because…, I have a question about…, Can you tell me more about…, I understand your point, and I wonder…"

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

- The materials support and guide teachers in facilitating and sharing the students' thinking. Materials provide several exemplars of student-written responses as well as possible answers to

questions in the Check for Understanding sections in the lessons. Materials state that teachers can use the exemplars as a guide to help them facilitate students showing their thinking in a written form.

- The materials provide student pages and teacher guides for engineering challenges and performance tasks. The student pages provide structures for students to develop and organize their thinking. The engineering challenge student pages contain specific sections for students to propose solutions and later evaluate and improve their solutions. In the section Present and Evaluate, students organize their thoughts in a chart to prepare for sharing their thinking. In the lesson guide for 4.6A the materials state, “students then communicate their explanations collaboratively in an argumentation circle.” This is accompanied with a teacher note to guide the process of argumentation.
- The materials support and guide teachers in facilitating and sharing the students' thinking and finding solutions. In the teacher guide for lesson 4.10C, students conduct a field investigation walking around the school grounds to observe weather conditions in the area. The materials state “after the nature walk, students will turn and talk with their neighbor to discuss any weather . . . patterns they noticed in the area.” Students then record their ideas and identify similarities and differences between theirs and their partner’s thinking. In Lesson Guide 4.8B students work in groups of 2 or 3 students to engage in the engineering design process and design a solution to creating the most effective insulator. Students propose solutions with each other and determine the best solution to achieve the task. The materials here provide an effective structure for students to develop and communicate their thinking and solutions.
- The materials provide sentence frames that allow teachers to support students in sharing their thinking. For example, in the lesson for 4.8B, students observe a photo of an orange completing an electrical circuit, lighting a light bulb. Then students are asked to develop an initial explanation for the question “Why does the light bulb light up?” Then students are asked to create a model explaining what they think is happening. The teacher’s lesson guide states “students share and compare their models with a partner and can use sentence frames to communicate their explanation: “The light bulb lit up because . . . and I think this because . . .” These sentence frames guide teachers in supporting students with initiating conversations to share their initial thinking before moving into the lesson focused on electrical circuits.

Summit K12 Dynamic Science Grade 4

Indicator 6.1

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

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

Meets | Score 2/2

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

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

Evidence includes but is not limited to:

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

- Materials include access to a *Dynamic Science Assessment Bank* to support the creation of diagnostic assessments to assess learning gains. The Assessment Bank is located within the *Content Mastery* section of the landing page. Educators can create custom assessments for students across different parameters such as the number of questions, item types such as text entry or multiple choice, and dual-coded questions. This customization tool allows educators to predetermine the percent of questions to be dual-coded, with specific TEKS and STAAR 2.0 item types aligned.
- Materials include examples of formative assessments to assess students. In the *Concept Mastery* section of grade 4, Category 1, Lesson 4.6A, Formative Assessment 1 includes questionnaires that serve as a guide for assessing the students' understanding of observable physical properties. The diagnostic assessment evaluates the students' content knowledge based on the material covered. This formative assessment includes audio options for students to listen to. In lesson 4.6B, under the *Concept Mastery* section, formative assessment 2 includes pre-grade level questionnaires given as a guide for teachers to give to students on the concept of combining materials. In grade 4, Category 2 materials available in the Concept Mastery dashboard include Formative Assessment 1 for the Exploring Forces lesson. The formal

assessment acts as a diagnostic quiz as its completion unlocks subsequent opportunities for practice such as a TEKS video, Vocabulary practice, and a final summative assessment Formative Assessment 2.

- In Category 3, Lesson Guide 4.11B lists four different prompts following the teacher directions. A variety of response types include discussion and written responses to the prompts. Prompt number 3 states, "In your science journal, explain the critical role of energy resources in modern life and how natural resource conservation, disposal, and recycling impact the environment. Share your responses with the class." This is an example of how the materials include formative assessment opportunities. Another opportunity for formative assessment is within the *Concept Mastery* section from the landing page. The *Earth and Space* lesson includes Formative Assessment 1 and Formative Assessment 2 for each TEKS within the category (4.9A, 4.9B, 4.10A, 4.10B, 4.10C, 4.11A, 4.11B).
- Materials include examples of informal assessments to assess students in a variety of formats. In Category 2, Lesson 4.8B, *Conductors and Insulators,* materials prompt the teacher in the *Engage* section of the lesson with informal assessments to pre-assess students and gauge understanding by asking them to identify the following: “1. What are some objects in your house that use electricity? (Possible answers: television, microwave, computer). 2. What are some things that use heat? (Heater, microwave, oven, stove). 3. What material do they use to make pots and pans? (Possible answers: steel, iron, glass, aluminum) Why are these materials used for pots and pans? (They will not melt with the heat.) 4. Identify what cooks your food when it is in a pan and on the stove. (The heat from the stove cooks the food.)” In Category 4, Lesson Guide 4.12, *Check for Understanding*, lesson titled *Producers*, educators are prompted with informal assessment tools to use in the classroom to check for understanding, such as questions or activities. In this lesson, educators are asked to task the students with explaining how producers make their own food using sunlight, water, and carbon dioxide from the air and water and nutrients from the soil to make sugar and oxygen. This section also includes a list of questions educators can use to informally assess student understanding, such as "What are producers?" and "Why is it important to know that producers make their food?"

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

- The materials assess all student expectations and indicate which student expectations are assessed for grade 4. For example, materials include an Assessment Bank of questions for each reporting category, different item types, are organized by TEKS, and lesson names. It includes access to all the STAAR 2.0 item types and options to customize the length, TEKS, number of items, % of dual-coded items, and item types. Each lesson includes two formative assessments that are aligned to a specific TEKS along with a vertically aligned TEKS. Materials provide a Pacing Document that includes a cohesive scope and sequence that maps out and outlines what will be taught in the third grade and how it will be assessed.
- The materials include TEKS-aligned assessments that align the curriculum standards and student expectations and are designed to measure student understanding and mastery of the concepts and skills taught in the materials. For example, formative assessments within the Concept Mastery section from the landing page are listed by TEKS. For example, Category 3, Earth and Space, includes Formative Assessment 1 and Formative Assessment 2 for each TEKS within the category (4.9A, 4.9B, 4.10A, 4.10B, 4.10C, 4.11A, 4.11B). Category 4, Lesson 4.13A, *Structures and Functions of the Plants,* includes two formative assessments with multiple types of questions.

Summit K12 Dynamic Science Grade 4

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

- Materials include assessments that Integrate Scientific Concepts and Engineering Practices with recurring themes and concepts. Lesson 4.10C, *Weather and Climate,* provides a performance task where students work with a partner to discuss and research severe weather events. Students research the causes of these severe weather events and how these storms impact different areas. Students discuss the aftermath of these storms on land and will research a specific city or state and what kind of severe weather event has impacted that area in the past. Students then develop an explanation supported by their model. The materials include a rubric for the performance tasks and a teacher guide.
- Materials include assessments that integrate Scientific Concepts and Engineering practices with recurring themes and concepts. Lesson 4.6A, *Classify by Physical Properties*, includes a performance task where students observe, describe, and compare the physical properties of several samples of matter to determine the identity of the mystery matter based on how it has been classified by its physical properties. In addition, there is a performance task rubric along with a teacher guide to assist the teacher in grading and working with students.
- Materials include assessments that integrate Scientific Concepts and Engineering practices with recurring themes and concepts. In Lesson 4.8B, *Conductors and Insulators,* students create a model to illustrate how a conductor or insulator works with an everyday object around them. Students independently make a claim about how conductors and insulators affect the transfer of thermal and electrical energy and provide evidence to support their claim from the model. Students also use information from the *Sensemaking Guide* and learning experiences to justify their answers. Materials also include a performance task rubric along with a teacher guide to assist the teacher in grading and working with students.

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

- Materials include assessments that require students to apply knowledge and skills to noble contexts. In grade 4, Category 2, Lesson 4.8B, *Conductors and Insulators*, materials provide opportunities for students to apply knowledge to novel concepts in Formative Assessment 1. The materials include the following questions, "How is the wave in the picture transferring its energy to the boat?" and "What is the best description of how the energy was transferred from the wave to the sandcastle?" In Lesson 4.8C, *Electrical Energy*, in Formative Assessment 1, the materials include the following questions, "Which is the best indicator that the circuit is closed?" and "Will the light bulb in the circuit above turn on?" The questions provide opportunities for students to apply knowledge to novel concepts.
- Materials include opportunities that require students to apply knowledge and skills to a novel context. Category 4, Lesson 4.9A Formative Assessment 1, includes a question that prompts students to predict the shadow a flagpole would create at 5 p.m. The students are provided an image of shadows at 7 a.m. and 11 a.m. This image and specific times of shadows are not previewed within the lesson guide. Therefore, this assessment question asks students to apply what they learned about shadows and patterns to a new context. In lesson 4.10C Formative Assessment 1, question 6 presents a scenario where four meteorologists described the weather. Students analyze each of the meteorologists' descriptions as answer choices and select which meteorologist did the most accurate job describing the weather in Texas. This situation is a new application of differentiating between weather and climate. This is an opportunity for students to apply knowledge and skills to novel contexts.

- The materials include assessments that require students to apply knowledge and skills to novel contexts. In the Category 4 lesson *Fossils Evidence of Past Environments*, students create their own fossil imprint with clay and write about where their fossil model was found. The students apply this knowledge to novel contexts in the assessment tool with questions such as "A paleontologist discovered this fossil deep beneath the Earth's surface. What can you conclude about the area it was discovered in?" These questions allow students to apply their knowledge and skills to novel contexts.

Summit K12 Dynamic Science Grade 4

Indicator 6.2

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

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

Meets | Score 2/2

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

Materials include information and/or resources that provide guidance for evaluating student responses. Materials support teachers' analysis of assessment data with guidance and direction to respond to individual student's 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.

- Materials include information and/or resources that provide guidance for evaluating student responses. The Teacher's Guide includes a link to a document for Science Writing/CER. The document shows a scoring rubric for a Short Constructed Response. The Science Writing/CER module also includes a rubric and short constructed responses.
- The materials include rubrics that provide guidance for evaluating student responses. In the Teacher Edition of the lesson for TEKS 4.6A, in the *Performance Task* section, students "observe, describe, and compare the physical properties of several samples of matter to determine the identity of the mystery matter based on how it has been classified by its physical properties." This task includes a Teacher Guide and Rubric link to guide the activity but also provides guidance for scoring student products using the provided rubric.
- The materials provide sections within the lesson with guidance for evaluating student responses and checking for student understanding during the lesson. For example, Lesson 4.6A includes a Check for Understanding section in the lesson guide that provides questions for the teachers to ask students to determine progress. Each of these questions provides a sample response. This guidance helps teachers evaluate student responses to the questions, and the nearby Teaching Note asks teachers to "use student responses to identify misconceptions, instructional needs…and to make instructional decisions that meet individual student needs."

Summit K12 Dynamic Science Grade 4

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

- The materials provide assessment tools that result in data reports teachers can use to track student progress and respond to individual needs. Teachers can generate reports for Concept Boosters and Vocabulary Boosters. The downloadable reports can be generated for individual students or entire classes. Under reports in Content Mastery, a teacher can see first-attempt, vocabulary, and second-attempt scores by TEKS, individually or by class. Teachers can export the report into a spreadsheet and manipulate the data with colors or groupings.
- Teachers can use the "Teacher Reports Dashboard" to view students' scores on the Concept Mastery and Vocabulary Mastery activities. The reports are divided by Reporting Category and broken down by each lesson guide and standard. Teachers can download reports for each Reporting Category onto an Excel spreadsheet. The reports show student names and scores on each standard assessed in the Reporting Category. For example, in grade 4, Category 2, the *Concept Mastery* dashboard for Lesson 4.8A, *Transfer of Energy,* shows the Vocabulary before Formative Assessment 2. The students must earn 80% or higher in their Vocabulary assessment before accessing Formative Assessment 2.
- The materials include a document titled *Differentiation and Acceleration,* where teachers have access to lessons and formative assessments they can toggle on and off to assess students' understanding of the scientific concepts in grade 2 or 3. This vertical access provides teachers with data on how the students may be doing and a resource that may be used in response to student progress.

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

- Materials include tools that yield relevant information for teachers to use when planning instruction, intervention, and extension. The *Assessment Bank Guide* linked in the Teacher's Guide indicates that class and student-level reports are automatically created when an assessment is generated from the Assessment Bank. The bank allows teachers to create assessments based on TEKS and by reporting categories. In addition, this tool generates information that teachers can use when planning interventions for on-grade-level and below-grade-level TEKS, where students can be pulled based on their scores.
- Materials include a Concept Mastery management tool that allows teachers to review and organize student data to differentiate science instruction according to assessment results. In grade 4, materials allow teachers to download a *Concept Mastery s*tudent report based on the reporting category from the Teacher Reports Dashboard. For reporting category 2, this report generates student data for the following student expectations: 4.6A, 3.6A, 4.6B, 3.6D, and 4.6C. The report also includes three data points for each expectation per student, titling them 1st, VB, and 2nd. In addition, materials allow teachers to download a *Vocabulary Mastery* student report based on the reporting category from the Teacher Reports Dashboard. For reporting category 2, this report generates student data for the following student expectations: 4.6A, 3.6A, 4.6B, 3.6D, and 4.6C. The computer-generated report color codes based on their performance and can aid teachers in organizing student data and planning differentiated instruction. These tools and reports provide relevant information for teachers to plan instruction, intervention, and extension activities for all learners.

Summit K12 Dynamic Science Grade 4

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

- Materials provide teacher guidance on leveraging different activities to respond to data. In grade 4, Category 1, Lesson 4.6A, *Classify by Physical Properties,* materials provide direct instruction of science concepts in the Investigate and Learn section. Materials provide potential student misconceptions and a guide on responding by having educators "consider addressing and correcting this misconception with the activity *How to Describe and Classify Matter* and with the *Apply and Extend* activity Graphing Trends in Physical Properties." Materials provide brief explanations of what these activities are and provide teacher guidance explaining how resources can be used to support and integrate to address gaps in learning.
- Materials provide teacher guidance on leveraging different activities to respond to data. In Lesson 4.10C, *Weather and Climate,* materials provide direct instruction of science concepts in the Investigate and Learn section. Materials provide potential student misconceptions and a guide on how to respond by having educators "Utilize appropriate *Apply and Extend* learning activities and Scaffolding resources under the Concept Mastery online to respond to individual student needs and provide just-in-time learning acceleration for all." Materials explain these activities and provide teacher guidance explaining how resources can be used to support and integrate to address gaps in learning.
- Materials provide teacher guidance on leveraging different activities when the student data indicates a deficit in understanding vocabulary terms. There are ways to support Emergent Bilingual students by leveraging their first language and building connections to words that are cognates. From the Landing Page, Science Literacy Link, a cognate list can be accessed by the educator, and a digital component is included for students.

Summit K12 Dynamic Science Grade 4

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.	PM
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

Partial Meets | Score 1/2

The materials partially meet the criteria for this indicator. Assessments are partially 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 partial guidance to ensure consistent and accurate administration of assessment tools. Materials include guidance to offer accommodations for assessment tools that allow students to demonstrate mastery of knowledge and skills aligned to learning goals.

Evidence includes but is not limited to:

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

- Assessments are designed to accurately evaluate students' understanding of grade-level concepts in a scientifically precise manner that are accurate, avoid bias, and are free from errors. In grade 4, Category 1 includes an assessment over 4.6B, *Mixtures*. The assessment includes items that provide an accurate depiction of solutions, including the properties of methods of separation of a solution. Another example is an assessment of 4.6C, *Mixtures Conserve Matter*. The assessment includes items that provide an accurate depiction of the physical properties of oil and water and what effect those two substances could cause when combined. These items are scientifically accurate.
- Assessments contain items that are scientifically accurate, avoid bias, and are free from errors. In Category 2, Formative Assessment 1 over 4.8A *Transfer of Energy*, the assessment accurately identifies that the "sound of a drum can be heard at a distance because energy from hitting the drum transfers to the ear through the vibrations produced." Another example from this assessment accurately identifies an experiment demonstrating the "transfer of sound energy as a student plugging a guitar softly and loudly." Both of these assessment items are scientifically accurate.
- Formative and summative assessments include assessment 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. Category 3, 4.10A *Formative Assessment 1,* in the *Content Mastery* section, depicts the water cycle in a scientifically accurate

pictorial model. This stimulus is used with drag-and-drop labels using scientific vocabulary, such as evaporation, condensation, collection, runoff, precipitation, and transpiration, to assess students' understanding of the different stages of the water cycle. Another example in Lesson 4.10B, *Lesson Guide Check for Understanding,* prompt 3 states, "In your science journal, draw a picture of a landform to model and describe a slow change on Earth caused by deposition from water, wind, and ice. The teacher will ask students to present their illustrations and descriptions. (Students will have a before and after diagram or picture of a delta, beach, or sand dunes to show the slow changes caused by deposition.)" These examples provided for the evaluation of student responses are scientifically accurate.

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

- Assessment tools utilize visual aids such as clear pictures and graphics that are developmentally appropriate for 4th grade throughout the curriculum. Category 1, Lesson 4.6C, *Vocabulary assessment*, includes items incorporating images depicting a mixture of toys that effectively demonstrates that the mixtures are categorized by a specific property. Another example in Lesson 4.6B, *Vocabulary assessment,* includes items incorporating images depicting a compost mixture that effectively demonstrates a type of mixture. These pictures provide a visual context and enhance the clarity of the assessment process.
- Assessment tools use clear pictures and graphics that are developmentally appropriate. In Category 2, *Formative Assessment 1,* over 4.8C, *Electrical Energy,* uses a diagram of a simple circuit containing only one light bulb, one battery, and one switch. Another example in *Formative Assessment 1* over 4.8B, *Conductors and Insulators,* uses an image of a wire from a circuit. The image shows three different components that allow the wire to insulate or conduct electricity. The use of these graphics is clear and developmentally appropriate for students.
- Assessments contain clear pictures and graphics. Category 3, *Formative Assessment 1* over 4.11A contains a table and images that are clear for the reader. The spacing between columns and print within the table and font used is accessible to a fourth grader. In addition, the images depicted of renewable and nonrenewable resources depict real-life resources for the student to analyze that are professionally photographed. The images in Vocabulary Assessment over 4.9B depict the moon and moon phases with real-life images of the moon or computer-generated graphics that are developmentally appropriate for fourth graders.

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

- The materials provide partial guidance for teachers to consistently and accurately administer assessment tools. The *Dynamic Teacher Resource Guide* includes a document titled *Concept Mastery,* where educators access a guide on how to administer the assessment tool, along with a picture and description of where to find it and how to turn it on. The materials include a step-by-step with arrows and a description guide that shows educators how to start the assessment tool. Even though the materials include general guidance on how to activate the assessment, the materials do not provide specific guidance to ensure consistent and accurate administration of the assessment tools. They lack support for the most effective methods of administering the assessments and do not offer guidance on how to collect consistent and purposeful data. Materials lack guidance about how to score the new item types included in the curriculum. Materials do not consistently include rubrics throughout the curriculum and are only found in the *Science Literacy* section.

- Materials provide partial guidance to ensure consistent and accurate administration of assessment tools. In grade 4, Category 2, teachers can access online asynchronous teacher training courses, available in the Training tab. These courses provide an overview of the assessment, scoring procedures, answer key, and acronym key if needed. However, the training does not provide information on the most effective methods of administering the assessments or how to collect consistent and purposeful data.
- Materials include partial guidance to administering assessment tools and lack information about when assessments occur during the unit and how they are scored. For example, the grade 4 Scope and Sequence provides an overview of days per unit and breaks down the minutes per activity for each TEKS within a Scheduling Lessons Guide. A time duration for proctoring the Formative Assessments is indicated within the guide, yet it lacks guidance on a timeline of when to give the assessment to students.

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

- The materials offer accommodations for assessment tools so that students of all abilities can demonstrate mastery of learning goals. The materials include a guide for Accommodations, Accessibility, and Designated Supports within the Teacher's Guide. This guide supports educators by providing a list of accessibility features and designated supports, as well as an annotated student interface that shows how students would access these tools. An annotated teacher screen shows how teachers enable designated support for students. A summary details when teachers may use these supports, such as aligning with 504, SPED, and EB state guidelines.
- The materials include both accessibility features and designated supports such as Bilingual Dictionaries, Reading Assistance for Short Constructed, Response Items, Notepad, Highlighter, Calculation Aids - Digital Calculation, Content, and Language Support, and individualized Structured Reminders. In grade 4, Category 1, the formative assessments incorporate a text-to-speech feature within the web-based assessment platform. By utilizing a play symbol cursor, students access a digital text that is read aloud to them, enabling a more accessible and inclusive assessment experience. Materials offer a speech-to-text software feature students use to orally dictate responses on an assessment. Highlighting, bookmarking, note-taking, and zoom tool features are available to help all students plan a response for each question.

Summit K12 Dynamic Science Grade 4

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 materials include teacher guidance for scaffolding instruction and differentiating activities for students who have not yet achieved mastery throughout the curriculum. In grade 4 Lesson Guide 4.6A, *Classify by Physical Properties*, in the "Apply/Extend" section, teacher notes provide targeted instruction and tailored support. For example, in the context of this lesson, the teacher scaffolding suggests: "Support student sensemaking with responsive questioning that will help individual students confirm and correct their understanding of matter can be classified by its physical properties."
- The materials include teacher guidance for scaffolding instruction and differentiating activities for students who have not yet achieved mastery throughout the curriculum. In Lesson 4.10C, *Weather and Climate,* the "Investigate and Learn" section offers teacher's notes guidance and customized assistance. Teachers' instruction is geared towards enhancing comprehension and engagement among differentiating activities for students. Teachers create a word wall with students as new academic vocabulary words are introduced throughout the lessons. This wall can be revisited as students engage with their Phenomenon Sensemaking Guide, participate in class discussions, and make sense.
- The materials include teacher guidance for scaffolding instruction and differentiating activities for students who have not yet achieved mastery throughout the curriculum. Teachers have the ability to access the previously covered TEKS in order to scaffold learning for students who have not yet mastered it, yet it is not targeted or specific to the lesson. Materials provide a lesson guide that includes a Concept Mastery table that allows teachers to approach the lessons in a guided manner from one grade level to the next, yet scaffolds are on grade level to target

misconceptions in a clear and specific manner. These resources assist teachers in scaffolding instruction and differentiating activities to ensure all students can progress toward mastery.

Materials provide enrichment activities for all levels of learners.

- The materials include enrichment for all learners through an opportunity for students to make connections to science in their everyday lives. From the landing page, the section *Science Around You* provides quick connections to science concepts and an opportunity for student responses and connections to their personal lives. The materials include a section titled Apply/Extend within each Lesson Guide. Some activities in this section enrich student understanding through exploration beyond the key concept.
- The materials include opportunities for students to extend their learning at the end of the *Student Lab*. For example, in 4.6A, *Student Lab*, students are prompted to compare and contrast two items in a Venn Diagram and record a written observation. In the *Extend* section for 4.6C lab, a prompt suggests students research the cleanup of oil spills and the effect oil spills have on marine ecosystems. The *Extend* section in 4.10C Lab allows students to demonstrate their understanding of weather and climate organizing statements in a T-chart. These activities go beyond the demands of the lab and provide enrichment opportunities for all levels of learners.
- Materials provide research activities to enrich lessons for all learners. In 4.10A Lesson Guide, to further student understanding of the water cycle, students engage in research to find ways to deal with a drought. Students construct a graph of the average rainfall from the last year in their city. These activities are accessible and provide enrichment to all learners.

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

- The materials include guidance for scaffolds and just-in-time learning acceleration for all students in grade 4. In grade 4 Lesson Guide 4.10C, *Weather and Climate,* in the "Check for Understanding" section, materials include suggested immediate and specific feedback to help learners identify their strengths and weaknesses. For example, in the context of this lesson, the sample includes questions with answers, such as "How do weather and climate affect us? The weather helps us plan what to wear daily, such as warmer clothing or shorts, when to plan a vacation, and when to keep safe from extreme weather. Knowing the climate of an area helps us predict the type of weather to expect the following year. We get to prepare for the kind of weather expected."
- The materials include guidance for scaffolds and just-in-time learning acceleration for all students. In Lesson Guide 4.8B, *Conductors and Insulators,* in the Apply and Extend section, materials include suggested immediate and specific feedback to help learners identify their strengths and weaknesses. For example, the sample in this lesson includes teacher notes to support student sensemaking with responsive questioning that will help individual students confirm and correct their understanding of seasons.
- The materials include guidance for scaffolds and just-in-time learning acceleration for all students. Lesson plans, written in a procedural format, include suggestions beyond the activities in the plan. Lesson Guides include prompts for teachers to use as students productively struggle while they work independently and provide examples of immediate and specific feedback to help learners identify their strengths and weaknesses. An answer key provides guidance for the teacher to support students while working through labs and tasks.

Summit K12 Dynamic Science Grade 4

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

Evidence includes but is not limited to:

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

- The materials engage students in the mastery of the content through a variety of developmentally appropriate instructional approaches and provide various opportunities for students to participate in inquiry-based learning activities. For example, in 4.7A *Lesson Guide,* in the “Apply/Extend” section, students illustrate, define, and add fact statements for vocabulary terms which is developmentally appropriate for grade 4.
- An instructional approach included in the materials provides students the opportunity to represent information in graphic organizers. For example, in the 4.6B *Lesson Guide,* the Apply/Extend section, students create a graphic to describe mixtures and solutions. The exemplar is a bubble map, which is a developmentally appropriate way for students to engage with mastery of the content.
- An instruction approach included in the materials provides students the opportunity to develop short constructed responses about science content. For example, in 4.13 *Lesson Guide,* the Apply/Extend section, students write a paragraph about the waxy leaves of a plant and how this adaptation helps the plant to survive. This type of writing is developmentally appropriate for students and provides engaging activities for students to master the content.

Summit K12 Dynamic Science Grade 4

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

- Materials consistently support flexible grouping opportunities throughout the curriculum to support student learning and engagement. The *Lesson Guides* include options for partners, small groups, and whole group instruction. In 4.6C *Lesson Guide*, *Core Vocabulary* section, Literacy Strategy Option 3, students play as a whole class or in groups. Additionally, in the Apply/Extend section, students Write to Explain in groups or pairs.
- In the 4.7A *Lesson Guide*, *Check for Understanding* section, the teacher directs students to discuss with a partner the relevancy of force in our lives. In the *Core Vocabulary* section, Activity 4, students make a table with a partner using Core Vocabulary words. Within the Apply/Extend section, for the Word Wall task, students work in small groups to illustrate, define, and add fact statements for a specific force. In addition, students work in groups or with a partner to plan and conduct an investigation. These opportunities consistently support flexible grouping throughout the lesson.
- In the 4.11C *Lesson Guide*, *Check for Understanding* section, students work in their individual science journals to record the physical properties of rocks that allow Earth's natural resources to be stored there and then discuss answers with a partner. In the *Core Vocabulary* section, Activity 4, students work with partners to create a graphic for Core Vocabulary words. In the Review section, students complete the *Study Guide* in pairs, triads, groups, or whole class. These activities consistently support flexible grouping of students throughout the curriculum to support student learning and engagement.

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

- The materials support multiple types of practices and structures and guidance on how to effectively implement multiple instructional structures. In grade 4, Lesson 4.6A, "Classify by Physical Properties," each activity within the 5E model arrangement employs icons to facilitate appropriate grouping for the intended learning outcomes. For instance, in the "ENGINEERING CHALLENGE: HOW MUCH RAIN?" section of the lesson, we can examine individual performance tasks. Here, an icon is utilized to visually represent individual work investigations.
- The materials support multiple types of practices and structures and guidance on how to effectively implement multiple instructional structures. In Lesson Guide 4.10C, "Weather and Climate," in the “ENGINEERING CHALLENGE: HOW MUCH RAIN?” lesson, teachers have students work in small groups of 2 or 3 to complete a Performance Task. Here, an icon is utilized to visually represent group work investigation of the engineering design process to define and answer a problem related to creating a rain gauge. This icon has been placed to support the formation of suitable groups for achieving the desired learning outcome. In this context, the whole group icon serves as a visual representation of a collaborative investigation aimed at understanding methods to minimize waste and protect our precious natural resources.
- The materials support multiple types of practices and structures and guidance on how to effectively implement multiple instructional structures. For example, in 4.12A Lesson Guide, Check For Understanding option 4, the students investigate in groups. The guidance is clear about how collaborative groups should be structured for the activity.

Summit K12 Dynamic Science Grade 4

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

- The materials represent a diversity of communities using images and information that are respectful and inclusive. Materials contain images and real-world examples, and connections throughout the materials represent a diversity of communities and places, including rural, urban, and suburban communities, cities and states across the U.S., and countries around the world. Depictions of places are respectful and inclusive, with an emphasis on community strengths, resources, and unique characteristics.
- The materials include diverse images and information about people and places. TEKS Video 4.7A represents individuals of diverse backgrounds, including races, ethnicities, and national origins. The examples provided represent diverse background knowledge and life experiences, such as riding a bike and skateboarding on different surfaces. The S*cience Literacy/Vocabulary Mastery* section includes passages that expand on each of the grade-level content TEKS. Real-world examples and connections throughout the reading passages and assessments represent a diversity of communities. For example, TEKS Video 4.13B represents individuals of diverse backgrounds, including races, ethnicities, and national origins. The examples provided represent diverse inherited and acquired traits.

Summit K12 Dynamic Science Grade 4

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 materials include an ELPS document for each TEKS. This document provides opportunities for teachers to support students with consideration of their language proficiency. For example, TEKS 4.6A ELPS supporting document includes ways for students to engage with the academic vocabulary in a variety of ways. Students in the Beginning stage of acquisition complete a sentence stem that states, "An example of temperature is…." For students in the Intermediate stage, questions are posed for comparison, and students are prompted to answer in a complete sentence to the whole group without a sentence stem. For the Advanced stage, students are prompted to work with a partner, define their physical property, and provide an example in the following complete sentence. Students who are Advanced High are asked to write a summary of a group discussion and read it to their group.
- In grade 4, the materials include guidance for linguistic accommodations. The teacher manual incorporates various scaffolds specifically designed for emergent bilingual (EB) students. These scaffolds include visual aids, sentence stems, graphic organizers, anchor charts, and manipulatives, all integrated seamlessly into the lessons. The materials include a video with a spoken voice-over explaining key content knowledge with images and examples.
- The materials include opportunities for listening commensurate with various levels of English language proficiency in the Science Videos accessed through the landing page. For example, Video 4.9A includes animated images that support student acquisition of vocabulary while at the same time providing spoken information about the topic.

- The materials include opportunities for reading commensurate with various levels of English language proficiency in the Science Literacy/Vocabulary Mastery accessed through the landing page. For example, Vocabulary Practice 4.8A provides images and sentence frames with the opportunity for students to pick the correct vocabulary term from a drop-down menu to complete the sentence. The *Concept Teacher Edition* for all categories includes a mini-lesson navigation with key content vocabulary words with definitions and illustrations. In these slides, teachers can see the key elements of each concept, such as the energy in a food web example, with words such as consumer, decomposer, and ecosystem.
- The materials include the opportunity for written communication commensurate with various levels of English language proficiency in Differentiated Science Writing accessed from the landing page. The differentiated writing opportunities include an Engage Video and different access points based on the English language proficiency (beginner, intermediate, advanced, and advanced high) of the writer. For example, provided with the same image, four different questions are posed based on English language proficiency. The four questions scaffolded for Light and Sound are: Beginner- "How does sunlight help us see? Sunlight helps…" Intermediate- "Describe what you think the sea lion is doing. I think the sea lion is…" Advanced- "What are some sounds you might hear at an aquarium? Which is the loudest? I might hear…" Advanced High- "What materials can you see through in these photos? What materials can you not see through? You can see through…" These activities provide guidance to support the various levels of English Language Learners.

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

- Materials include Multilingual Newcomer Lessons within the Science Literacy/Vocabulary Mastery component to support the strategic use of students' first language as a means to development in English. This resource provides lesson plans, word lists, study guides, and home practice in the following languages: English, Spanish, Arabic, Burmese, Simplified Chinese, Traditional Chinese, Hmong, Korean, Nepali, Persian-Farsi, Portuguese, Somali, and Vietnamese. The Foundational Skills Lesson Plans direct teachers to: "Allow students to respond to the Worksheets initially in their home language. Then help them respond in English."
- The "Dual Language Connections" section in the *Summit K12 Teacher's Guide* outlines the research foundations and ways the program fits a dual-language framework by designing materials in both English and Spanish rather than translating or transadapting materials.
- The Science Writing component includes a Science Cognates section with "context images and sentences, professionally recorded audio in both English and Spanish, and the ability for students to speak and record themselves repeating the context sentences." Students view an image, listen to the context sentence first in Spanish and then in English, and record themselves reading it.
- Materials encourage students' academic development of English through the Science Cognates component of the *Science Literacy* section. In Science Cognates Section 2, students are provided with visual cues and recording tools to first say in Spanish, "Me gusta oler el perfume en la tienda," and then say it in English: "I like to smell perfume at the store." While this supports linguistic development, it does little to support students' cognitive or academic development in English.

Summit K12 Dynamic Science Grade 4

Indicator 7.4

Materials provide guidance on fostering connections between home and school.

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

Meets | Score 2/2

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

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

Evidence includes but is not limited to:

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

- The materials provide information to be shared with students and caregivers about the design of the program. For example, in grade 4, under the *Dynamic Science Teacher Guide*, a link titled *Home to School Connection* outlines several key program tools caregivers can use when working around science concepts covered in class. This document contains all the core vocabulary words the students need to understand and is organized by reporting categories of organisms and environments along with the TEKS associated with that category, such as 4.12A producers and 4.12B food webs. Also included in *the Home to School Connections*, materials provide a Vocabulary section, a Field Investigations at Home section, a Science Literacy at Home section, and a Studying the TEKS at Home section, which provides a few quick activities that can be used to support their child at home as they learn science.
- The materials provide an overview of the design of the program available through the *Teachers Guide* called the Online Course Site Map. This document provides a summative overview of the program design and its features, among other things. This resource provides a way for students and caregivers to gain more information about the design of the program.
- Materials provide guidance for students and caregivers on how to access the program at home and to show students' progress. In the *Teacher's Guide,* a *Student Road Map* supports introducing the basics of accessing the program features and what is available with the program. The slides support navigation of the links on the landing page: Science Videos, Concept Mastery, Science Literacy/Vocabulary Mastery, and Scientific and Engineering Practices. The materials include Parent/Guardian Letters Examples that can be accessed from the *Teacher's Guide*. A sample letter includes a general introduction to the Summit K12 materials for caregivers. It also includes more in-depth navigation support for logging into the program from home. The letters

are provided in both English and Spanish. These resources reinforce student learning and allow a way for the parents to stay connected with their student's learning and curriculum.

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

- Materials encompass comprehensive guidelines for teachers to effectively communicate with caregivers regarding the use of Summit K12 to reinforce how they can help student learning and development. In grade 4, materials include teacher guidance for communicating with caregivers about the importance of the educational support provided by the student's caregivers. Getting involved with children's education shows your children that you care about their school goals. Encourages the family to be involved with their child's education. They feel the support and do better at school. The *Teacher's Guide* provides a Home to School Connection link to support linking learning between school and home.
- The materials provide information to be shared with caregivers for how they can reinforce student learning and development. In grade 4, Category 2, Lesson 4.8B, materials provide a *Home Connection* activity where students ask the person who cooks in their home to identify items that conduct and insulate thermal or electrical energy. Materials prompt the student to make a list in their science journal and be prepared to share it with the class. Lesson 4.8C provides a *Home Connection* activity where students discuss with their families how they would safely use appliances that operate with an electrical current.
- The materials provide information to be shared with caregivers for how they can reinforce student learning and development. For example, in Category 4, under the *HomeSchool Connection*, students work on organisms and environments and denote examples caregivers can use at home to connect literacy with the current TEKS the child is learning at school. One example asks caregivers to visit a humane society and record in their journals the physical traits they see in animals. These same tasks ask students to encourage people to adopt a pet. The materials provide information to be shared with caregivers for how they can reinforce student learning and development. Lesson guide 4.12A includes a section titled Home Connection and includes an activity where caregivers work with their child to plant some flowers in the yard and make a terrarium to investigate how producers make their own feed by using sunlight, water, and carbon dioxide. These activities provide at-home practice for caregivers to help reinforce student learning and development throughout the curriculum.

Materials include information to guide teacher communications with caregivers.

- The *Dynamic Teacher Guide* includes a section for a generic letter format and information the school can use to communicate to caregivers the program's purpose and how to access its online features. This resource also includes a Parent/ Guardian letter detailing the benefits of the program and basic components of the program. The "Connections to Home" section provides suggestions on how to establish a relationship by incorporating "Field Investigations at Home." By providing these comprehensive resources, the materials aim to foster ongoing communication and partnership between teachers, caregivers, and students while facilitating the sharing of progress updates.
- The Teacher's Guide Home to School Connection link includes teacher guidance and support for clear communication of the TEKS required for student mastery at grade level. The materials offer a letter with ideas of how to accelerate learning, a brief overview of the big ideas of the TEKS, and visuals of the TEKS with Vocabulary Boosters. The information to guide teacher

communications with caregivers can be found in the Teacher- Getting Started link located in the Teacher's Guide. This guide provides teachers with a sequence of orientation to the material's resources.

- The materials include a "Parent/Guardian Letter" in the *Summit K12 Teacher's Guide* that provides information to guide teacher communications with caregivers. The instructions state, "The attached letter is an example of one that you may send home to the parents or caregivers of your students to introduce them to the [program] K12 Science resources. We suggest sending the letter below, as well as instructions for how to access the program from home, through the district's LMS or portal."

Summit K12 Dynamic Science Grade 4

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

Partial Meets | Score 1/2

The materials partially meet the criteria for this indicator. Materials partially 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 somewhat 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 cohesive scope and sequence that show how the science knowledge and skills TEKS are addressed over the course of the entire year. For example, the scope and sequence includes a side-by-side document showing the Texas Essential Knowledge and Skills (TEKS), concise skill description, and clear alignment to the English Language Proficiency Standards (ELPS) that includes unit and lesson progression.
- In the document titled 4th Grade Pacing Document, the materials show the vertical alignment of the essential knowledge and skills taught in the program throughout the school year. The Pacing Guide breaks down the order of lessons into individual components with minutes included. For example, the Pacing Guide is organized by reporting category, TEKS, lesson title, and suggested time.

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

- The materials provide little clear teacher guidance for how activities and experiences connect concepts and SEP. The lessons draw no clear connections for teachers in any of the teacher guides. However, the materials include a 4th Grade Texas Essential Knowledge and Skills, Science and Engineering Practices-Recurring Themes and Concepts Crosswalk, where a graph shows the SEP concepts covered all year long, which are aligned with the TEKS.

- Lesson guides provide little guidance for facilitating engineering practices. However, the specific TEKS for these are listed at the beginning of each lesson, and there is a one-page engineering practices sheet for students. This does not provide true guidance to teachers within each lesson. While no teacher guides provide guidance for facilitating engineering practices, many provide guidance for vocabulary development.
- The materials provide minimal teacher guidance to help students make connections over the course of the year. The connections, when they occur, do not appear purposeful. In the 4.11C, Physical Properties of Rocks Teacher Guide, there are no specific connections made to what students should know from learning about matter and physical properties.

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

- The materials provide a review and practice of knowledge and skills spiraled throughout the year to support mastery and retention. For example, in Category 2, a table represents the vertical alignment between grade levels. The practice opportunities build on previously taught science knowledge and skills. For example, the grade 4 Lesson Guide provides opportunities for students to revisit concepts in the review and evaluate sections.
- The materials provide a review and practice of knowledge and skills spiraled throughout the year to support mastery and retention. For example, in Category 2, a table represents the vertical alignment between grade levels. The student practice opportunities build on previously taught science knowledge and skills. The Lesson Guide within Category 2 includes a review of previously taught science knowledge and skills. For example, under Lesson Guide 4.8B, the lesson is referenced as the same definition of a closed circuit. Lesson 4.6B shares the same definition of the mixture. This provides a consistent and repetitive review of terms to support student mastery of key concepts.

Summit K12 Dynamic Science Grade 4

Indicator 8.2

Materials include classroom implementation support for teachers and administrators.

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

Partial Meets | Score 1/2

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

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

Evidence includes but is not limited to:

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

- The materials are organized in a way that facilitates ease of implementation and use, including the accessing and storing of materials. For example, each unit includes every lesson at a glance, a comprehensive list for preparation, a suggested time allotment, as well as resources to support instruction. The materials include a Teacher Resources button where teachers can access a Teacher's Guide for guidance on materials. Under each Category, the Lesson Launch Pad provides teachers with guidance on TEKS that were covered in previous grade levels and their connection to the grade-specific TEKS.
- In the scope and sequence, a chart outlines a time allotment for 10 minutes to discuss misconceptions in support of student learning. In the Lesson Guide for 4.13B, in the Misconceptions section, one bullet states, “Individuals develop traits in response to their individual needs. Traits develop across generations in response to environmental demands.”

Summit K12 Dynamic Science Grade 4

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

- Materials include science standards correlations for lessons units, lessons, or activities within the context of the grade level. Materials direct teachers to vertically aligned TEKS for each grade level band in the document titled Lesson Launch Pad in the Teacher's Edition.
- Materials include cross-content standards for ELA, math, and social studies within the context of the grade level. For example, in the *4.12A* Lesson Guide, a teacher tip includes a connection to mathematics standards. There is also a list of scientific and engineering practices (SEP) that are connected to the lesson. The materials include a section, Science Literacy, with cross-content connections to ELA standards. Cross-Curricular Passages include opportunities for practice with reading strategies, and Science Writing Skills include opportunities for writing about specific science standards.

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

- The Teacher's Guide includes a "Materials Lists and Lab Inquiry Kits" resource within the Scientific and Engineering Practices section, which lists materials for all lab investigations in the grade level. Teachers also can access guidance documents for lessons and lab investigations by reporting categories that include lists of necessary resources and materials. However, it should be noted that while materials include this chart of materials needed for lab investigations across the year, materials do not include a comprehensive list of equipment and supplies commensurate with TEA recommendations for Grade 4.
- The materials contain a list of equipment and supplies necessary for a particular lesson, including the engagement piece, investigative lab, and extension. Inside each Lesson Guide is a comprehensive materials list that contains all the materials needed for each activity within the lesson. For example, in the *4.8C Lesson Guide*, materials include equipment and supplies that support instructional activities for the grade level, which include: Digital Resources, Printable Resources, Optional Resources, and Lab Materials.
- Grade 4 materials include individual lists for lab investigations within the lesson guide. For example, the student materials in 4.8C student lab support steps of using the materials that have a list of the included materials and recommendations for storage to access materials easily, as well as tips to prepare for instruction. For example, a 4.8C Lab Guide states materials include "D-size battery, battery holder, small light bulbs, bulb holder, four coated electrical wires (preferably with alligator clips), paper clip craft stick, penny, metal washer, aluminum foil, plastic zip tie, yarn, and rubber band."

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

- Materials provide student guidance for safety practices and the grade-appropriate use of safety equipment during investigations. For example, the Student Lab guide includes safety information pages for student reference and recall of general safety procedures for investigations. The Teacher Edition, Category 3, Student Lab 4.10A, and Teacher Lab include some guidelines for student safety equipment. The Student Lab guidelines state, "Safety: Use the safety procedures (goggles, apron, and gloves) and standards."

- The Teacher Lab guidelines state, "Use the safety procedures (goggles, apron, and gloves) and standards. When conducting an outdoor investigation, go over safety procedures." The Teacher's Guide includes a Safety Contract with a comprehensive list of Safety Statements. The form provides the opportunity for students and parents to sign in agreement with the safety statements.
- Materials include student guidance for safety practices and grade-appropriate use of safety equipment during investigations. Materials include a *Teacher Notes* section detailing guidance on pre-laboratory procedures and safety precautions as routine for the lab when applicable. Student-facing materials include guidance for safety practices and the use of equipment during investigations in the *Safety* section of *Lab Guides*. For example, in grade 4, category 2, lesson 4.7A, the *Safety* section of the *Lab* states students should "Use the safety procedures and standards." For example, in grade 4, category 3, lesson 4.10B, the *Teacher Notes* section of the *Lab* states," Make small holes in the bottom of the paper cup using scissors or a box opener. Also, before the experiment, dampen the sand with a spray bottle to make it firmer. Students will not share straws."

Summit K12 Dynamic Science Grade 4

Indicator 8.3

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

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

Meets | Score 2/2

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

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

Evidence includes but is not limited to:

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

- The materials include a TEKS Pacing Guide and Scope and Sequence to support scheduling considerations for block and traditional scheduling. Materials also include guidance on suggested time for laboratory and field investigations. The scope and sequence provided is designed to be flexible and include ample instructional materials for supporting various scheduling considerations. Materials describe days of pacing per TEKS and include a minute breakdown per activity for each TEKS. The materials provide a reference, 4th Grade Scheduling Lessons, for suggested time allotment for all elements of the lesson cycle.

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

- The materials include units, lessons, and activities for a full year of instruction and ensure that all TEKS are covered. The Pacing Guide contains an overview document providing teachers with considerations for planning instruction at the unit and lesson levels.
- The document states that the total amount of days and minutes required may vary depending on the grade level and the complexity of the concept being studied. For example, the Scope and Sequence and Pacing Guide states, "Only 150 days have been planned out of the 180 school days, though this course includes more than enough material to cover the full 180 days of instruction." On average, units have a duration of 20-40 days.
- The materials delineate the order of units to ensure students learn about precursor concepts first. In grade 4, the materials have students classify matter by its measurable properties,

testable properties, and observable properties. The materials have students communicate the conservation and its impact on the environment, disposal, and recycling.

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

- The materials provide units, lessons, and activities for a full year of instruction to ensure all grade-level TEKS are appropriately addressed.
- Materials include a Year at a Glance section that provides a pacing decision-making table. This table provides estimated time allotment for the corresponding reporting categories. The materials include a sufficient amount of lessons and activities to support a full academic year of learning. For example, the document states, "Only 150 days have been planned out of the 180 school days, though this course includes more than enough material to cover the full 180 days of instruction."

Summit K12 Dynamic Science Grade 4

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.

- Materials include an appropriate amount of white space and an overall design that does not distract from student learning. For example, under the *Teacher edition Launchpad,* the lessons are organized by reporting categories along with TEKS and lesson titles. The student labs are organized by TEKS, lab titles, and subtitles that make it easy for students to follow along with the lesson. Titles such as questions, materials, procedures, and records support student learning. Color is used intentionally and consistently to guide the user through the Lesson Guides. For example, objectives, TEKS, ELPS, Vocabulary lists, and general resources at the top of each lesson guide are displayed in light blue or gray shaded boxes. Bright blue bars label the main sections of the Lesson Guides.
- Student study guide materials include an appropriate amount of white space and an overall design that does not distract from student learning. In Grade 4, Category 1, Lesson 4.6A, the *Observable Physical Properties* student study guide materials include an appropriate amount of white space and overall design that does not distract student learning. The guide is clear, with titles and headings that are prominent and clear; sections are marked with subheadings. The content is organized in a logical progression.
- Formative Assessment materials are appropriately designed to support student learning. In grade 4, category 2, *Formative Assessment* 1 for Lesson 4.7A maintains one question per page not to distract the learners. The software provides tools students can use to annotate text (such as highlight, strikethrough, etc.) and pointers while reading digital text. When text is read aloud by the computer, diction is loud, clear, and easy to understand. The formative assessments bold the question and provide appropriate spacing between answer choices to separate them. Accessibility features included within the Formative Assessments are designed to be easily

located but not a distraction from the primary task of taking the assessment. The *Lesson Launchpad* is designed so that teachers can locate important information easily for planning and implementation. Digital materials include links to previous lessons and materials teachers can access to support differentiated learning within units.

- Student materials are appropriately designed to support student learning. In Category 3, Student materials include the following: -Clear buttons to navigate to the different sections with clearly defined labels such as “Science Videos and Animations”-Titles of different categories are clearly labeled once a student has navigated to a learning section such as, “Category 1”. Rows for different concepts alternate with dark and light blue to support students in the navigation to the correct content.

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

- Yes, materials embed age-appropriate pictures and graphics that support student learning and engagement without being visually distracting. Each Category within the instructional resources provides E-Posters to aid in the instruction of scientific concepts. These posters incorporate age-appropriate pictures and graphics to support student learning. In Grade 4, e-posters include vocabulary cards with clear and authentic images and graphics to define and support the new words students are learning. The practice for *Vocabulary Mastery* provides a variety of images that are magnified and clearly show an example of the targeted word. In Category 1, Lesson 4.6a, materials include an overview and detailed visuals of observable physical properties, including mass, volume, temperature, and states of matter with accurate labels.
- Materials embed age-appropriate pictures and graphics to support student learning. Materials in grade 4, Category 2, Lesson, 4.7A *Exploring Forces* include an E-Poster that includes multiple images to represent forces such as two people pushing a car and two people playing tug-of-war. In the lesson, 4.8A *Transfer of Energy,* the E-Poster includes multiple images to represent forces such as playing with marbles and an ocean wave. Imagery is minimal and does not distract from the information on the poster.
- Materials embed age-appropriate pictures and graphics that support student learning and engagement without being visually distracting. In Category 4, materials include a TEKS video for lesson *Producers* where students connect new learning with easy-to-follow voice-over along with visuals and animation. Materials include posters the teacher can use that contain graphics, real-life pictures, and vocabulary words that students can easily understand, such as function, leaf, structures, survive, and roots.

Materials include digital components that are free of technical errors.

- Yes, the materials include digital components that are free of technical errors. Materials are free of spelling, grammar, and punctuation errors. Materials are free of inaccurate content materials or information. Materials are free of wrong answer sheets to problems. Materials include digital components that are free of technical errors. In grade 4, category 1, the Science Videos for lesson 4.6A are free of spelling, grammar, and punctuation errors. In Category 2 Lesson Guide 4.7A, *Equal and Unequal Forces* is free of spelling, grammar, and punctuation errors. Category 3, *Lesson Guide Slow Changes to Earth’s Surface,* is free of grammatical, punctuation, and spelling errors. In Category 4, the *lesson guide Fossil Evidence of Past Environments* is free of inaccurate content materials or information.

Summit K12 Dynamic Science Grade 4

August 2023

Summit K12 Dynamic Science Grade 4

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.	No
3	Materials integrate digital technology that provides opportunities for teachers and/or students to collaborate.	No
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 do not integrate digital technology in ways that support student engagement with the science and engineering practices, recurring themes and concepts, and grade-level content. Materials do not 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.

- Yes, the materials incorporate digital technology and tools to support student learning and engagement throughout all categories in the curriculum. The Grade 4, *Science literacy* section provides differentiated writing activities that promote effective learning. They include engaging features such as learning videos, interactive writing exercises, reading guides, and online assessments. The Digital components incorporate embedded tools like note-taking, variable font size, text-to-speech functionality, bookmarking, a glossary, annotations, highlighting, and editable forms. In the *Scientific Video* section, there is a collection of videos organized by the TEKS that are covered and the lesson name, which helps to support student learning and engagement.
- Materials incorporate digital technology to support student learning and engagement. Students access science videos that incorporate animations, access texts, and provide additional explanations. For example, from the landing page*, Science Videos* Category 3, lesson 4.9A Video shows the earth revolving around the sun to model why seasons occur while narrating and pausing the animation. These animations support student learning because they enhance engagement with the information and aid in visualizing science concepts. Students can use accessibility features while taking assessments when appropriate. These online-specific features include highlighting, text-to-speech, calculators, and notepad. In addition, students interact with

online information through online-specific question types such as drag and drop and multi-select items. These digital components support learning and engagement.

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

- Materials offer vocabulary audio assistance but do not offer opportunities for students to utilize interactive simulations and models, which would allow them to explore scientific and engineering practices within a virtual environment. Category 1, *Analyze the Data* section, offers vocabulary selection drop box options for ease of selection but does not offer opportunities for students to utilize interactive simulations and models, which would allow them to explore scientific and engineering practices within a virtual environment.
- Materials do not integrate digital technology and tools that support student learning and engagement with science and engineering practices, recurring themes, and concepts. Student digital components in Formative Assessment 2 for TEKS lesson 4.8B do include embedded tools, such as note-taking, variable font size, text-to-speech, a dictionary, a glossary, annotations, and a drag-and-drop activity in which students classify six images as electrical conductors or electrical insulators highlighting but they do not support student engagement with the SEP or RTC.
- Materials do not include digital technology in ways that support student engagement with science and engineering practices or recurring themes and concepts. The online digital component provided for the SEP is a 23-page guide with text-to-speech access. This guide introduces students to the processes but does not require that students engage with them. When students are prompted to engage with the RTC, they are prompted to utilize a paper-based graphic organizer, generate a poster, or create another written product. Evidence of engaging with the RTC digitally is not evident. In Category 3, Lesson Guide 4.11B *Apply/Extend* includes an activity for students to engage with the cause-and-effect relationships between recycled materials and expected outcomes in a graphic organizer. However, the materials lack a digital interface to manipulate ideas related to the RTC.
- No, the grade 4 materials do not integrate digital technology to support student engagement with science and engineering practices, recurring themes and concepts, and grade-level content. Throughout the lesson guides, teachers are asked to use electronic devices to facilitate student learning. However, the materials do not use digital technology to support student engagement with science and engineering practices. For example, the lesson titled Fossil Evidence of Past Environments asks students to "use an electronic device, iPad, tablet, or computer to research common Texas fossils." However, this activity only allows research about the topic and does not include a connection to SEP or RTC.

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

- No, the grade 4 materials do not integrate digital technology that provides opportunities for teachers and/or students to collaborate. Although the materials provide a feedback section for teachers to provide feedback to students in the writing prompts for the short constructed responses, , this feature is only a one-way communication for the teacher. The Science formative assessments incorporate digital technology to enhance aid for helping students, but the materials do not provide an online collaborative platform in which teachers and students can share educational materials, create collaborative spaces, post assignments, collaborate on

projects, engage in discussions or seek clarification regarding class material or allow the teacher to give immediate feedback to students.

- Materials do not integrate digital technology that provides opportunities for teachers and/or students to collaborate. Teachers can provide written feedback for students in the *Differentiated Science Writing* dashboard, but the software does not allow students to reply and is unsuited for collaboration.

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

- Yes, digital materials integrate technology compatible across various operating systems and devices. For instance, 4th grade students' vocabulary resources and materials can be conveniently accessed and used on Chromebooks, iPads, PCs, and Apple computers. Additionally, these materials are available online, allowing access from any device with an internet connection. The Summit K12 Help Center states in a Technical Specifications article that their software "requires no special software installations" and "works on all major platforms."
- Materials integrate digital technology that is compatible with a variety of learning management systems. For example, the Parent/Guardian letters in the *Teacher's Guide* indicate that when using Summit K12 from home, students can "access it from any computer, tablet with an internet connection" because it is a web-based program. In addition, the Parent/Guardian letters include a message to school admins. It states, "Feel free to insert your own graphics and steps to log in to the School's LMS or portal to access the Summit K12 application via Single Sign On (SSO)." Examples of SSO portals include Classlink or Clever.

Summit K12 Dynamic Science Grade 4

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.

- Yes, digital technology and online components are aligned with the grade-level scope and approach to science knowledge and skills progression. The material includes a Scope and Sequence and Pacing Guide document that is grade-level appropriate and aligned with the science knowledge and skills progression. The materials include a suggested time and best use of digital technology, such as the formative assessments and TEKS video found on the online platform.
- Materials include digital technology and online components aligned with the grade-level scope and approach to science knowledge and skills progression. The Category 2 *Lesson Launchpad* serves as a digital planning guide with live hyperlinks to the other online resources to facilitate planning and ease of use. In this reporting category, the resources for the following TEKS are provided: 4.7A, 3.7A, 3.7B, 4.8A, 3.8A, 3.8B, 4.8B, 4.8C. The TEKS video 4.8A in the *Science Videos and Animations* provides developmentally appropriate vocabulary, language, graphics, images, and diagrams over energy transfer for grade 4 students.
- Yes, the digital technology and online components are developmentally appropriate for the grade level. In Category 3, the landing page includes *Science Videos and Animations*. The lesson 4.10C video, incorporates graphics, computer-generated simulations, and photographs that are developmentally appropriate for fourth graders. The landing page includes *Science Videos and Animations* that separate the content by category and then list the videos in order of the TEKS. Within a video on TEKS, information is sequenced in a comprehensible way to the student. For

example, Video 4.11B begins by stating the objective, providing a definition of energy resources, defining renewable and nonrenewable, use of resources, and then ends with a vocabulary review and summary.

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

- Grade 4 materials provide teacher guidance for the use of embedded technology to support and enhance student learning. The materials include a teacher guide titled "Online Course Site Map," where teachers are guided on how to best use the online features and where and when to access them to better facilitate student learning. The teacher's guide includes a section called *Teacher Getting Started Guide*. The guide includes instructions on how to access online asynchronous teacher training courses and how to enroll students into classes so that their experience can be monitored and enhanced by the educator. Materials also include a Student Getting Started guide in the teacher's guide. Educators can introduce the digital technology components of Summit K12 to students in order to support student learning. The materials provide teacher guidance for the use of the embedded technology to support and enhance student learning.
- The materials include teacher guidance on effectively utilizing embedded technology to enhance student learning. The Grade 4 teacher resource *Course Design section* includes detailed instructions explaining how to effectively incorporate the embedded technology. The *Implementation guide* offers step-by-step instructions for the setup and utilization of the technology, accompanied by troubleshooting tips to assist teachers in resolving common issues they may encounter. The Teacher's Guide has a map with references to available technologies to enhance the lesson. Additionally, links and tabs are available for easier access by teachers.
- Materials provide teacher guidance for the use of the embedded technology to support and enhance student learning. The Teacher's Guide includes a *Teacher-Getting Started* guide, which provides clear instructions and tutorials within the teacher platform on how to use the embedded technology. The guide outlines the following:
    - Getting to Know the Dynamic Science Course
    - Course Level Teacher's Guide
    - Scope and Sequence and Pacing Guides
    - Concept Mastery
    - Online Course Site Map
    - Course Philosophy
    - Asynchronous Teacher Training
    - Enrolling students, Student Access and Single Sign On (SSO), iPad Access
    - TEKS Content Mastery Lesson Guides
    - Student Getting Started Presentation and Parent/Guardian Letters
    - Customer Support
- Materials provide teacher guidance for using the embedded technology to support and enhance student learning. The teacher Training tab includes step-by-step videos detailing the components of the curriculum and coursework and is followed by an assessment. Online asynchronous teacher training coursework includes the following:
    - Teacher's Guide Overview and Lesson Planning
    - Science Videos and Animations
    - Science Literacy
    - Concept and Vocabulary Mastery

- Assessment and Image Banks
- Scientific and Engineering Practices
- Science Labs and Inquiry
- STAAR Readiness Resources
- Reports and Dashboards

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

- Grade 4 materials include resources for parents and caregivers on supporting student engagement with digital technology and online components. The materials include a letter that can be sent to parents that shows them how to access the LMS from home. Materials provide a Student Getting Started guide, available in the Teacher's Guide, with a walk-through of the basics of the program, lesson samples and components, and log-in information. Materials also include a section for families that includes links to information about science objectives, extensions, related inquiry projects, and websites for student research. This section is specifically designed to provide families with additional support and resources to further enrich their children's educational experience.