Accelerate Learning STEMscopes Science TX Grade 8

Accelerate Learning STEMscopes Science TX Grade 8 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.

Accelerate Learning STEMscopes Science TX Grade 8

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.
- Students are given opportunities to use various tools, collect data, and interpret results to demonstrate mastery of given engineering practices. All three of these skills are evident in the "Explain" portion of "Newton's Second Law" unit. Students are given the opportunity to plan

and conduct experiments, collect data, and analyze data in the engineering connection of the elaborate section of the lesson plan.

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.
- Due to the 5E lesson format, there are multiple opportunities for the students to understand and make connections with and amongst content before they reach the assessment section. There are spiral opportunities within each content unit.

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.
- The 5E lesson format of the materials allows scholars the opportunity to build upon the knowledge that they already have to create a basis of knowledge for the topic. STEMscopes provides intervention and acceleration information for proper progression or scaffolding of material based on the demonstrated progress of students. Questions are provided to ask learners, guiding their understanding of phenomena and promoting student inquiry. Sentence starters or stems are also provided.

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 amongst content. In the other sections of each unit, students are given an experiment or guided activity that is prescribed and has predetermined outcomes with little flexibility for variation. In addition, the materials provide a list of "I wonder..." investigation templates that invite students to explore specific grade-level content areas and problem-solve by asking a testable question, designing and implementing an investigation, and reflecting on the outcomes.
- In the scopes, the teacher may use "The Thinker" questioning strategy or the "Pencil Up" questioning strategy. It is not clear if students get to pose or ask their own questions. 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 mostly for the teacher. The 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.

Accelerate Learning STEMscopes Science TX Grade 8

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 materials provide a specific outline of where in the 5E lesson plan each support is embedded, including the constructing, building, and developing of knowledge through recurring themes and concepts. Each scope includes an overview where the particular phenomena is embedded for additional support and guidance. The recurring themes and concepts are also embedded and identified in each section of the 5E lesson model.
- 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.

Accelerate Learning STEMscopes Science TX Grade 8

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 relate what they are going to learn to something they have already learned. For example, in grade 8 "Cell Organelle" unit, students watch a video about a cell and its parts. Students have to use their prior knowledge of living things and apply it to the current 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 Engage phase of the 5E lesson format provides a pre-assessment to determine students' prior knowledge and uncover misconceptions. The scope overview provides guidance to the teacher on instructional delivery with consideration given to science and engineering practices and an introduction to the scope phenomenon.

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

- All activities come with an answer key that is attached to the student answer sheet. This outlines for teachers the goal behind what students should know for each activity they complete. Every unit provides the teacher with a "Scope Matrix" that states what content is taught in each activity in the unit. This provides clarity for teachers as to what concepts should be emphasized when teaching each activity.
- 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.

Accelerate Learning STEMscopes Science TX Grade 8

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.

- A vertical alignment of 7th grade and Biology TEKS shows that the content is developed and integrated across multiple grade levels. This alignment describes where content and skills correlate to other units within the same reporting category. The spiral opportunity across other units aligns with “Ocean Currents and Air Masses” and “Nature’s Impact on Climate.”
- 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.

Accelerate Learning STEMscopes Science TX Grade 8

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

- Each unit provides teachers with a 5E lesson model that allows students to access prior knowledge in the engage section. As the students move throughout the lesson, they build their knowledge, completing labs and activities and adding new content that creates depth and understanding. Each unit provides an "Explain" section that has an “Interactive Student Notebook" component. The Interactive Student Notebook allows students to process the content by writing, organizing, and drawing their thoughts and understanding regarding the material. This component is part of a scaffold that allows students to develop a deeper understanding through reflection and clarification.
- The material begins with a pre-assessment designed to activate students' prior knowledge, then presents a scope phenomenon with progress monitoring and reflection for a deeper conceptual understanding. The material's use of the 5E lesson model as the framework for teaching STEMscopes allows for a sequential and intentional delivery of instruction that increases and deepens student conceptual understanding.

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

- Stemscopes provides a “STEMscopedia” that presents the grade-level specific core concept and a “Scope Overview” that provides the standards and recurring themes, concepts, and science and engineering practices the 5E lesson model covers. In each of the Elaborate activities, the preparation directions clearly identify how to implement the 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.

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 “Food Web” unit, students are given a scenario and asked to predict how this scenario would directly impact a food web. This mastery assignment directly relates to the TEKS of impacts on a food web.

Accelerate Learning STEMscopes Science TX Grade 8

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.

Accelerate Learning STEMscopes Science TX Grade 8

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 8 unit *Newton's Second Law of Motion,* the materials suggest using a fact or fiction informal assessment using the following prompts:
    - Prompt 1: Fact. Newton's second law of motion is the law of acceleration. The mass of the bicycle, along with the force applied to the pedals, makes the bicycle accelerate forward. Newton's second law says that force is equal to mass multiplied by acceleration.
    - Prompt 2: Fiction. This law of inertia is an example of Newton's first law of motion. The people continue to move in the direction that they are moving until they have to change their position by rounding the corners.
    - Prompt 3: Fiction. While swimming can show Newton's second law of motion, everything given in the example shows Newton's third law of motion, the law of action and reaction. As the swimmer moves their arms backward through the water (action), they are propelled forward (reaction).
- 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 designed to uncover student misconceptions.
- "Teacher Background" gives clearly defined explanations and examples of concepts to support the teacher's subject knowledge.

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

- "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, 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). 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.
- STEMscopes provides a "5E and IA Instructional Model" page under the STEMscopes framework tab in the Resources section. This explains the 5E model and why this instructional design is used 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) Using sequences of lessons that incorporate student-centered, hands-on investigations designed to challenge current conceptions and provide time and opportunities for reconstruction to occur can assist students' construction of knowledge. Under the "planning instruction" tab in resources, teachers are provided with the purpose of each section and what each student is expected to do in the different parts of the 5E lesson.

Accelerate Learning STEMscopes Science TX Grade 8

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.
- In the STEMscopedia, STEMscopes provides students with the opportunity to read and understand the science that accompanies each topic. In the interactive notebook, STEMscopes provide strategies for writing, thinking, and acting like a scientist. They provide a cartoon activity, an explore called "Recipe Card for Atoms," and a virtual explore that has students writing at a high capacity through a "Traveling Paragraph."

Accelerate Learning STEMscopes Science TX Grade 8

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

- 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. Supplemental materials are provided to 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.
- In the "Nature's Impact on Climate" STEMscope, under the "reading science" elaborate portion, students read a science article called *Rise of the Phoenix: From Dinosaur Extinction to the Birth of a Rain Forest.* Students are tasked with completing a “Say Something” chart as they read in groups. The article is provided at two different Lexile levels. The first article labeled as on grade level is at 1150L. The below-grade level version of the article is labeled at 990L. These Lexile levels are marked with shapes on the student handouts, so it will not be obvious that they are different reading levels.

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 can be used to show 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, students are given a handout of a graphic organizer to write down their thoughts and understanding of the materials. For example, in the grade 8 unit Newton’s Three Laws of Motion, students are provided with a graphic organizer with three bubbles to represent the parts of the model they are building. Students must associate the structure of the model with the function of each part.

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

- The 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.
- In each STEMscope, students have a "Science Today" portion that they must read and answer questions on regarding a real-life phenomenon. For example, in the grade 8 unit Wave Characteristics, the “Science Today” article is on Ecuadorian hummingbirds and their ultrasonic

songs. The graphic organizer prompts students to quote the text, code the quotes with a label of either interesting, confusing, or connecting, and give a personal response. 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. The example above relates the sound of a hummingbird song to the waves that carry the sound. In each unit, students have an "Engineering Connections" portion that relates a problem to the content. For example, in the same Wave Characteristics unit, the “Engineering Connection” has students create an app that analyzes different kinds of light. The students are subjected to criteria and constraints, and they must brainstorm and plan a solution. The proposed solution must be drawn and labeled with all materials needed listing.

Accelerate Learning STEMscopes Science TX Grade 8

Indicator 5.1

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

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

Meets | Score 4/4

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

Materials prompt students to use evidence to support their hypotheses and claims. Materials include embedded opportunities to develop and utilize scientific vocabulary in context. Materials integrate argumentation and discourse throughout to support students' development of content knowledge and skills as appropriate for the concept and grade level. Materials provide opportunities for students to construct and present developmentally appropriate written and verbal arguments that justify explanations 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.
- In the Evaluate phase of the 5E lesson mode, the materials provide opportunities for students to construct and support arguments that identify how a scenario relates to the concept of the STEMscope by making "Claim-Evidence-Reasoning" as shown in the 6th-grade scope on "Newton's Laws of Motion" and seen across grade level specific scopes and concepts.
- Students are expected to complete a claim, evidence, and reasoning process in the evaluate section of each STEMscope, providing assistance towards making connections for students who are struggling. In the explore section of one STEMscope, students are expected to discuss the science behind salsa by assessing the pH level of each and discussing the probable causes.

Accelerate Learning STEMscopes Science TX Grade 8

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

- The explore section of each lesson includes "Vocabulary in Context." This section includes vocabulary that is being introduced to students throughout the STEMscope. STEMscopes states that students should apply these words to the content that they are learning, as well as their responses to questions and work in their notebooks.
- The explain section of each lesson includes "Picture Vocabulary." In this section, students utilize vocabulary in multiple ways, including playing games and interacting with a word wall. The materials also encourage students to integrate new vocabulary in other STEMscope activities.
- The Explore phase of the 5E lesson model within each STEMscope has a section called "Vocabulary in Context," which lists key vocabulary. The materials provide picture vocabulary in the Explain phase, challenging students to visualize and practice using the terms in context. The materials also provide opportunities for students to interact with a word wall and play with built-in vocabulary and connection games.

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

- The materials provide opportunities for student discourse in the pre-assessment portion of the engage phase of the STEMscopes in an "Agree or Disagree '' activity. The Explain phase of the STEMscopes allows students to play a game-like assessment to help measure their comprehension of scope concepts.
- The Explain phases of the materials utilize color cards, hand signals, and whiteboards to engage students in discourse. In the Evaluate phase of the 5E lesson model, the materials provide opportunities for students to construct and support arguments on the scope topic by providing claims with evidence and reasoning.
- 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 have to state their opinion and defend it when given a scenario. Another example is the engagement in the grade 8 lesson Properties of Acids and Bases. Students are provided examples of substances labeled as examples of acids and bases. They must determine if the pictures provided are good examples of the term or bad examples of the term. Students must justify their answers. 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 same grade 8 lesson, students must collaborate and discuss academic vocabulary as they use "Connect It Cards" to relate the terms to each other.

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

- In the "Science Connection" activity, students are placed into two groups and participate in multiple rounds of debate. In the "Engineering Connection" activity, students have the opportunity to critique their work.
- In the elaborate portion of each unit, students have the opportunity to partake in a "Science, Engineering, or Technology Connection" activity that allows students to construct and present solutions to problems.

Accelerate Learning STEMscopes Science TX Grade 8

- In the engage portion of each STEMscope, there are various ways for students to engage in argumentation. While participating in "Sometimes, Always, or Never" and "Agree/Disagree?" students state their opinion and defend it when given a question.

Accelerate Learning STEMscopes Science TX Grade 8

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.

- In the student handout in the evaluate section of the 8th Grade "Conservation of Mass" STEMscops, students are asked open-ended questions such as, "Write a scientific explanation to explain what happened to the logs. In your answer, be sure to include how mass was conserved and a description of the chemical reaction that took place." It also provides acceptable and possible answers that students may give within the answer key.
- In the student handout in the elaborate section of the 8th Grade Properties of Water" STEMscope, students are asked to create a graph, identify trends, and notice possible outliers. The "Answer Key" provides possible and acceptable answer choices for each question.
- In each STEMscope, teachers are given a list of questions under "Activity" that not only provides questions to deepen thinking but also provides anticipated student responses. For example, on the "Classifying Matter" page, teachers ask, "What are some examples of matter?" and are informed that answers may vary but should include things such as humans, grass, rocks, etc.
- In the engage portion of each lesson, there is an "Accessing Prior Knowledge" section that has a "Misconceptions" tab. The teacher is given words that are used and what students might think they mean versus what they actually mean. For example, in the "Classifying Matter" STEMscope,

students may believe the word "bond" is "a close connection to someone," but they need to know it is an "attraction between atoms."

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 that has 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 the "Classifying Matter" STEMscope, students might believe that a bond is "a close connection to someone," but they need to know that it is an "attraction between atoms." In addition, the resource provides an "In Context" column that demonstrates how to use the words in context. For example, the "In Context" column gives sentences using the academic vocabulary correctly, such as "What type of bond connects metals to nonmetals?" for the term bond.
- Throughout each STEMscope, the teacher is provided with "Tiered Intervention Strategies" that scaffold the lesson to meet the needs of all learners. For example, in the grade 8 unit Life Cycles of Stars, Tiered interventions for use with the picture vocabulary include having students begin with a smaller puzzle of just two vocabulary terms, providing guided practice for additional matching pieces, and allowing students to match puzzle pieces on one edge only.
- The standards planning section provides a breakdown of the TEKS and specific vocabulary (verbs and nouns) used 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 grade 8 unit Properties of Water, the standards planning section includes definitions of the verbs describe and relate and concrete nouns adhesion, cohesion, surface tension, water, and phenomena. This detailed breakdown of TEKS and vocabulary is necessary for new content introduced in the grade level.
- Throughout the 5E lesson model, each section highlights guidance for the teacher on what terms the student is expected to know. Reinforcement is included in activities such as "Picture Vocabulary." For example, in the grade 8 unit Variations to Adaptations, "Picture Vocabulary" is used in the following activities: building an interactive word wall, completing a graphic organizer, and playing a comparison vocabulary game using the terms adaptation, behavior, generation, physiology, population, and reproduction.

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

- For each explore activity, students must provide claims, evidence, and reasoning when answering questions. This reinforces students to use evidence when making claims. For example, in the "Elements vs. Compounds" STEMsope, students are asked to provide two to three sentences and "write a scientific explanation of the application and limitations of quantum physics in real life."
- In the explore portion of the activities, teachers are guided on how to lead effective classroom discourse. For example, the materials instruct, "Have students raise their pencils in the air, but they should keep their elbows on the tables," to be called on to speak.
- In the elaborate section of the 8th Grade STEMscope "Ecological Succession," there is a science connection activity, "How does forest management change the health of areas recovering after natural events?" Students are placed into 2 Groups to participate in Inner/Outer Circle; the groups are "Succession and group Forest Management." They are to defend their side.

Accelerate Learning STEMscopes Science TX Grade 8

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

- Throughout STEMscopes, teachers are guided to share students' thinking by having strategies such as "Give each student a note card or a sticky note. Have students use the note cards or sticky notes to finish this sentence stem: I wonder…" in the "Classifying Matter" explore activity.
- In the elaborate portion of "Classifying Matter," students participate in a public service announcement over, "What elements and compounds could harm humans if they enter the human body, and how can we prevent this from happening?" The materials direct the teacher to "Remind students that, while other groups are performing, they should be good audience members and perform active listening and polite applause, and they should ask appropriate questions after the presentations."
- In the student handout in the elaborate section of the 8th Grade STEMscope "Human Impact on Climate Change," students participate in a design process, critique others' work, and then redesign their own work. The materials instruct, "Build and test a model simulating minimal carbon dioxide (CO_2)," "Build and test a model simulating the addition of CO_2 on temperature," "Use 2 beakers, 2 thermometers, 1 piece of plastic wrap, a heat lamp, tape and water," "Record the temperature every 10 minutes for each model on a data table," and "Share and explain the results on your data table with your class."

Accelerate Learning STEMscopes Science TX Grade 8

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.

- 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.”
- The materials provide a pre-assessment to activate students’ prior knowledge within each scope and at every grade level under the “Engagement” section. The description reads:

  Students will determine whether projected images are good or bad examples of vocabulary terms and make their choices known by physically moving to one side of the classroom or the other. They will then be assessed on their current knowledge of the content covered by this scope through a multiple-choice pre-assessment. This element

is designed to uncover student misconceptions and measure student learning to act as a baseline. It should not be taken for a grade.
Each scope within each grade level and under the evaluation section ends with an assessment that enables teachers to assess student mastery from all the activities in the Scope Description.
Students will be assessed on the knowledge gained after completing the activities in the Engage, Explore, Explain, and Elaborate sections of the scope.

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

- STEMscopes provides educators with a “Standard matrix” checklist of each TEKS, science and engineering practice, and recurring theme and concept. This resource checks which standards are taught in each unit. 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.
- Each unit has a breakdown of the standards being taught and assessed in a section titled “Standards Planning.” This resource indicates where each standard is taught and assessed. For example, “8.9A Accessing Prior Knowledge, Scope Phenomenon, Explore, Stars' Lives, etc.”

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

- STEMscopes provides educators with a “Standard Matrix” that has a checklist of each TEKS, science and engineering practices, and recurring themes and concepts. This resource checks which standards are taught in each unit. The unit assessment in the evaluate section aligns with this matrix. For example, in the grade 8 unit Nature’s Impact on Climate, questions 4, 5, 6, 7, 9, and 10 are dual-coded with both content TEKs and SEPs.
- 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 also tells you where each science and engineering standard is taught and assessed. For example, “8.1A is taught in Scope Phenomenon and Virtual Explore.”
- Within each unit in every grade level, the post-assessment or “Scope Assessment” provides various ways for students to demonstrate their understanding of a concept. These include multiple-choice, open-ended, multi-select, and multi-part questions that reflect the new style of STAAR assessment questions.

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 “Ecological Succession” 8th grade STEMscope:

    - For example, the CER for the “Ecological Succession” STEMscope, has students begin with reading a scenario aloud from the Student Handbook. The teacher then instructs the students to write a scientific explanation that describes which types of ecological succession (primary or secondary) the ecosystems are undergoing after disruption via different natural events.. 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 which type of succession each area is experiencing. 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 primary and secondary ecological succession over the course of the scope of 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.”
- Within each unit in each grade level, there is a “Claim-Evidence-Reasoning” that allows students to practice critical thinking. For example, “Students will construct and support an argument that describes if mass is conserved during a chemical reaction.”

Accelerate Learning STEMscopes Science TX Grade 8

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 a variety of revariousteacher guidance on how to leverage different activities to respond to student data.	M

Meets | Score 2/2

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

Materials include information and/or resources that provide guidance forguideresponses. 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 a variety of resources and teacher guidance on how to leverage different activities to respond to student data.

Evidence includes but is not limited to:

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

- The materials provide within the "Scope Assessment" and under the Evaluation phase of the 5E model guidance on what students are to be evaluated on and how. The Claims, Evidence, Reasoning (CER) in the Evaluation phase explains how to assess students with the activity.
- Within the formative assessment ("Scope Assessment") in each unit of each grade level, an answer key is provided so that the educator has a reference to gauge each student's understanding of the material. Answer keys and possible answers are provided.

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.

- Teachers are provided a Tiered Intervention resource under the "Resource" tab. This resource informs educators how they should 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 response. For example, in

the Properties of Water Unit, the materials state, “Students may think all things float in water because of only surface tension or only density. It can be because of both properties.”
- Teachers are provided with intervention activities to meet all the needs of students while conducting a lesson. Each intervention comes with tiered activities based on the students' needs.

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

- The materials provide pre-assessment and activating prior knowledge activities that yield data for teachers to plan instruction. These indicate the need for differentiation as interventions are implemented based on the data gathered.
- Teachers are provided with an end-of-unit claims, evidence, and reasoning activity, and an exam. These two resources are used to determine if a student should do a reteach through the intervention activity or an extension through the acceleration assignment.
- Teachers are provided with a pulse check, that is an assessment used after the first activity and explanation. This is a tool that teachers can use to plan instruction, interventions, or extensions.

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

- Within each grade level and each unit there is a section titled "Small Group Intervention" within the “Intervention” tab. This section provides the teacher with activities for students that may not work well within whole group. For example, one such activity “In the Guided Practice, students will review net force through a small-group activity led by the classroom teacher. Then in the Active Practice, students will play the classic card game Go Fish! to practice scope concepts and vocabulary.”
- The materials provide teachers tiered instruction activities and interventions to provide students with different levels of help based on student data. English language learners are provided with specific tiered instruction within the materials.

Accelerate Learning STEMscopes Science TX Grade 8

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 assessments in STEMscopes are scientifically correct. For example, in the Newton's Law Unit, the assessment describes Newton's Law in reference to plate boundaries, and connects the two concepts in a scientifically correct manner. For example, in Question 1, two earth plates are depicted sliding past each other. Arrows define the direction of movement, and wavy lines around the perimeter of the plates depict shaking. This earth science example applies to a force and motion question. It is accurate, biased, and error-free, showing that different areas of scientific study are not mutually exclusive.
- The assessments in STEMscopes are free from bias and errors. For example, in the Newton's Law Unit, students use a game to show their understanding of the concept using colored cards, hand signals, and whiteboards. This kind of formative assessment allows all students to show what they know. The teacher is guided to evaluate the accuracy of answers, and this way of answering avoids bias.

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

- STEMscopes include Pre-Assessments with graphics that are appropriate and easy to read. For example, the Biodiversity Unit’s food web is clear with easy-to-follow arrows and depicts fourteen species and four levels. The pictures of the organisms are developmentally appropriate for middle school students as they depict animals physically accurately.
- The online “Pulse Checks” in STEMscopes include black-and-white images and appropriate maps for students. For example, in question 5 of the pulse check for the eighth-grade Biodiversity lesson, a pond ecosystem is depicted. The image does not show extraneous biotic factors, such

as fish or frogs, but only shows aquatic plants, algae, and the fertilizer that is affecting the ecosystem. This streamlined picture is developmentally appropriate for middle school students because the other biotic factors are unnecessary to answer the question.

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 addition, teachers are guided to instruct students to update progress monitoring and reflection logs to show which questions they answered correctly. Students then use that data to create a bar graph of mastery. This practice ensures consistent and accurate representations of student learning before a lesson begins and involves students in the learning process.
- In the Pulse Check, there is a section called “Preparation” that includes instructions for the teacher to administer the assessment. For example, “Select a strategy to elicit responses from all students in your class.” The grade 8 Biodiversity lesson presents the strategies: color cards, hand signals, or whiteboards. Details about how to execute each strategy follow. Teacher guidance with this level of detail ensures consistent and accurate administration of this formative assessment tool for all students.

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

- Under the “Scope Assessment” section, the Tiered Intervention strategy provides teachers with different ways to meet the needs of diverse students. For example, “Provide the student with a copy of the test that has a smaller array of answer choices. For example, instead of selecting the correct answer from four options, the student is asked to choose from three possible answers.” Teacher guidance for accommodations such as this allows students to show their level of mastery and reach their learning goals regardless of limitations.
- Under the “Pre-Assessment” section, the Tiered Intervention strategy provides teachers with different ways to meet the needs of diverse students. For example, “Instruct all students to hold up one to five fingers (that correspond with their sliding scale opinions) when lining up. Students can view classmates’ hand signals to determine their place in line.” This accommodation lowers the threshold of concern for students and allows them to honestly demonstrate their level of mastery without feeling singled out.

Accelerate Learning STEMscopes Science TX Grade 8

Indicator 7.1

Materials include guidance, scaffolds, supports, and extensions that maximize student learning potential.

1	Materials provide recommended targeted instruction and activities to scaffold learning for students who have not yet achieved grade-level mastery.	M
2	Materials provide enrichment activities for all levels of learners.	M
3	Materials provide scaffolds and guidance for just-in-time learning acceleration for all students.	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.
- The intervention section includes “Guided and Active Practice” with multiple-tiered instruction opportunities to accompany activities. These activities include open-ended questions for opportunities to explain student thinking, along with student handout pages. A concept attainment quiz is provided to check for understanding of key vocabulary, picture identification, and short-constructed response questions.

Materials provide enrichment activities for all levels of learners.

- All STEMscopes provide an Elaborate activity that is an enrichment for students after they have been 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. These strategies provide another perspective or challenge for advanced or struggling students to support understanding.
- 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.

Accelerate Learning STEMscopes Science TX Grade 8

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 strategies within the 5E model 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.
- 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 8 scope, Electromagnetic Wave Uses, extra guided practice notes, and a headband game are included along with Tiered strategies to help all students be successful with the game.

Accelerate Learning STEMscopes Science TX Grade 8

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.

- In each unit, teachers and students can have a hands-on or virtual activity in the Explore portion of the lesson. This strategy offers two different instructional approaches that engage students in order to master the content. In addition, there are eight different resources in the Elaborate portion of the lesson. This variety means that students can address or learn about the content in eight different ways, including connecting it to real-world situations and reading or writing about the content..
- Following the 5E lesson model, the materials include appropriate instructional approaches to get students attention in the engage portion by discovering connections to the students current knowledge and building upon it for mastery. The materials reference recurring themes and scientific processes that sequentially move throughout the lesson to engage students and support student mastery of the content.

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 Newton's Three Laws Scope. Within the Explore section of Newton's Three Laws, students complete the activity May the Force/Mass Be with You in groups.
- 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.

- STEMscopes provide information within the STEMscopedia readings highlighting John Hopkins engineer James West and female scientist Agnes Pockels from the 1800s-1900s.
- 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.

Accelerate Learning STEMscopes Science TX Grade 8

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.

- 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.
- In the Teacher Resources, the materials provide opportunities for literacy development through various literacy strategies, including support for reading in science, activity connections, categorizing words, and round table reviews. Leveled readers are also provided to scaffold reading at appropriate reading levels for students. The materials provide support for English Language Learners (ELLs) and opportunities to scaffold for students through the English Language Proficiency Standards (ELPS) within the STEMscopes.

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

- The materials provide opportunities to meet students where they are in their English language proficiency, as a beginner, intermediate, advanced, or advanced high level, to respond in their native language or first language before translating content into English. The materials utilize the English Language Proficiency Standards (ELPS) to support student language development within the science content.
- 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 shown in each lesson's STEMscopedia and Writing Science aspects. 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.

Accelerate Learning STEMscopes Science TX Grade 8

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.

- For each grade level, there is a one-page parent letter that can be sent home to inform parents and guardians about the 5E lesson model. This letter begins, "Our [campus/district] has recently chosen STEMscopes, an online science curriculum from Accelerate Learning, as our primary instructional resource for teaching science in grades [grades]...."
- For each grade level, there is a parent letter in the resource section that is able to be sent home. It provides parents with an understanding of STEMscopes as an instructional resource and explains the purpose of the parent letter to the teacher. 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.

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

- 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 Science Outside the Classroom section reinforces science concepts in everyday life. For example, in the grade 8 unit Conservation of Mass, parents, and caregivers are provided with the content TEK, a two-paragraph background explanation, eleven terms to know, and an activity that models conservation of mass with candy.

Accelerate Learning STEMscopes Science TX Grade 8

Materials include information to guide teacher communications with caregivers.

- The materials provide a home-school connection that keeps caregivers abreast of what students are learning and how they can support their students. 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.
- For each grade level, a one-page parent letter can be sent home to inform caregivers about the 5E lesson model. The letter guides educators in communicating with caregivers at the beginning of the school year. Guidelines to facilitate ongoing communication with caregivers throughout the school year could strengthen this indicator.

Accelerate Learning STEMscopes Science TX Grade 8

Indicator 8.1

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

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

Meets | Score 2/2

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

Materials are accompanied by a TEKS-aligned scope and sequence outlining the order in which knowledge and skills are taught and built into the course materials. Materials provide clear teacher guidance for facilitating student-made connections across 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 8 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 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.
- STEMscopes provide the basics needed to complete each lesson including scientific and engineering practices. There are probing questions at the beginning of each “Explore” section as well as a Standards Overview, Suggested Scope Calendar. and Spiral Opportunities.

Accelerate Learning STEMscopes Science TX Grade 8

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

- The materials include activities that can be used at any point in the year to support practice, review, intervention, retention, or mastery of knowledge and skills. They provide science, technology, engineering, and math connections that can be integrated and utilized year-long for practice and spiraled review.
- 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.

Accelerate Learning STEMscopes Science TX Grade 8

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. Investigation or lesson-specific safety guidance is not provided.

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.

Accelerate Learning STEMscopes Science TX Grade 8

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

- 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.
- 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.

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

- The company provides a comprehensive list of all equipment and supplies that are needed for each specific unit and activity. The company provides a list of what activities or worksheets to utilize for each day throughout the school year.
- 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 materials include ten science safety practices posters, and safety guidelines for individual scopes. 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.

Accelerate Learning STEMscopes Science TX Grade 8

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 provide a Suggested Scope Calendar that paces out activities over seven days and suggests activities for intervention or acceleration if needed. This is in addition to other scheduling considerations made in the provided 5E lesson plans.

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.
- Each unit provides a clear scope and sequence that includes tiered interventions that can be used as needed. Progress monitors are built within each lesson or day as a "pulse check" and means of formative assessment.

Accelerate Learning STEMscopes Science TX Grade 8

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

- STEMscopes allow flexibility in instructional delivery while maintaining a 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 company states that the scope can be altered based on the needs and schedule of the campus or district. The company suggests the order but as previously stated, it is ultimately up to the district/campus/teacher in the order in which they teach it.

Accelerate Learning STEMscopes Science TX Grade 8

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 have ample white space and are not overcrowded. For example, there are multiple lines available to write in the explore portion under each free response question. For example, in the grade 8 Life Cycles of Stars lesson, interactive notebook page 2 provides plenty of space for students to write a hashtag note to explain vocabulary terms. The hashtag note is a novel way to help students remember vocabulary, and the page is clean and does not distract from student learning.

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

- Throughout the materials, there are various graphics that support learning without being distracting. There are various graphs and charts that support learning and the organization of material in order to assist students with collecting, recording, and analyzing data. For example, in the grade 8 lesson STEMscopedia on Classifying Matter, the student handout has a detailed picture of a salad as an example of a mixture. The graphic below the picture is a connecting question that should be answered in the interactive student notebook. The graphic for this connection is the same in each STEMscopedia, so students can use the visual cue and stay engaged with both documents without becoming distracted.

Accelerate Learning STEMscopes Science TX Grade 8

Materials include digital components that are free of technical errors.

- Upon reviewing grade 8 units of “Biodiversity” and “Electromagnetic Wave Uses,” no technical errors were observed. For example, in the Teacher Background portion of the Biodiversity lesson, accurate color-coded visuals are provided to help teachers deepen their understanding of levels of diversity. In addition, the virtual explore begins with a map, reveals different biomes, and asks students whether the biome has high or low biodiversity. The map, all the biomes, and subsequent questions are accurate and free of techincal errors.

Accelerate Learning STEMscopes Science TX Grade 8

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 integrate digital technology and tools that support student learning and engagement. Digital technology and tools enhance student learning through such features as learning games, interactives, simulations, and online assessments. The Explore section of each Scope contains a virtual activity that includes content information, digital manipulatives, and self-assessment for students.
- The materials integrate digital technology. This is evident in the virtual experience section under the elaborate tab. In this section, students apply their knowledge to a PHET simulation, a digital tool.
- In the virtual explore section under the explore tab of STEMscopes, students are given a technology tool that integrates with their lesson. The technology aspect does not overshadow the content.

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

- The materials integrate technology such as Tuva for the gathering and analyzing of data. There are examples in 7th and 8th grade where students use Tuva to analyze data sets on chromosomes in living organisms and debris in coastal locations.

- The materials provide technological simulations such as Phet simulations for student learning and engagement. Students are able to conduct these simulations individually on their devices or in groups.

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.
- In the 8th Grade unit "Conservation of Mass," there is a virtual explore that allows students to discover how to balance equations. The materials suggest, "As a class, debrief students using this questioning strategy: I Wonder…"
- In the 8th Grade unit "Galaxy Types and Our Solar System," there is a virtual explore that allows students to discover about different types of galaxies. The materials suggest, "As a class, debrief students using this questioning strategy: I Wonder…"

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.
- The platform that is used for all digital learning, PHET, is compatible with a variety of learning management systems.

Accelerate Learning STEMscopes Science TX Grade 8

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.

- All digital technology and online components in STEMscopes are user-friendly and appropriate for the age groups of students. They are aligned with the TEKS, as noted in the scope and sequence provided. For example, in the Virtual Explore portion of the grade 8 lesson, Properties of Water, students are presented with a labeled picture of an ecosystem with a pond. Three factors are labeled. One is abiotic, and the other two are biotic. Each labeled factor shows a detailed view and an explanation of the picture, along with a fundamental question about the behavior of water. The simplicity of the picture with known factors keeps the focus on the behavior of water, which is a new concept to grade 8 and aligns with the approach to science knowledge and skills progression.

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

- The materials thoroughly provide teacher guidance within each unit in each grade level for every activity. For giving “Scope Assessments,” “Pre-Assessments,” and “Virtual Explore” activities, they provide suggestions as to what the instruction should look like. For example, in the grade 8 lesson Ocean Currents and Air Masses, teachers are provided with a starter activity to begin the

Virtual Explore called Break It Down. This strategy gives teachers questions to ask to gauge student readiness for the Virtual Explore that is a color-coded animation of ocean current patterns and their temperatures. In addition, teacher guidance to include pages in the interactive student notebook helps to tie the virtual experience to the real classroom experience.

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

- STEMscopes provides teachers with a letter to give to parents or guardians. This letter informs them about the technology aspect of STEMscopes and some important components that go with it. For example, “Your student will receive login credentials to access the program, which features some always-available resources that can be browsed at home, including a Glossary and a reference resource called STEMscopedia.” 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.