Accelerate Learning STEMscopes Science TX Grade 6

Accelerate Learning STEMscopes Science TX Grade 6 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 6	100%	100%	100%	100%
Grade 7	100%	100%	100%	100%
Grade 8	100%	100%	100%	100%

Section 2. Instructional Anchor

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

Section 3. Knowledge Coherence

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

Section 4. Productive Struggle

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

Section 5. Evidence-Based Reasoning and Communicating

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

Section 6. Progress Monitoring

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

- The materials include guidance that explains how to analyze and respond to data from assessment tools.
- The assessments are clear and easy to understand.

Section 7. Supports for All Learners

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

Section 8. Implementation Supports

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

Section 9. Design Features

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

Section 10. Additional Information

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

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Indicator 2.1

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

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

Meets | Score 4/4

The materials meet the criteria for this indicator. Materials are designed to strategically and systematically integrate some 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 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 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 resource cards that offer guidance on what students should be doing, tips on when the scientific and engineering practices could be coupled with critical vocabulary, and discussion prompts to support struggling students. The material's 5E lesson format with optional interventions takes into consideration how students learn science. These lessons address student preconceptions and develop competence through inquiry to build a deep foundation of factual ideas within the context of a conceptual framework and with knowledge organized in ways that facilitates retrieval.
- STEMscopes provides scholars with opportunities to redesign projects before sharing them and opening them to critique. STEMscopes provides intervention resources across three tiers for teachers to aid students and provide them with multiple opportunities to demonstrate mastery.

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

- In the elaboration phase of the 5E lesson format, the materials provide multiple opportunities to make connections in science, technology, engineering, math, science today, reading science, writing science, and virtual experiences. The materials offer a choice board that extends student learning within the theme to spotlight scientists, make career connections, or examine science in the news.
- An overarching concept in middle school science is force, motion, and energy. In the explore portion of the “Forces on Objects” unit, students are given an opportunity to build a model and test out forces through a simulation. This model persists through the materials as a recurring theme. Another overarching concept in middle school is organisms and the environment. In the explore portion of the “Ecosystem Organization” unit, students organize parts of an ecosystem. This method of organizing is evident throughout middle school.

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 strategically and systematically utilize the 5E lesson format to engage students with grade-level appropriate concepts that allow students to explore while embedding the science and engineering processes, deepening student knowledge in the explain and elaborate sections and ending each lesson with an assessment. The materials offer opportunities for small-group interventions as well as an active practice of each scope.
- Each unit or scope is a 5E lesson plan that allows students to engage, explore, learn, elaborate on, and be evaluated on the material. This develops knowledge appropriately using widely recognized, research-based rationale. In the exploration, students are given questions to stimulate their thinking and then are presented with scaffolded steps to learn about the material. This methodology allows students to construct their understanding of the content in a manner that supports retention.

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.

- Each unit in the materials has an "engineering connection" for students. This is set up so that students can address a problem by asking questions and setting up a model or an experiment. Through this process, students have an opportunity to problem solve and develop connections within content.
- In the scopes, the teacher uses “The Thinker” questioning strategy or the “Pencil Up” questioning strategy. The materials highlight question prompts for teachers to use during the explore phase to gauge student knowledge and understanding. Question opportunities presented in the materials are for the teacherThe materials offer opportunities for students to make connections across disciplines. The materials meet the criteria for including sufficient opportunities for students to ask questions and plan and conduct classroom, laboratory and field investigations. This is evident in the “I wonder” portion of the lesson where students are challenged with not only disigning questions, but also designing investigations to answer questions presented. In addition, in multiple units the publisher provided an “inquiry opportunity” under the explore tab. This is an opportunity to design questions and experiments

within the unit. Students are able to design investigations by creating an “I wonder” board and create testable questionsin the “inquiry opportunity” sections. By testing these inquiries/investigations, students are given the opportunity to problem-solve.

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Indicator 2.2

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

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

Meets | Score 4/4

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

Materials embed phenomena and problems across lessons to support students in constructing, building, and developing knowledge through authentic application and performance of scientific and engineering practices, recurring themes and concepts, and grade-level content as outlined in the TEKS. Materials intentionally leverage students' prior knowledge and experiences related to phenomena and engineering 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 scope overview of the materials lays out a systematic building and constructing of knowledge about the phenomenon including a lineup of activities utilizing the 5E lesson model and the science and engineering practices. The Standards Planning section in the materials highlights the science and engineering practices and aligns them with the TEKS and recurring themes.
- Students are given the opportunity in the Elaborate section of each lesson plan to connect their knowledge to a hypothetical problem or real-life technology in order to build on that knowledge. All units have a "scope phenomenon" in the Engage portion of the unit that incorporates the TEKS with a video illustrating a real-world application of the concept. This video and the associated questions allow the students to build and construct knowledge of the content.

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

- Students are given a video in the Engage portion of the materials that relates what they are going to learn to something they have already learned. For example, in grade 6 "Forces" unit, students watch a video of an individual skateboarding with crutches. Students have to apply their knowledge of how these different devices work within the concepts of the lesson. In the Engage portion of the lesson plan, students have a pre-assessment and prior knowledge activity that activate student background of the content.
- The materials provide pre-assessments that allow the teacher to assess what learners already know. The Engage part of each lesson and the probing questions allow the learners to assess and explore their existing knowledge and skills.

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

- The materials provide the scientific concept and goals behind the phenomenon being taught in a Teacher Background section. A detailed background is provided on phenomena including camouflage, infrared images, the properties of water, energy, and how trees change color across and unique to the grade level. The engage phase of the 5E lesson module in each of the scopes presents a scope phenomenon and utilizes multiple approaches such as videos, question prompts, or an activity to introduce the phenomenon.
- The materials provide information to prepare and guide the teacher throughout teaching the lesson. They provide possible ways of thinking, student misconceptions, videos, question prompts, and sentence stems within each lesson of each unit of the grade level.

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Indicator 3.1

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

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

Meets| Score 6/6

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

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

Evidence includes but is not limited to:

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

- Each unit or scope is labeled with the TEKS that correlate to prior and future units. This is evident in the vertical alignment of the science TEKS section. Each unit provides the student with a 5E model that allows the student to start slow by accessing prior knowledge in the Engage portion. As the students move throughout the lesson, they build their knowledge, completing labs and activities and adding new content that creates depth and understanding. A "Spiral Opportunity" in each unit further connects students' new content knowledge to their prior knowledge.
- The "Scope Overview" includes the vertical alignment of science standards in two parts: the "Flashback," which highlights the material learned in previous grade levels, and the "Fast-Forward," which highlights the connection between current and future concepts. The "Pre-Assessment and Accessing Prior Knowledge" section includes activities to gauge a student's baseline of knowledge on a particular topic and misconceptions that are frequently associated with the concept. The materials give multiple opportunities to assess students through formal and informal assessments; these include a Sliding Scale, Pre-Assessment, three writing prompts, and tiered intervention strategies for the activities. Beginning with the "Engage," each lesson builds upon the next, continuously adding depth to each concept and applying it across units and grade levels.

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

- The materials have a pre-assessment to assess what students already know, provide a section of “Scope Phenomenon,” which details what students should be learning, and offers progress monitoring or reflection measures for assessing students throughout and at the end of each unit. In the “Explore” and “Virtual Explore” sections, the materials provide students with the opportunity to think critically using a Venn Diagram to compare “Balanced and Unbalanced Forces” and “Riddle Cards" to get students to think about science material in different content in a variety of ways.
- Materials intentionally sequence from the start of the 5E lesson plan. Rigor increases as students start with a description or definition at the beginning of the 5E to debating and defending the stance of topic/vocabulary words/concepts during the elaborate section. "Suggested Scope Calendar" outlines the activities built into the multi-day scope. It also identifies activities' level of rigor; "Low-complexity elements are marked with one asterisk (*), and high-complexity elements are marked with two asterisks (**)." Materials provide a “Progress Monitoring and Reflection Log” to track progress in a sequential manner while continuously increasing the rigor and depth of the concept. “STEM Choice Board Self-Assessment” gives an opportunity for students to think and elaborate on the concept in a deeper understanding and connect to other concepts.

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

- Within the instructional supports in the teacher resource, the materials outline recurring themes such as patterns, cause and effect, scale, proportion, quantity, systems, energy, and cycling of matter. In the Elaborate phase of the 5E lesson model, the materials focus on the first five Science and Engineering Practices: defining the problem, brainstorming, planning, building, and testing.
- Each unit provides the students with a "STEMscopedia" in the Explain section of the lesson. The STEMscopedia provides students with a reading assignment over the level-specific core concepts that are clear and accurate. Each unit provides the teacher with a "Making Connections" section that provides the teacher with the relevant content standards and the science and engineering practices that align with the scope.

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

- The materials recommend a beginning-of-the-year and end-of-the-year assessment as well as released STAAR questions that are appropriate for the grade level. The materials note that students will be assessed on the knowledge gained after completing the activities in the engage, explore, explain, and elaborate sections of the scope.
- Each unit provides the teacher with an answer key to the multiple-choice assessment. Each question is aligned to and identified with a specific TEKS. In the “Organism Relationship” unit, students are given a scenario with two birds, instructed to explain the relationship between the two birds and identify the resources for which they compete. This mastery assignment directly relates to the TEKS of how organisms relate to one another.

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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.

- The materials provide support for the teacher to understand the horizontal alignment guiding the development of the grade-level content. The materials provide a vertical alignment in the "Standards Planning" section of the teacher resource. The scope overview provides suggestions for students to act as scientists and engineers as they solve problems related to different phenomena. The materials outline the science and engineering practices as well as recurring themes.
- Each unit of the materials provides the teacher with a list of TEKS that the unit connects with across other disciplines and grade levels. The Standards Planning tab is above the TEKS. Each unit provides teachers with a "Teacher Background" section, an in-depth reading of the unit that provides the teachers with everything that they need to know to teach the unit. Teachers can look at this section for the unit they are on, as well as review previous or future unit content. The Teacher Background section provides teachers clarity on what students should already know and what they will need to know for upcoming work.

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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.

- Each unit in the materials provides teachers with an answer key that has explanations and examples of concepts, a pre-assessment of prior knowledge at the beginning of the unit, and a section on identifying misconceptions that tell the teacher what students will read and how they may misinterpret it. In the grade 6 unit *Forces on Objects,* the materials suggest using a fact or fiction informal assessment using the following prompts:
    - Prompt 1: Fiction. Although gravity is at work, friction between the brake pads and the metal wheel causes the bike to stop.
    - Prompt 2: Fiction. Although the bag is at rest, two forces are acting on it: gravity and normal force.
    - Prompt 3: Fact. Gravity, magnetism, and applied forces are all at work in this system.
- The materials provide explanations and examples of science concepts in the teacher background section of the resources. The Engage phase of the 5E lesson model includes a pre-assessment and accessing knowledge section d to uncover student misconceptions.

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

- The materials include a rationale of the STEMscopes pedagogy that outlines the 5E + AI (artificial intelligence) Instructional Model. The background for the Biological Sciences Curriculum Study (BSCS) 5E Instructional Model developed in the 1980s is documented as an effective way of engaging students and successfully meeting the varied academic and learning needs of the students in their classrooms.
- “STEMscopes Pedagogy” provides cited reasoning for using the method of 5E + IA instructional model and the goal of the program, which is to provide an inquiry-based curriculum, incorporating the research-based, constructivist phases of the Biological Sciences Curriculum Study (BSCS) 5E Instructional Model that states by stating “Developed in the 1980s, the 5E Model consists of five phases: engagement, exploration, explanation, elaboration, and evaluation. Each phase has a specific function and contributes to the teacher’s coherent instruction and to the learners’ formulation of a better understanding of scientific concepts.” (Bybee et al., 2006) In addition, the Key Findings from the National Research Council’s report “How People Learn,” the Texas Essential Knowledge and Skills (TEKS), and the English Language Proficiency Standards (ELPS) are referenced. The development and delivery of the 5E+IA STEMscopes science curriculum model provides teachers with a sequenced pathway, resources, and support for meeting the needs of all students in all K-12 science classrooms.

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Indicator 4.1

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

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

Meets | Score 4/4

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

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

Evidence includes but is not limited to:

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

- The "Teacher Resource" section in the materials provides literacy strategy support for students in reading, writing, speaking, and listening through roundtable reviews and discussions. The materials provide opportunities for students to use interactive notebooks to work like scientists and document their learning and sensemaking of concepts. The materials provide content with age-appropriate Lexile levels to build student literacy and reading skills in science.
- Within STEMscopedia, STEMscopes allows students to read and understand the science accompanying each topic. In the interactive notebook, STEMscopes provide strategies for writing, thinking, and acting like a scientist. They provide an activity called "The Traveling Paragraph" and a virtual explore opportunity for "Characteristics of Cells" with students utilizing graphic organizers. The provided allows students to act as scientists.

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

- In the "Metals, Nonmetals, and Metalloids" STEMscope, under the "reading science" elaborate portion, students read a science article and answer questions about it. There are different Lexile levels of reading for different students.
- STEMscopedia student pages enhance the provided readings. These include opportunities to complete summarization charts to develop an understanding of concepts and “stop and jot” opportunities to help gather evidence in the texts. STEMscopedia provides students with the opportunity to gather scientific evidence through content-rich reading. The provided supplemental materials guide and keep students engaged, including but not limited to guiding questions after each section, student “Stop and Jot” pages, and “SQ3R Charts”. The Elaborate section provides articles and response logs, pulling quotes and ideas from the text to gather evidence on the concept.

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.

- In the Explore phase of the 5E lesson plan, the materials provide advanced strategies that allow students to write about a selected topic, making connections with related topics in a graphic organizer. This diagram shows how one idea contributes to another. In the Elaborate phase of the 5E model lesson, the materials provide opportunities for students to write about science with ELA (English Language Arts) TEKS Connections. The materials also provide clear guidelines that students must follow to write, including clearly stating, controlling ideas, organizing and developing explanations effectively, choosing words carefully, and using correct spelling, capitalization, punctuation, grammar, and complete sentences.
- In the Explore section of the lesson, “How Organized Is Your Ecosystem,” students are given a handout of a graphic organizer to write down their thoughts and understanding of the materials. In addition, students are allowed to “work with partners to identify the hierarchical organization in a pond ecosystem.” Another example is in the grade 6 unit Metals, Nonmetals, and Metalloids, a graphic organizer featuring academic vocabulary. Students must use the sentence stems provided to produce similes for the words.

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

- In each STEMscope, students have a "Science Today" portion to read and answer questions regarding real-life phenomena. The article is grade-appropriate and allows students to act as scientists by engaging with content and productively struggling by relating the article to what they have learned. For example, in the grade 6 unit Ocean Tides, the “Science Today” article is about microplastic pollution. Students must complete a response log that requires quoting the text, coding responses as interesting, confusing, or connecting, and writing a personal response. In each unit, students have an "Engineering Connections" portion that relates their learning to part of the engineering process in order. For example, in the grade 6 unit Cell Theory, students are asked to critique solutions and data that attempt to solve the problem of producing bioelectricity with bacteria. Students must evaluate the proposed solutions, redesign them, and

critique the redesigns from other teams. A rubric is provided for students to self-assess during this process.

- The engineering design process assignment includes “Define the Problem, Brainstorm, and Plan.” This gives students an opportunity to productively struggle as they formulate a plan and gives students criteria and constraints that must be followed to guide their experiment or explanation in the phenomena process. For example, in the grade 6 unit Relative Density, students are tasked with designing and building a device to contain and reclaim spilled oil from water. They focus on the following portions of the engineering process: defining the problem, brainstorming, planning, building, and testing a solution.

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Indicator 5.1

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

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

Meets | Score 4/4

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

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

Evidence includes but is not limited to:

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

- The materials provide opportunities in the Explore phase of the STEMscopes for students to respond to question prompts designed to gauge current student knowledge and identify potential misconceptions. Students create "I wonder…" statements to further explore the concept as shown in the 6th grade STEMscope on "Newton's Laws of Motion." The Interactive Notebook in the materials allows students to pose questions, note causes and effects, and answer questions posed in the STEMscopia section.
- During the Evaluate phase of the 5E lesson model, the materials facilitate the development of students' argumentation skills by applying Claim, Evidence, Reasoning (CER), as exemplified in the 6th-grade unit on "Newton's Laws of Motion." This approach is applied consistently across various grade levels and subject scopes.
- Students are expected to complete a Claim, Evidence, and Reasoning process in the "Evaluate" section of each STEMscope, assisting in making connections for struggling students. In the "Explore" section of one STEMscope, students discuss the "Earth's Tilt and Seasons" and consider evidence to justify their reasoning.

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

- In the Explore phase of the 5E lesson model, each STEMscope has a section called "Vocabulary in Context," which lists key vocabulary terms. The materials provide picture vocabulary in the Explain phase, challenging students to visualize and practice using the terms in context. The materials also offer opportunities for students to interact with a Word Wall and play with built-in vocabulary and connection games.
- In the “Explore” section of the STEMscope What Makes an Organism an Organism?, students can interact with vocabulary through “Organism Cards.” The cards represent the following vocabulary terms: *prokaryotes, eukaryotes, multicellular organisms, unicellular organisms, autotrophs,* and *heterotrophs*. An additional opportunity to develop and utilize scientific vocabulary is evident when students are asked to complete Cornell Notes on the right side of their Interactive Student Notebook using the vocabulary from the cards.

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

- In the Engage portion of activities, there are various ways for students to engage in argumentation. In "Sometimes, Always, or Never" and "Agree/Disagree?" students must state their opinion and defend it when given a scenario. In the Explore portion of each lesson plan, students partner with other class members and participate in discourse while completing activities over the new content. For example, in the grade 6 Lesson Rock Cycle and Classification, students create a model of the three types of rocks and must agree on the High Five facts they learned while making the model.
- Opportunities presented in activities, such as "Agree or Disagree," have students create a stance on a topic and an argument to support their thinking using existing content knowledge. The pre-assessments present opportunities for students to argue their understanding of the content and explain or defend their thinking. For example, in the grade 6 Earth’s Tilt and Seasons Unit, students are asked to choose which image of the four provided best describes why Earth experiences seasons. Students are encouraged to discuss why they chose their image with a like-minded group and then present their argument to the class.

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

- In the Elaborate phase of the lesson plans, students use the engineering design processes of sharing, critiquing, and redesigning to analyze grade-level appropriate concepts. The materials also provide an Interactive Notebook with reflection opportunities, encouraging students to process the content they learned from the explore activities and readings.
- The Engage phase of the lesson plans presents the scope phenomena, sparking written and verbal opportunities for students to brainstorm questions and discuss with their peers. The materials provide opportunities for students to utilize the English Language Proficiency Standards (ELPS) as they go through each STEMscope.
- Students are placed into two groups in the “Science Connection” activity in the Energy Conservation and Transformations Unit. Group one represents radiant energy, and group two represents chemical energy. The two groups research, then construct arguments and participate

in multiple rounds of debate. In the “Engineering Connection” activity in the STEMscopes unit Forces on Objects, students can redesign prosthetic leg designs using everyday materials found in the classroom. Students share and critique each other's work, providing arguments for why components should or should not be changed or improved.

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Indicator 5.2

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

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

Meets | Score 4/4

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

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

Evidence includes but is not limited to:

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

- The materials provide an outline of activities that, when paired with content, help to engage advanced learners. In the "Teacher Resources," under "Advanced Strategies," is a list of activities that include Partner and Ponder, Puzzle It Out, and Word Web.
- The Engage phase of the STEMscopes provides a Pre-Assessment and "Accessing Prior Knowledge" section, anticipating potential student misconceptions and providing guidance to the teacher on how to address them. The materials provide Tiered Intervention strategies to differentiate students in the "Teacher Resources."
- In the 6th grade Transverse and Longitudinal Waves Unit, a student worksheet and answer key are provided underneath the "Elaborate" tab and in "Math Connections." The student sheet provides questions such as "What trends do you notice?" The answer key provides correct and possible correct answers to the question.
- Within the 6th grade Ecosystems Organization Unit, under the "Evaluate" tab, is a student handout. At the end of the handout, there are questions that assess a student's understanding, such as "Describe the hierarchical organization that could be found in a jungle." Students must write their responses in paragraph format. The materials provide an answer key with possible student answers.

Accelerate Learning STEMscopes Science TX Grade 6

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

- In the Engage portion of each lesson, there is an "Accessing Prior Knowledge" section with a "Misconceptions" tab. Here, the teacher is given words from the lesson, what students might think they mean, and what the words actually mean. For example, in Newton's Third Law Unit, the phrase *at rest* is given, and it states that teachers might expect students to think at rest means "relaxing," but it is rather the "state of an object when it is not in motion." In addition, the resource provides an "In Context" column that shows teachers and students how to use the words in context.
- Throughout each unit, the teacher is provided with "Tiered Intervention Strategies" that scaffold the lesson to meet the needs of all learners. For example, in the grade 6 STEMscope Metals, Nonmetals, and Metalloids, vocabulary is presented in three ways: in the Picture Vocabulary Slides, the teacher is guided to have "students scroll through the terms and review their definitions."; teachers have students use the interactive word wall to complete a graphic organizer. Teachers are guided to put students into groups of four for a vocabulary comparison game. In addition to the initial teacher instructions for the game, Tier 1, Tier 2, and Tier 3 strategies are provided.
- The "Standards Planning" section provides a breakdown of the TEKS and specific vocabulary (verbs and nouns) for student comprehension. It includes a detailed list of what terms that students need to know to achieve mastery of the content. For example, in the "Standards and Vocabulary Unwrapped" section, the standard is analyzed by referring to the word *identify* as both a verb and the noun element, periodic table, metals, nonmetal, metalloids, rare earth elements, physical property, importance, and life. In addition, "I Can" statements and vertical alignment to previous TEKS help the teacher support student expectations. Throughout the 5E lesson model, each section highlights guidance for the teacher on what terms the students should know. Reinforcement is included in activities such as "Picture Vocabulary."

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

- In the Elaborate phase of the STEMscopes lesson plans, students construct and support an argument using Claims, Evidence, and Reasoning (CER). The Engage phase uses "I Wonder...." sentence starters for classroom engagement. In addition, the grade 6 lesson Metals, Nonmetals, and Some Metalloids includes an activity where teachers give students cards labeled "Always, Sometimes, and Never." Then, the teacher reads a set of statements, has students respond with the cards, and then justifies their responses to an elbow partner before sharing with the whole group. This activity guides teachers to expose students to the concept of properties of metals, nonmetals, and metalloids three different times. It includes further guidance on using the activity to have students listen and speak about the content.
- In the 6th grade Unit "Organism Relationships," in the "Elaborate" tab, a science connection activity allows students to discuss and debate what they have learned. It is an "Inner/Outer Circle" activity and separates the class into two groups, "Relationships" and "Factors." The "Relationships" group represents the relationships that the black walnut tree has with other organisms, and the "Factors" group represents the "biotic and abiotic factors the black walnut tree depends on or competes over."

Accelerate Learning STEMscopes Science TX Grade 6

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

- In the elaborate section of the lesson plans, students are given the opportunity to complete a project following the "Engineering Design Process." This allows students to share their thinking and find solutions to problems they are creating given the STEMscope topic.
- The "Engineering Design Process" in STEMscopes allows for differentiation based on student and teacher needs. The materials read, "If you have more time to dedicate to this challenge or if you have specific students who would benefit from exploring all seven steps of the process, you can print the Engineering Design Process: Define the Problem, Brainstorm, Plan, Build, Test, Redesign, and Share and Critique blank template."
- In the elaborate portion of the "Newton's Third Law" STEMscope, students participate in a Socratic seminar considering the prompt, "How could we design amusement park rides that show several ways to represent and demonstrate Newton's third law of motion?" The teacher is provided with classroom expectations for the Socratic circle discussion for guidance.

Accelerate Learning STEMscopes Science TX Grade 6

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

Evidence includes but is not limited to:

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

- Within each unit in each grade level, underneath the “Engage” tab, a pre-assessment is provided to assess students' prior knowledge. This resource tells the educator that “this element is designed to uncover student misconceptions and provides a measurement of student learning to act as a baseline. It should not be taken for a grade.”
- At the end of each unit within each grade level, underneath the “Evaluate” tab, a “Scope Assessment” is provided that allows teachers to assess “knowledge gained after completing the activities in the Engage, Explore, Explain, and Elaborate sections of the scope." This assessment consists of multiple-choice and free-response questions.
- In every unit under the “Engage” tab, there is a “Pre-Assessment and Accessing Prior Knowledge” tab that provides the educators with a baseline of the knowledge that the students know (diagnostic assessment). This resource informs the educator that “this element is designed to uncover student misconceptions and provides a measurement of student learning to act as a baseline. It should not be taken for a grade.”
- A summative assessment is provided at the end of each unit in the “Evaluate” portion of the lesson under “Scope Assessment.” This assessment consists of multiple-choice and free-response questions.

Accelerate Learning STEMscopes Science TX Grade 6

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

- The materials have a standards matrix that serves as a checklist of the TEKS being taught and assessed. This comprehensive grade level matrix lists all of the content TEKS, Science and Engineering Practices (SEPs), and Recurring Themes and Concepts (RTCs) down the left side. The different types of standards are color coded. The top of the matrix lists the STEMscopes units. The standards covered by the units are shown with stars in each cell where a standard is addressed in the materials. This matrix is evidence that all student expectations over the course are being taught and assessed.
- The "Standards Matrix" in the materials specifies the science and engineering practices and where they fall within the STEMscopes. The SEPs and RTCs sections of the matrix show that every Science and Engineering Practice and every Recurring Theme and Concept is taught and assessed at least once during the course. In fact, most of the SEPs and RTCs are taught and assessed in more than one unit.

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

- STEMscopes provides educators with an answer key for each post-unit assessment that lists both the content standard and the SEPs that are associated with each question. For example, in the grade 6 unit Relative Density student evaluation, questions 1,2, 3, and 7 are all dual-coded for content and SEP
- In each unit to the left of the screen, under "Standards Planning," there is a breakdown of every standard taught and assessed in the unit. This resource aligns with the assessments in each unit. For example, in the grade 6 unit Environmental Change and Populations student evaluation, the questions include a drag and drop, hot spot, multi-select, and an evidence-based selected response question. In addition, questions 1, 2, 4, 8, 9, and 10 are dual-coded with SEPs and content TEKS.

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

- In the Elaborate phase of the 5E lesson model, the materials provide multiple opportunities for students to apply their learning in making science connections to technology, engineering, math, and reading. The materials offered within the scopes at all grade levels have a Claim, Evidence, and Reasoning Assessment that requires students to apply knowledge and skills gained to novel ideas. Here is an example of a CER in the "Characteristics of Organisms" 6th grade STEMscope: For example, the CER for the "Characteristics of Organisms" STEMscope, has students begin with reading a scenario aloud from the Student Handbook. The teacher then instructs the students to write a scientific explanation about what character in the scenario correctly classified the organism and who is incorrect. If the students are unsure of how to begin, the teacher is instructed to remind them that "For the claim section, students should each write a single sentence that highlights who has correctly classified their organism and who is incorrect. For the evidence section, students should cite data or observations that can be pulled directly from the scenario and external data. For the reasoning section, students should make connections between the scenario and the scientific knowledge they have gained about characteristics of organisms over the course of the scope activities." The results of the students' performance on this assessment determine how they will proceed. Depending on the results, "Students who

need more support can work with the teacher in small groups using the elements in the Intervention section before moving to the Scope Assessment. Other students should work on Elaborate or Acceleration elements."

Accelerate Learning STEMscopes Science TX Grade 6

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 guide 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	Materials tools yield relevant information for teachers to use when planning instruction, intervention, and extension.	M
4	Materials provide various resources and teacher guidance on leveraging 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 guide evaluating student responses. Materials support teachers' analysis of assessment data with guidance and direction to respond to individual students' needs, in all areas of science, based on measures of student progress appropriate for the developmental level. Materials tools yield relevant information for teachers to use when planning instruction, intervention, and extension. Materials provide various resources and teacher guidance on leveraging different activities to respond to student data.

Evidence includes but is not limited to:

Materials include information and/or resources that guide evaluating student responses.

- The materials provided within the "Scope Assessment" and under the Evaluation phase of the 5E model guide what students are to be evaluated on and how. The Claims, Evidence, and Reasoning (CER) in the Evaluation phase explains how to assess students with the activity.
- Each unit includes an assessment to evaluate student comprehension. The assessments have multiple types of questions, including new STAAR test formatted questions. These include multiple-choice questions, interactive questions, and constructive response questions. With each type of question, the answer key provides what a complete response would look like and an explanation of the answer.
- There are guiding questions within each of the 5Es in the lesson plan. For example, students must use multiple ways to explain their thinking, including CERs, KWL Charts, and other continuous learning tools. Within those, answer keys provide an exemplar of what student responses should look like or intervention activities to help facilitate more depth and connection in learning.

Accelerate Learning STEMscopes Science TX Grade 6

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.

- Within each unit for each grade level, there is a section titled "Pre-Assessment and Accessing Prior Knowledge." In this section, a portion labeled "Identifying Misconceptions" displays possible points of student confusion to the teacher.
- Teachers are provided a Tiered Intervention Resource under the "Resource" tab. This resource informs educators how to proceed based on a student's performance. For example, after teachers "administer pulse check," students are recommended to tier two supplemental or tier two targeted based on their performance. Each category has different tasks as appropriate.
- Teachers are provided pre-assessment and prior knowledge assignments for students. The teacher receives guidance on what to do next based on the student's response. For example, in the Formation of a New Substance unit, the materials state, "If students do not answer question 1 correctly, they may need further instruction on what can happen to thermal energy levels when a new substance is formed."

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

- The resource provides teachers with assessment tools throughout each step of the 5E process. With each assessment or pre-assessment, the teacher can continuously gauge where the student is in their understanding and intervene with the provided activities to help guide student understanding by the end of the lesson.
- Each sixth-grade unit has a section titled "Pulse Check." It allows the teacher to gauge student understanding without a formal assessment. For example, "Students will play a game-like assessment to help measure their comprehension of scope concepts."
- Each sixth-grade unit has a section titled "Progress Monitoring and Reflection." It allows the teacher to gauge student understanding without a formal assessment. For example, "Students will rank their understanding of the scope's fundamental ideas prior to any formal introduction to the topic. Then, they will be asked to reassess their understanding at other checkpoints throughout the scope. Students will also track their data on TEKS mastery following the same checkpoints, and they will create bar graphs to better visualize the data."

Materials provide various resources and teacher guidance on leveraging different activities to respond to student data.

- Each "Explore" section has a "Differentiation" section that guides how to meet the needs of different students on different levels. For example, in the Formation of a New Substance unit, the materials direct the teacher to assign tier 1 students "to a group that is compatible with their skills and personality traits," and assign tier 2 students to "a group responsibility that matches their ability."
- The materials provide teachers with a Tiered Intervention Resource under the "Resource" tab. This resource informs educators how they should progress based on a student's demonstrated performance. For example, it directs the teacher to "administer pulse check" and put students in tier 2 supplemental or tier 2 targeted based on their scores. Each category has different

assignments that the teacher can use to meet the needs of the students based on observed data.

- The materials provide small group instruction to meet individual student needs through guided practice and tiered interventions at all grade levels. In the “Acceleration” section of the STEMscopes, the materials provide English language support and advanced strategies such as choice boards to differentiate for students at all grade levels.

Accelerate Learning STEMscopes Science TX Grade 6

Indicator 6.3

Assessments are clear and easy to understand.

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

Meets | Score 2/2

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

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

Evidence includes but is not limited to:

Assessments contain scientifically accurate items, avoid bias, and are error-free

- The Pre-Assessment within the 6th-grade STEMscope for the Kinetic and Potential Energies Unit does not show bias. It clarifies information for students who may not have experience with what is described within the problem. For example, “For a slingshot to work, you must pull back the rubber band and then release it. As you release it, the object that you placed on the rubber band propels forward. The data table below shows three trials of a student using a slingshot. Based on the table, what observations can be made about the elastic potential energy and the kinetic energy?”
- The Post-Assessment within the 6th-grade STEMscope for the Kinetic and Potential Energies Unit does not show bias. It provides visuals to explain the concept to students who are unfamiliar with the topic. For example, “The image below represents several parts of a car that a mechanic can work on. Where in the image do you see stored chemical potential energy? Click on the two places where chemical potential energy is stored.”

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

- STEMscopes include Pre-Assessments with pictures and visuals that are clear. For example, in the Ecosystem Organization Unit, a clear picture of an owl and a table with words that promote understanding of the data is shown.
- Online Pulse Checks include black-and-white visuals and new-test type questions that are developmentally appropriate. Evidence of these examples are in the “Explain-Pulse Check” section of the Ecosystem Organization unit.

Accelerate Learning STEMscopes Science TX Grade 6

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

- In the Pre-Assessment quiz, a section called “Part 2 Pre-assessment” includes instructions for the teacher to administer the test. For example, "Tell the students they have a specific amount of time to complete the Pre-Assessment.”
- In the Pulse Check, a section called “Preparation" includes instructions for the teacher to administer the assessment. For example, “Select a strategy to elicit responses from all students in your class.”

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

- In the “Scope Assessment” section of each STEMscope, there is a Tiered Intervention strategy that provides teachers with different ways to meet the needs of students at different levels. For example, “Prompt the student to skip a question that they are stuck on. If time remains at the end of the assessment, remind the student to go back and answer skipped questions.”
- In the “Pre-Assessment” section of each STEMscope, there is a Tiered Intervention strategy that provides teachers with different ways to meet the needs of students at different levels. For example, “Place the Sliding Scale wall signs on the opposite walls of the classroom.”

Accelerate Learning STEMscopes Science TX Grade 6

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 yet to achieve 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.	PM

Partial Meets| Score 1/2

The materials partially 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 yet to achieve 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 yet to achieve grade-level mastery.

- There are guided practice, active practice, and tiered instruction/differentiation activities within each STEMscope. Each unit provides a Differentiation tab where small-group intervention activities assess and develop student understanding.
- Each unit provides a Differentiation section under the Explore tab with targeted instruction and activities for different tiers and emergent bilingual students. These benefit students who need extra support or have yet to achieve mastery of the content. Each unit also has an Intervention tab with a small group intervention resource for students who have not mastered the content.

Materials provide enrichment activities for all levels of learners.

- The materials provide a STEM Choice Board that allows students to make connections across multiple levels of understanding and learning. There are various opportunities for students to connect concepts to other ideas, including a scientist spotlight, career connections, thinking nationally, modeling, student proposals, acting locally, and a virtual field trip.
- All STEMscopes provide an Elaborate activity that is an enrichment for students after they are introduced to the content. There are different types of activities to meet the needs of a variety of students. The activities also have differentiation and accommodations for students at different levels. STEMscopes also provide an Acceleration tab with a STEM Choice Board and an ART challenge for the unit. This activity provides another perspective or challenge for advanced or struggling students to support understanding.

Accelerate Learning STEMscopes Science TX Grade 6

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

- The materials lack a reference point or resource for teachers if students struggle to find the information they need "just in time" while completing the activities. While intervention strategies include materials to follow up or pathways, such as Tiered Intervention Strategies, English Language Support Strategies, and Advanced Strategies, very little teacher guidance is provided if students continue to struggle despite the directions.
- Materials include Response for Intervention (RTI) and Check for Understanding Learning Pathways. Materials do not include just-in-time learning supports that address struggles at the point at which they initially occur. No support for immediate and specific feedback, prompts, and cues to support student understanding during an activity or tips for maintaining student engagement are included throughout tasks.
- The intervention section for all scopes can be used as “just in time” learning. This section includes scaffolds for Guided Practice, Active Practice, and Tiered Differentiation outside the traditional 5E model. For example, in the grade 6 scope, Ocean Tides, Guided Practice, Active Practice, and Tiered Differentiation include a card sort and a rock video with a lyric sheet.

Accelerate Learning STEMscopes Science TX Grade 6

Indicator 7.2

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

1	Materials include various 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 practices (e.g., modeled, guided, collaborative, independent) and provide guidance and structures to achieve effective implementation.	M
4	Materials represent diverse 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 various research-based instructional methods that appeal to a variety of learning interests and needs.

Materials include various 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 practices (e.g., modeled, guided, collaborative, independent) and provide guidance and structures to achieve effective implementation. Materials represent diverse communities in the images and information about people and places.

Evidence includes but is not limited to:

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

- STEMscopes provide labs, books, passages,, starters, and math, reading, and writing in science. STEMscopes provide multiple avenues in multiple sections of the unit to assess student understanding, including the Elaborate, Explain, Explore, and Evaluate tabs.
- In each unit, teachers and students can have a hands-on or virtual activity in the explore portion of the lesson. This format offers two instructional approaches that engage students to master the content. In addition, there are eight different resources in the elaborate portion of the lesson. This variety allows students to address or learn about the content in eight different ways, including connecting it to real-world situations, reading, or writing about it.

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

- In each unit, the teacher can conduct small group interventions. This strategy is under the Intervention tab for each lesson. Within this intervention, students can have partner work or whole group instruction. In the Explore portion of each lesson, students are often given whole group instruction and then put into groups to work. The teacher can transition from whole group to small group at different parts of the lesson.

- Throughout each STEMscope activity, students are put into different groupings to achieve mastery of the content. The materials provide teacher guidance in each lesson to support each type of grouping required.

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

- There is a guided inquiry into the scope phenomenon of Solids, Liquids, and Gases Scope. In the STEMscopedia section, students complete a page in their interactive notebook and share their thoughts.
- Each 5E lesson model has a description, materials, preparation, activity instruction, and identified standards. In addition, there is tiered instruction and an English Language Proficiency Standard (ELPS) proficiency level prediction to help with effective implementation. In anticipated areas of questioning, there are listed student responses so the teacher has guidance and can gauge student achievement levels for effective learning.

Materials represent diverse communities in the images and information about people and places.

- When describing items or giving visual representations, STEMscopedias include multiple diversities in communities, people, and places. In the “Ecosystem Organization” unit, they used Russian Dolls as an analogy. In images used with people, not just one single race is used throughout the materials. There are diverse races and gender types.
- In the STEMscopedia aspect of each lesson, various scientists are highlighted in each unit. In the Elaborate portion of the activity, under the “Science Today” tab, there is a story in the newspaper from somewhere in the world connected to what the students are learning while integrating diverse people and places.

Accelerate Learning STEMscopes Science TX Grade 6

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 English Language Proficiency Standards (ELPS) are stated within the scope outline, and each location is indicated in the 5E lesson plan. Each section of the 5E lesson plan has tiered opportunities for ELL learners based on demonstrated proficiency levels.
- At the bottom of each Explore and Engage section are English Language Support Strategies that inform the educator of how they can support students at different proficiency levels.

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

- When looking at suggested supports for Emergent Bilingual students, many encourage the initial use of a student's native language and then translate it into English. This technique is in the STEMscopedia and Writing Science aspects of each lesson. It allows students to engage with the material, incorporate and appreciate it in their native language, and develop their knowledge and skills of the English language.
- Within each STEMscope unit, English Language Learner Accommodations are provided for the teacher based on the student's demonstrated language proficiency levels.

Accelerate Learning STEMscopes Science TX Grade 6

Indicator 7.4

Materials guide fostering connections between home and school.

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

Meets | Score 2/2

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

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

Evidence includes but is not limited to:

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

- The materials provide a parent letter introducing parents to the STEMscopes curriculum in the teacher resources. This letter outlines STEMscopes' instructional philosophy of student learning through exploration and inquiry. In addition, it explains the "5E+IA" model and alignment of the STEMscopes program to state standards, including literacy, math, and music.
- The materials provide a home-school connection in each STEMscope. They also provide the STEMscopes framework and pedagogy. The materials include an explanation of STEMscopes digital platform and how it functions instead of a traditional textbook.
- Each grade level has a parent letter to take home in the Resource section. It provides parents with an understanding of STEMscopes as an instructional resource and explains the purpose of the parent letter to the teacher.

Materials provide information to be shared with caregivers to help reinforce student learning and development.

- The materials provide a parent letter with information, including background knowledge, vocabulary terms, and covered TEKS. For example, in the grade 6 unit Ecosystem Organization, the parent letter in the Science Outside the Classroom section lists content TEK 6.13C, provides two paragraphs of background information, five terms to know, and a "Closet Hierarchy" activity. This activity is designed for students to compete at home with their parents or caregivers. It involves counting and sorting the types of clothing and the number of each type to model the process of how organisms are classified.
- For each STEMscope, there is a Science Outside the Classroom tab with a Background Knowledge section to tell caregivers what they need to know for the STEMscope. In addition, there is an activity that students can complete with their family with an answer key to make

sure they complete it correctly. The answer key provided gives possible answers to the discussion questions at the end of the activity. This key is designed to help parents understand the outcome of the activity and how the activity connects to classwork.

Materials include information to guide teacher communications with caregivers.

- The materials provide a home-school connection that keeps caregivers knowledgeable about what students are learning and how they can support their students. Teacher background is provided with each example of the “Science Outside the Classroom” section as it is provided to parents. This allows teachers to effectively communicate with parents about the background and activities that their students may complete.
- Each grade level has a parent letter to take home in the Resource section. It provides parents with an understanding of STEMscopes as an instructional resource. This letter is fillable to ensure that parents have contact information for the teacher and administrator of the school and is available for download so that teachers can distribute it in multiple ways.

Accelerate Learning STEMscopes Science TX Grade 6

Indicator 8.1

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

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

Meets | Score 2/2

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

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

Evidence includes but is not limited to:

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

- STEMscopes/Accelerated Learning provides a four-column scope and sequence for grade 6 content. The first column indicates the “Unit Number”, the second column indicates the “Title of the Unit”, the Third column indicates the TEKS within the unit, and the fourth column indicates the “Suggested Time Frame” or “Amount of Time” needed to teach the topic. The teacher homepage for each unit provides a scope and sequence for the teacher, spiral opportunity, intervention, and acceleration activities.
- The materials provide suggestions for a timeline (sequence) in a column labeled with numbers, and how long to spend on each TEKS (scope) in another column labeled "suggested pacing."

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

- The product includes prior knowledge, vertical alignment, and fast-forward opportunities as well as guidance for teachers in all areas of content vocabulary, "I can" statements, and a general scope overview. There is also a section built in that includes an "outside the classroom" area where students can explore real-world concepts. STEMscopes provides clear teacher guidance for all three areas of student-made connections: core concepts, scientific and engineering practices, and recurring themes and concepts. Each lesson incorporates a list of materials needed (both consumable and reusable), clear directions, questions and their answers, vocabulary, making connections, intervention in three pre-tiered tabs, and an extension.

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- The product provides a scope and sequence matrix to facilitate planning for the teacher, with clarity in facilitating activities including materials, preparation, and question prompts utilizing the 5E lesson model. This clear instructional progression allows the teacher to facilitate Scientific and Engineering Practices as well as recurring themes and concepts for students.

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

- The resource provides a "spiral" section that encourages educators to reference past concepts and tie them into the current concept, and a "review" section that has activities and a quiz. This can be utilized at any point during the year for students that are struggling or for students that need practice or reinforcement of concepts.
- The material provides differentiated guided practice and active practice into tier one, two, and three interventions as well as opportunities for Small-Group Interventions. They provide guided practice that allows students to review with teacher facilitation and cross-content elaboration of concepts.

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Indicator 8.2

Materials include classroom implementation support for teachers and administrators.

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

Meets | Score 2 /2

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

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

Evidence includes but is not limited to:

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

- The materials provide teacher-facing background information that helps facilitate the planning of instruction with concept introduction, possible student misconceptions, and a clear instructional delivery plan utilizing the 5E instructional model. The materials outline the content standards with Scientific and Engineering Practices, a scopes matrix, vocabulary, “I can” statements, and vertical alignment.
- The materials provide enrichment activities and guide the teacher through their implementation. This is evident under the "Acceleration" tab which offers students extra assignments or activities to extend their knowledge beyond the given lesson. The product provides ample ways for implementing research-based instructional strategies for a variety of learners. For example, under the "Teacher Resources" tab, there are resources that address the needs of EB students, RTI students, and advanced students. This includes general activities to keep students engaged as well as a guideline on how to identify which activities to do with certain students. The resource embeds technology by providing a virtual lab with every TEKS, complete with an explanation for the teacher and a trial run to assist with implementation.

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

- Teachers can view content standards, scientific and engineering practices, recurring themes and concepts, a scope matrix, and vertical alignment within the product materials. This includes location information regarding where each topic, content standard, scientific and engineering practices, and ELPS can be found within each lesson.
- The materials provide cross-content correlations for math, reading, and the English Language Proficiency Standards (ELPS) along with opportunities for students to listen, speak, read, and write. STEMscopes provides recurring themes and concepts, reading in science supports at grade-level appropriate reading levels, and tiered interventions with English language supports.

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

- The resource provides a list of materials and safety equipment needed for each activity within a unit and collectively for the entire school year. This list includes how many items are needed and indicates if they are reusable or consumable. Every item on the list correlates with an instructional activity.
- A comprehensive list of all equipment and supplies needed to support instructional activities including grade level, scope, activity, materials needed, and quantity are provided. The material list identifies each item needed as per student, whole group, consumable, or reusable.

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

- The resource provides general safety practices by providing the educator with ten posters that can be printed and hung in the classroom. The posters explain grade-level appropriate safety practices but they are just generalized and are not scope specific. The resource does not specify safety practices that should be used for specific assignments or activities. For example, in one activity the students are handling boiling water but no safety measures are suggested.
- Materials include guidance for safety practices, including the grade-appropriate use of safety equipment during investigations. The resource provides general safety practices by providing the educator with ten posters that can be printed and hung in the classroom. The posters explain generalized grade-level appropriate safety practices. The materials include ten science safety practices posters, and safety guidelines for individual scopes. The grade 6 unit, "Formation of a New Substance," has clear evidence of specific safety instructions that should be used as a model throughout all STEMscopes across all grade levels.

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Indicator 8.3

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

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

Meets | Score 2/2

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

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

Evidence includes but is not limited to:

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

- The resource provides a suggested timeline for each TEKS with each day broken down into specific assignments. The materials give recommendations and options for assessments to be given within this time frame and provide a statement that each day's worth of activities should correlate with a 45-minute activity.
- The materials include a suggested timeline reference which includes all activities in the lessons and indicates that the materials included were based on 45-minute instructional periods. There are indications provided showing levels of activity and complexity that account for time and planning to support teacher planning.

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

- The materials utilize the 5E instructional model and provide implementation support through Engage, Explore, Explain, Elaborate, and Evaluate sections. The 5E instructional model allows for the developmental progression of content delivery without disrupting the overall sequence.
- The resource follows a 5E instructional model that follows a logical progression with appropriate pacing. The resource starts with an engagement that is simple and gets the students' attention. The student then dives deeper into the material by completing an exploration. After this, students participate in an explanation to make connections and expand on the knowledge of what they have already learned. The material provides intervention and acceleration suggestions to be used as indicated based on student demonstration of mastery. These

strategies and structures are designed to reach all learners and address any missing gaps in knowledge or skills.

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

- STEMscopes allow flexibility in instructional delivery while maintaining scope and sequence that can be completed within one school year. Teachers, schools, and school districts have the flexibility to implement the scopes in a way that is appropriate for their students.
- The scope and sequence provided by STEMscopes incorporates approximately 150 days, roughly the number of instructional days in a given school year. The resources provide ample activities and differentiated lessons that can be utilized in a variety of ways to meet the needs of all student populations.

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Indicator 9.1

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

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

Not Scored

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

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

Evidence includes but is not limited to:

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

- The materials include an appropriate amount of white space and a design that supports and does not distract from student learning. The grade 6 STEMscope on ecosystems includes clear visuals of an ecosystem that is not distracting. For example, the student handout for Explore 1, depicts a complex pond ecosystem with magnification bubbles for small organisms. The table below provides plenty of white space for students to record their answers.

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

- Throughout the materials, various graphics support learning and organize information to assist students with collecting, recording, and analyzing data. For example, in the grade 6 lesson Seasons, the Elaborate Engineering Connection presents students with a problem, criteria, and constraints and challenges students to brainstorm, build, and test a solution. The student handout clearly outlines the problem and provides plenty of space for students to outline their plans. There was no evidence of visual distractions.

Materials include digital components that are free of technical errors.

- Upon reviewing grade 6 units “Energy Conservation and Transformations” and “Resource Management,” no technical errors were observed. For example, the video component of the Engage phenomenon works flawlessly, and the virtual explore animation clearly shows the conversion of chemical energy in the battery to electrical energy that travels down the wire.

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Indicator 9.2

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

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

Not Scored

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

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

Evidence includes but is not limited to:

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

- The materials provide virtual activities that students may complete synchronously or asynchronously. The materials integrate simulations in some STEMscopes at all grade levels to support student learning and engagement.
- The materials integrate multimedia, including videos, to support student learning and engagement in most STEMscopes at all grade levels.

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

- STEMscopes provide a virtual experience in the 6th Grade Unit of “Earth's Tilt and Seasons” using a TUVA Data set and states, “Verify that the Tuva dataset will load and function on each internet-enabled device that students will use to access the experience.”
- STEMscopes provides a virtual experience in the 6th Grade Unit of “Force & Motion” and provides a PhEt Simulation that states, “Verify that the PhEt simulation will load and function on each internet-enabled device that students will use to access the experience.”

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

- The materials integrate digital technology that supports student-to-student and teacher-to-student collaboration. This collaboration is evident in the Explore section of each Scope. This section contains a virtual activity that includes content information, digital manipulatives, and self-assessment for students. This can be completed individually, in pairs, in small groups, or as a whole class, allowing students to collaborate. The instructions ask teachers to "Prompt students to turn and talk to their partners" or "Allow students to continue turning and talking with classmates." These statements are evidence of student collaboration while completing the virtual exercise.
- The elaborate virtual experience can be done with partners or led by the teacher. The instructions direct the teacher to "Assign students to groups of between two and four students." This is evidence of students working together while completing the virtual experience.

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

- The materials are compatible with single-sign-on learning management systems, including "Clever, MS SAML, Google SSO, LTI SSO, ClassLink, and Schoology" according to the STEMscopes reference tool provided. In addition, the STEMscopes reference tool outlines the Content Integration ALI that supports integration with LMS systems through a Thin Common Cartridge (ThinCC) protocol.

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Indicator 9.3

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

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

Not Scored

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

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

Evidence includes but is not limited to:

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

- The materials provide digital technology and online components that are developmentally appropriate and offer opportunities for the teacher to demonstrate applications that are in alignment with the scopes and appropriate for science knowledge and skills progression. For example, in the virtual explore portion of the grade 6 lesson, Spheres and Layers of Earth, a multilayered magnification of Earth is pictured with labels and short instructions for using the simulation. Students can zoom in and out on the pictures for more detail, and the simulation changes to highlight each labeled component. This detail aligns with the scope and approach to science knowledge and skills progression.
- The materials provided in the explore activities within STEMscopes are starter activities with question prompts that the teacher can use to gauge students' current knowledge and correct misconceptions that they might have. For example, in the virtual explore for the grade 6 lesson Cell Theory, the Phet simulation for sodium and potassium passing through a neural membrane is modeled. Students can stimulate the neuron to see the reaction of the gated channels. Showing a detailed model of a process that is too small to see aligns with the approach to science knowledge and skills progression.

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

- In the “virtual experience” tab of the elaborate section, there is a preparation section that provides teachers helpful guidance. In addition, STEMscopes embeds technology into the page so teachers can experience the technology themselves before assigning it to students. This virtual experience allows teachers to run an experiment that would be dangerous to students because it involves using strong acids without the threat of injury. The results clearly show evidence of chemical reaction, and the teacher is guided with strategies and questions to ask throughout the process.

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

- Within the teacher resources, STEMscopes provides a parent letter that the teacher can give to students to take to their parents. This letter gives a complete rundown of the program, its benefits, and its usage within the classroom. In addition, teachers are guided to use the “Science Outside the Classroom” portion of the materials that provides background knowledge and activities that could be completed at home. These two resources work hand-in-hand to support student engagement.