Accelerate Learning STEMscopes Science Texas Chemistry

Accelerate Learning STEMscopes Science Texas Chemistry Executive Summary

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

TEKS Student %	TEKS Teacher %	ELPS Student %	ELPS Teacher %
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.

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Section 7. Supports for All Learners

- The materials provide guidance on fostering connections between home and school.
- The materials include some 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 mostly designed to engage and support student learning with the integration of digital technology.
- The digital technology or online components are developmentally and grade-level appropriate and provide support for learning.

Section 10. Additional Information

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

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Indicator 2.1

Materials are designed to strategically and systematically integrate scientific and engineering practices and course-level content as outlined in the TEKS.

1	Materials provide multiple opportunities for students to develop, practice, and demonstrate mastery of appropriate scientific and engineering practices as outlined in the TEKS.	M
2	Materials strategically and systematically develop students' content knowledge and skills as appropriate for the concept and grade level or course as outlined in the TEKS.	M
3	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 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 and course-level content as outlined in the TEKS.

Materials provide multiple opportunities for students to develop, practice, and demonstrate mastery of appropriate scientific and engineering practices as outlined in the TEKS. Materials strategically and systematically develop students' content knowledge and skills as appropriate for the concept and grade level or course as outlined in the TEKS. Materials include sufficient opportunities, as outlined in the TEKS, for students to ask questions and plan and conduct classroom, laboratory, and field investigations, and to engage in problem-solving to 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 appropriate scientific and engineering practices as outlined in the TEKS.

- The material provides various activities within each scope for the students to develop, practice, and demonstrate mastery of the Scientific and Engineering Practices under the Elaborate tab. For example, in the Different Types of Bonds scope, there are science, technology, engineering, and math connections tabs. Each has an elaboration activity to facilitate the development, mastery, and practice of the SEPs.
- The materials provide scopes, or units, that address not only multiple SEPs but also consistently address the same SEPs throughout the curriculum. For instance, according to the Chemistry Standards Snapshot document, the students engage with the SEP addressed by TEKS C.1A in every scope offered by the materials.
- The teacher resource section includes an Instructional Support tab with SEP cards. These cards list all high school SEPs and include a section titled "When is it used?" for each SEP. This section provides a breakdown of what activities correlate with the specific SEP. For example, SEP 1A will be used in Explore activities, Engineering Connection activities, and Science Art.

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

- Within the Acceleration tab, the materials provide grade-level activities within a choice board that allows for the student to further develop and apply the knowledge and skills learned in that scope. The activities provided in the Acceleration tab are intended to continue to develop students' knowledge at the end of a scope. For example, the students first learn about thermodynamics before completing the Choice Board activity Analyzing a Scientific Paper related to thermodynamics.
- The materials systematically develop students' content knowledge by providing a lesson sequence that moves students from prior knowledge to mastery of new concepts. For instance, in the scope titled The Mole, the materials provide a Suggested scope Calendar that is organized into a systematic progression of activities. The students begin by accessing prior knowledge before providing phenomena grounded in the TEKS.
- The materials offer a suggested scope and sequence that strategically develops student content knowledge. For example, the materials suggest beginning with the scope The Periodic Table, in which students will learn about the development of the Periodic Table and how to use the Periodic Table's organization to predict the properties of elements. The materials suggest that this scope be followed by the Periodic Table Trends scope, in which students break down periodic trends. The materials suggest a spiral opportunity between the Periodic Table scope and the Trends of the Periodic Table scope, further reinforcing the strategic ordering of these two scopes.

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 develop an understanding of science concepts.

- The materials provide students with sufficient opportunities to ask, respond to, and reflect on questions that will develop an understanding of science concepts by providing "I wonder" question stems within each Explore activity. For example, the materials suggest the teacher create an "I wonder" board in the classroom where students can post questions throughout a scope. These questions can be reviewed as the class completes an activity.
- The materials allow students to engage in challenges under the Engineering Connection section within the Elaborate tab in each scope. This section allows students to engage in the Engineering Design Process. For example, in the scope titled Types of Solutions, students will "design and construct a functional conductivity meter that can determine if a solution is an electrolyte or nonelectrolyte." Opportunities to define the problem, brainstorm, plan, build, and test allows students to engage in problem-solving to develop and understand science concepts.
- The Explain tab in each scope includes an Interactive Science Notebook where students take notes as they work through the Explore activities. In the questions section, students will write any questions they have about the main idea. This provides students with the opportunity to formulate questions but does not provide them the opportunity to ask those questions.

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Indicator 2.2

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

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

- Materials embed phenomena across lessons to support students in constructing, building, and developing knowledge by providing a scope phenomenon in each scope, which the materials suggest should be offered in the Engage section on Day 1 of each scope calendar. For example, in the scope titled pH of Strong and Weak Acids, the materials provide a video in which students observe pool water being analyzed for chlorine and pH levels.
- The materials embed problems across lessons to support students in developing knowledge through the performance of scientific and engineering practices by providing a problem-based Claim-Evidence-Reasoning prompt in which students apply their learning to solve a scenario's problem.
- The materials provide a Standards Planning Page for each scope that includes a list of engineering and scientific skills for the scope that will be tied to the phenomena of the unit. A scope overview is included that describes how students will be introduced to the phenomena in each scope.

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

- Within the Engage tab for each scope, the materials provide an Assessing Prior Knowledge and Pre-Assessment activity to help "uncover student misconceptions and provide a measurement of student learning to act as a baseline."
- In the scope titled Empirical Formulas and Percent Composition, the students make prior knowledge connections by thinking about a time they tried to make a cake from scratch after viewing a phenomena video showing ingredients being whisked together. They must then connect their prior knowledge by thinking about how to scale a recipe for a large number of servings.
- The materials embed phenomena to catalyze the construction of knowledge. Specifically, each scope begins with a phenomenon connection in the Engage component of the lesson. For example, the scope titled "Calorimetry" engages the students in the observation of the phenomenon of an American cheeseburger that contains an average of 300 calories where students are engaged and begin developing their understanding of calories in different foods. Further, the scope provides an engineering connection activity where they focus on the first five steps of the Engineering Design Process (defining the problem, brainstorming, planning, building, and testing) to design and build a calorimeter to determine the number of calories in one potato chip. In addition, in the Science Today activity, students explore connections and applications of the specific heat of metal by reading and annotating an authentic, real-world article provided by The Associated Press (AP), creating a response log, and answering reflection questions that assess comprehension.

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

- The materials clearly outline the scientific concepts and goals behind each phenomenon and engineering problem for the teacher. In each scope, under "Standards Planning," the materials provide the list of content and science TEKS for the scope at hand.
- The materials clearly outline the scientific concepts behind each phenomenon for the teacher, by offering a Scope Matrix that shows the correlation between the Scientific and Engineering Practices and the phenomenon included in each scope. For instance, in the scope Calorimetry, the materials provide a video-based phenomenon that the scope matrix correlates to the SEPs for asking questions and defining problems, developing explanations, and proposing solutions.
- The materials have specific engineering goals linked in the Engineering Connections section under the Elaborate tab for each scope. For example, the Engineering Connections section in the scope Atomic Models states that "Students will focus on the first three steps of the Engineering Design Process (defining the problem, brainstorming, and planning) to demonstrate the difference between an atom and an ion."

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Indicator 3.1

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

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

Evidence includes but is not limited to:

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

- The materials provide opportunities for students to connect their knowledge and skills across units by providing teachers with how a current unit can spiral in knowledge and skills from other units. For example, in the scope Nuclear Technology, the Home Page of the scope states, under the section titled Spiral Opportunity, that the current scope can spiral in knowledge from the scope Nuclear Chemistry.
- The materials provide opportunities for students to connect their knowledge and skills within units by providing checkpoints for students to monitor their progress. A Progress Monitoring and Reflection Log is provided for students to self-assess their learning and understanding of concept TEKS within each scope. For example, in the scope Balancing Equations, students are asked to “indicate how well you think you understand each ‘I can’ statement…” before “any formula introduction to the topic. Then, they will be asked to reassess their understanding at other checkpoints throughout the scope.” Other checkpoints include Pulse Checks and Scope Assessments.

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

- The materials are intentionally sequenced to scaffold learning using the 5E model that starts with a basic understanding of the content and builds to a deeper conceptual understanding throughout the unit. For example, in the Light and the Atomic Emission Spectra scope, the materials begin with an Engage activity that introduces the phenomena by assessing prior knowledge of the content. The learner is then allowed to Explore the concept through a hands-on activity before getting a more detailed explanation in the Explain tab. Next, the student can Elaborate on their learning by making connections to other content areas such as math and English. Finally, students complete a scope assessment or a Claim-Evidence-Reasoning activity to Evaluate their understanding.
- The materials provide opportunities for spiral review within each scope to increase conceptual understanding by connecting current concepts with prior knowledge. For example, in the Naming Molecules scope, the materials present a Spiral Opportunity that connects to the Different Types of Bonds scope. The concept states, “The ways to name ionic and covalent compounds can be reviewed when students study different types of intermolecular forces.”

Materials clearly and accurately present course-specific core concepts and science and engineering practices.

- Materials clearly and accurately present course-specific concepts and science and engineering practices within the Standards Planning tab in each scope. This tab provides content TEKS, SEPs, Recurring Themes, and Concepts, as well as a Scope Matrix that breaks down where each standard can be found within the lessons.
- Course-specific core concepts and SEPs are also included in the Making Connections section on the Explore activities. For example, in the scope Light and the Atomic Emission Spectra, the Explore: Flame Test activity includes the connections between the phenomena presented in the activity and the content standards, SEPs, and recurring themes and concepts.
- Teachers can also find more information on SEPs under the Instructional Supports tab within Teacher Resources. This provides an overview of the SEPs and their purpose as well as a set of Science and Engineering Practice Cards - Secondary that instruct the teacher on what students will be doing in each SEPs, as well as when it will be used, critical vocabulary, discussion prompts and where students struggle with this standard.

Mastery requirements of the materials are within the boundaries of the main concepts of the course.

- The materials provide a list of TEKS in the Standards Overview of each scope that outlines how the mastery requirements of the materials are within the boundaries of the main concepts of the course. For instance, in the Stoichiometry scope, the Home tab provides a list of the TEKS corresponding to the unit, such as “C.9D, describe the concept of limiting reactants in a balanced chemical equation.”
- The materials provide student learning objectives aligned to the Chemistry TEKS in the form of "I can” statements on the Standards Planning tab of each scope. For example, The Gas Laws scope provides four “I can” statements, including “I can describe the main ideas of the kinetic molecular theory” and “I can define and apply Dalton’s law of partial pressures."

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Indicator 3.2

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

1	Materials support teachers in understanding the vertical alignment of course-appropriate prior knowledge and skills guiding the development of course-level content and scientific and engineering practices.	M
2	Materials contain explanations and examples of science concepts, including course-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 vertical alignment of course-appropriate prior knowledge and skills guiding the development of course-level content and scientific and engineering practices. Materials contain explanations and examples of science concepts, including course-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 vertical alignment of course-appropriate prior knowledge and skills guiding the development of course-level content and scientific and engineering practices.

- The materials identify the vertical alignment of the course-appropriate prior knowledge and skills. For example, within the Periodic Table scope, the sixth grade connected Texas Essential Knowledge and Skills 6.5C "classify elements on the periodic table as metals, nonmetals, and metalloids using their physical properties" is listed at the bottom of the Standards Planning tab in the Vertical Alignment of Science TEKS section.
- The materials provide a Pre-Assessment and Accessing Prior Knowledge assignment in the Engage tab as well as a Progress Monitoring and Reflection section for students to self-assess activities centered around the core concepts of each scope. For example, the Trends in the Periodic Table scope provides an Agree or Disagree activity to assess prior knowledge and misconceptions and a Progress Monitoring and Reflection Log for students to assess how well they know the scope of TEKS and Science and Engineering Practices.

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

- The materials provide misconceptions in the Engage section of each scope. For example, under The Gas Laws scope, students first complete a pre-assessment activity where they “will read different student responses to a posed question on the gas laws, decide whether they agree or disagree with the student, and explain their reasoning.” The teacher is then provided with a list of common misconceptions and how to handle them, such as “If a student believes Charles is correct, they may need more instruction on what a sealed container is and how tires are sealed containers.”
- The materials provide the teacher with guidance documents that offer targeted explanations and examples of the chemistry concepts in scope in order to support the teacher's subject knowledge. For instance, in the Mole scope, the materials provide the teacher with a Teacher Background page that offers definitions and explanations of key scope concepts like The Mole as a Unit, The Concept of Molar Mass, and other concepts and science skills related to the mole.
- The materials include sections titled English Language Support Strategies, Tiered Intervention Strategies, and Advanced Strategies, which provide teachers with guidance on implementing strategies that support Emergent Bilingual learners, students who need intervention, and advanced students. For example, the Advanced Strategies section provides activities to pair with content, such as Partner and Ponder, where students pair up and discuss, or Zooming In, where students explore concepts of interest.

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

- The materials provide guidance documents that explain the intent and purpose of the instructional design elements of the program. For example, the materials include a page titled STEMscopes Framework that provides an explanation for the use of the 5E + IA Instructional Model seen in each scope. The materials explain that this model provides teachers with a sequenced pathway that meets students' needs and that promotes an inquiry-based curriculum.
- The materials provide a guidance document that explains the inclusion of tiered intervention strategies within each scope. Under the Learner Supports tab, the materials explain Tiered Intervention Strategies and state that “providing support for students in a timely manner is more likely to help students thrive in the classroom.”
- The materials provide a tab for Literacy Resources, which includes Linking Literacy Strategies and Leveled Readers. The Linking Literacy Strategies section states, “Reading comprehension is key in science and can sometimes be a challenge for students. The STEMscopes curriculum provides embedded reading comprehension strategies found in the ISN pages associated with the STEMscopedia.”

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Indicator 4.1

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

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

Evidence includes but is not limited to:

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

- The materials include Reading Science, Writing Science, Engineering Connection, Science Connection, and Science Today activities in the Elaborate section of each Scope that the teacher can assign to support student sensemaking through reading, writing, thinking, and acting as scientists and engineers. For example, in the scope Average Atomic Mass,
    - The Engineering Connection activity has students act as engineers by focusing "on the first three steps of the Engineering Design Process (defining the problem, brainstorming, and planning) to design a new element and create a presentation about its isotopes for the DOE Isotope Program."
    - The Science Today activity allows students to "explore connections and applications of isotopic composition by reading and annotating an authentic, real-world article

provided by The Associated Press (AP), creating a response log, and answering reflection questions that assess comprehension."
    - The Reading Science and Writing Science activities allow students to dissect text as they read, think, and write about science.
    - The Science Connection activity has students "present demonstrative speeches" that address the driving question, "What are the variations in elements that lead to atomic isotopes and an average of the mass for each element?" Students must include information related to the topic, such as "the average atomic mass of a reference element," "relative amounts of natural isotopes of a reference element," and "limitations of your model (what it demonstrates well and what it does not demonstrate well)."

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

- The materials provide opportunities for students to engage with grade-level appropriate scientific texts to gather evidence and develop an understanding of concepts. For example, the Explain tab within the ph of Strong and Weak Acids scope includes a STEMscopedia activity that states, "Students will read and comprehend grade-appropriate complex text about predicting products in acid-base reactions." Before, during, and after students read the text, they complete a KWL chart in their Interactive Student Notebook. The materials state, "Students will complete the first two columns of the chart before reading the STEMscopedia. Students will write what they already know about the topics and what they would like to know. After reading the STEMscopedia, students will record what they learned in the final column of the chart."
    - The STEMscopedia also supports student's engagement with grade-level appropriate scientific texts by offering embedded reading supports such as Stop-and-Jot activities, callout boxes that reinforce key vocabulary that students encounter during their reading, and a Summarize It section in which materials engage students with questions that check for understanding. The text and embedded activities are designed to help students develop an understanding of scientific concepts.
- Each scope he scopes provides reading science and writing science activities. For example, in the Nuclear Chemistry scope, the Reading Science states, "Students will use vocabulary graffiti to determine the meaning of unknown words or phrases in the reading passage on radioactive decay and then answer questions to assess their understanding." The materials provide a Below Level and On Level student handout for this activity. The Writing Science section states, "Students will read the provided information, think about how it connects to the science they have been learning, and write an essay about balancing nuclear equations."

Materials provide multiple opportunities for students to engage in various written and graphic modes of communication to support students in developing and displaying an understanding of scientific concepts.

- The materials provide multiple opportunities for students to engage in and communicate thinking on scientific concepts in written and graphic modes. For example:
    - The Elaborate tab includes a Writing Science activity that asks students to read information, think about a statement, and write an essay. For example, in the Models of

Electron Configurations scope, students are asked to “write an essay that explains electron configuration and how it is used to determine the number of valence electrons in an atom.”

- The Elaborate tab in the pH of Strong and Weak Acids scope includes a Reading Science activity that states, “Students will use the shared ‘say something’ strategy in which they read a passage on pH in everyday life, pause at specific intervals to comment to the group about things they noticed or were thinking about, and then answer questions at the end to assess their understanding."
- The Explain tab includes an Interactive Student Notebook section that “provides reflection opportunities for students to process the content they learned by doing the Explores and from reading the STEMscopedia.” For example, when students complete the Explore: Electron Configuration Models activity, they “will illustrate and write the steps to show the procedure in sequence for electron configuration” on the right side of their ISN, and on the left side, they will “draw and label a picture about models of electron configuration in the box provided to help summarize the Explore activity…then use the space underneath their drawing to explain what their picture is showing in a minimum of two complete sentences.”
- The Explore tab allows students to conduct investigations and communicate their learning in a variety of ways. For example, in the Acid-Base Products scope, students complete the Neutralizations activity to “predict the products of acid-base reactions." Students follow the steps in the lab handout, gather data and record it in data tables, answer questions after completing the lab, and complete a Claim-Evidence-Reasoning prompt to display an understanding of scientific concepts. Students also complete ISN pages as they work on the Explore activity, where they can cut and paste important facts from the lesson or “create a fact summary in 10 words or less.”

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

- The materials provide opportunities for 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. Each scope includes Explore activities modeling, allowing students to act as scientists and engineers by completing lab investigations. For example, in the Calorimetry scope, students engage in an Explore activity to “determine the specific heat of an unknown metal substance and then identify the substance based on your findings.” At the end of the activity, students answer questions such as “How would not capping the calorimeter with the second foam cup affect the data?” and then complete a Claim-Evidence-Reasoning activity to “Write a scientific explanation of the relationship between specific-heat capacity and thermal equilibrium.”
- The Elaborate section of every scope includes an Engineering Connection tab that provides students with the opportunity to engage in an activity where they focus on the steps of the Engineering Design Process. For example, in the Atomic Models scope, the Engineering Connection activity challenges the students to design "four models to demonstrate the difference between atoms, cations, and anions." The materials provide criteria and constraints for this project and guide students through the brainstorming and planning steps of the engineering design process.

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- STEM choice boards in the Acceleration section of each scope allow students to choose activities that promote acting as scientists and engineers. In the Balancing Equations scope, the STEM Choice Board provides options for projects that students can pick from to accelerate their learning. For example, the project Modeling Redox Reactions has students “design and make models of common redox reactions, “and the Student Proposal project allows students to “Brainstorm an alternative activity that connects what you are learning in STEM to the real world, and draft a proposal for your teacher.”

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Indicator 5.1

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

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

Meets | Score 4/4

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

Materials prompt students to use evidence to support their hypotheses and claims. Materials include embedded opportunities to develop and utilize scientific vocabulary in context. Materials integrate argumentation and discourse throughout to support students' content knowledge and skills development as appropriate for the concept and course. 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.

- Each scope includes a Claim-Evidence-Reasoning activity in the Evaluate tab. The materials direct students to "cite data or observations that can be pulled directly from the scenario and external data" when writing evidence statements to support their claims. For example, the Sugar or Salt? Claim-Evidence-Reasoning activity in the Types of Solutions scope prompts students to "write a scientific explanation about why ionic and covalent compounds dissolved in water will have different electrical conductivities."
    - Each Explore activity also includes a CER prompt at the end of the activity. For example, the Types of Solutions scope includes an Explore: Solutions activity that includes the CER prompt "Using the information gained in this Explore activity and the data table below, write a scientific explanation for which test tube contains a supersaturated solution."
- Each scope includes a Writing Science activity in the Elaborate tab. In the Trends of the Periodic Table scope, the activity prompts students to "read the provided information, think about how it connects to the science they have been learning, and write an essay that explains

electronegativity and why electronegative elements are on the top right of the Periodic Table, and the least electronegative elements are on the bottom left."

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

- The materials include embedded opportunities to develop and utilize scientific vocabulary in context. Each scope has a Picture Vocabulary section in the Explain tab. For example, in the Stoichiometry scope, the materials provide teacher guidance and handouts for the Picture Vocabulary Slides, Interactive Word Wall, and Vocabulary Game - Charade Match activities.
    - The Picture Vocabulary slides allow students to “click on the buttons to scroll through the terms and review their definitions.” While the Interactive Word Wall “is a place where students can interact with the vocabulary terms on a class bulletin board to comprehend better and recall their meaning.” The Vocabulary Game - Chara Match allows students to “play a kinesthetic game where they silently act out vocabulary terms or definitions and find their partners.”
- The Interactive Science Notebook (ISN) section in the Explain tab has strategies for students to use as they complete the STEMscopedia reading activity. For example, in The Periodic Table scope, students will create a Definition Continuum with several columns with the materials on the left side of their ISN. Students begin by skimming through the text and writing any words they do not recognize in column one. Before they read, students will write what they think each term means in the second column, and after they read, they will update their definitions. Students will share their unknown words and meaning and receive feedback before recording their final definitions after the discussion.

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

- The materials ask students to use evidence to support their hypothesis and claim through the Claim-Evidence-Reasoning tasks built into each scope under the Evaluate tab. For example, the Atomic Models scope includes a CER activity where “students will construct and support an argument that evaluates the development of the atomic model.”
    - The CER activity provides students with a scenario, external data, and a prompt before asking them to complete the CER chart. For example, the Dalton’s Theory CER activity includes a scenario that states, “John Dalton published his theory about atoms in 1808. Over time, the model has changed, but many of his points are still valid to this day.“ It also includes an external data table that “shows a summary of Dalton’s postulates” as well as a prompt stating, “Write a scientific explanation that identifies which postulate is not accurate based on the current atomic model.”
- The materials provide a Science Connect activity in each scope that integrates argumentation and discourse by allowing students to produce artifacts that target the writing and speaking language domains. For example, in the Solubility and Reactions scope, the Science Connection activity prompts students to produce an informative speech that they will deliver to the class that explains how scientists use solubility curves to distinguish solids from gases. The materials include guidance to help students create the speech and provide students with reflection questions that students can use to reflect on their performance.

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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.

- The materials include a STEMscopedia activity in the Explain tab on each scope that allows students to construct and present written arguments that justify explanations of phenomena and/or solutions to problems using evidence acquired from learning experiences. For example, the Types of Solutions scope includes a STEMscopedia activity asking students to think about why water droplets form and surface tension phenomena. The materials allow students to answer questions such as “Where else have you seen water create surface tension?” and “What might have to happen for a bug to break the water’s surface tension?” After engaging with the reading, students answer these questions and form arguments to support their answers.
- A Scope Phenomenon section is included at the beginning of each scope and provides students with opportunities to develop verbal and written arguments to justify explanations of phenomena. For example, the Trends of the Periodic Table scope instructs the teacher to show a video of sodium metal reacting with water. Students answer questions about the video, such as “What do you predict would happen if other elements are placed into the water? Would the same chemical reaction occur? Why or why not?” and then turn and talk to their partners about questions they have about the content.
- Claim-Evidence-Reasoning prompts included in the Evaluate tab of the scope allow students to construct arguments that justify explanations using evidence acquired from the learning experience. For example, the Solubility and Reactions scope provides students with a CER that “students will construct and support an argument that explains how and why the temperature of cola affected the height of the foamy geyser.” Students view a scenario and external data and then must use their learning from the scope to answer the CER prompt.

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Indicator 5.2

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

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

Meets | Score 4/4

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

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

Evidence includes but is not limited to:

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

- The materials guide the teacher in anticipating student responses and using questioning to deepen student thinking by including the Scope Phenomenon at the beginning of each scope. For example, the Atomic Models scope guides teachers to show a video of an atomic model and pass out student handouts with questions such as "How would you describe the structure you saw in the video?" and "If you were to draw an atom of an element, what would it look like?" The materials also state that the teacher can "brainstorm additional questions you may want to discuss beyond the Student Handout during the activity."
    - Furthermore, the materials provide strategies "to elicit responses from all students," such as "The Thinker" pose that allows students to think about their answers after they have heard a question or Color Cards, where students receive red, yellow, and green cards and then "hold up the card that demonstrates their confidence level (green = confident, yellow = moderately confident, red = not confident)."
- The materials include an Identifying Misconceptions subsection in the Pre-Assessment and Assessing Prior Knowledge section under the Engage tab that provides teacher guidance on anticipating student responses. For example, in the Trends of the Periodic Table scope, students complete an Agree or Disagree activity where they "read each student's response, and decide

whether you agree or disagree with each one." The materials provide the teacher with the target concept, examples of Possible Student Thinking, explanations of the curriculum's intention, and examples of the concept in the context of the activity.

- Example teacher guidance includes "If a student believes Quinton or Jorge is correct, they may need more instruction on valence electrons determining the chemical reactivity and properties of families on the Periodic Table, specifically transition metals and noble gases." and "If a student believes Maya is incorrect, they may need more instruction on electronegativity and ionization energy."

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

- The materials include a section titled Vocabulary in Context that includes terms that students will be introduced to during the Explore activity. An Interactive Science Notebook handout prompts students to "Draw and label a picture about types of bonds to help summarize today's activity" and "Explain your picture in at least two complete sentences." The materials guide the teacher by stating, "Students should be encouraged to use these terms in their ISNs and in their responses to questions."
- The Picture Vocabulary section, under the Explain tab of each scope, includes teacher guidance on scaffolding and supporting students' development and use of scientific vocabulary. For example, in the Picture Vocabulary section in the VSEPR Shapes scope, the materials include several activities that students can use to develop their vocabulary in context.
  - An Interactive Word Wall activity allows students to "interact with the vocabulary terms on a class bulletin board to comprehend better and recall their meaning." The materials guide the teacher through implementing this activity by having them post slides with words, pictures, and definitions and then a yard piece to allow students to connect words to definitions.
  - A Vocabulary Game - Match Game activity allows students to "play a matching game to solidify vocabulary terms acquired during Explore and Explain activities." The materials include guidance on preparing this activity and facilitating the activity in the classroom by reviewing the instructions.
  - Tiered Intervention Strategies and English Language Support Strategies and implementation instructions for those strategies can be found in the Differentiation section at the bottom of each Picture Vocabulary page.

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

- The materials include a series of connection activities under the Elaborate tab within each scope that provide teacher guidance and prompt students to construct written and verbal claims. For example, the Balancing Equations scope includes a Science Connection activity that allows students to "create skits depicting three types of reactions and balancing equations." The materials prompt the teacher to read the driving question, "How can you determine what products and what amounts of those products will be formed in a reaction if you are only given the reactants?" and direct students to complete research to gather evidence to support their claim in the form of a three to five-minute skit.

- Every scope includes a Claim-Evidence-Reasoning activity in the Evaluate section, where students will construct and support their arguments using evidence from the lessons. The teacher's guide for this activity gives the teacher directions and suggestions during the lesson. For example, in the Calorimetry scope, the materials guide the teacher to “Instruct students to write a scientific explanation that connects heat transfer to the specific heat of metals.”
    - The materials also guide students who struggle with beginning by stating, “For the claim section, students should each write a single sentence highlighting the connection between heat transfer and the specific heat of metals. 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 connect the scenario and the scientific knowledge they have gained about heat transfer and the specific heat of metals over the course of the scope activities.”

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

- The materials support and guide teachers in facilitating the sharing of students' thinking and finding solutions by including prompts and questions for the teacher during each activity. For example, under the Elaborate tab in the Molarity scope, the materials provide an Engineering Connection activity that allows students to brainstorm any ideas after addressing the problem provided in the activity. This section includes step-by-step instructions for the teacher to say and do, such as “You may want to consider using a timer for this section and having students free write during the brainstorming time" and “Encourage students to brainstorm multiple ideas and not limit themselves to the first idea they generate."
- The materials promote student thinking and finding solutions through various activities that include explicit teacher guidance and support. For example, in the scope Acid-Base Products, the Explore: Neutralizations activity promotes discourse among students, prompting them to work together to find solutions. The materials guide the teacher, stating, “Instruct students to read through the procedures as a group before beginning the activity. Monitor to ensure that students understand.”
    - The materials in this section also include an in-depth guide on implementing questioning strategies that allow students to share their thinking with the class. The above activity uses the “Fishbowl” strategy and guides the teacher in setting up this activity. The teacher writes several questions, such as “What tools did you need to complete this activity?” on paper strips and places them into a container. Students then draw a question, answer it with their groups, and share their answers with the class.

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Indicator 6.1

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

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

Meets | Score 2/2

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

Materials include a range of diagnostic, formative, and summative assessments that include formal and informal opportunities to assess student learning in a variety of formats. Materials assess all student expectations and indicate which student expectations are assessed. Materials include assessments that integrate scientific concepts and science and engineering practices. Materials include assessments that require students to apply knowledge and skills to novel contexts.

Evidence includes but is not limited to:

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

- The materials include a range of diagnostic, formative, and summative assessments to assess sent learning in various formats. For example, the materials include a Pre-Assessment and Accessing Prior Knowledge activity in the Engage tab within each scope. In the Models of Electron Configuration scope, the Pre-Assessment and Assessing Prior Knowledge description provided for the teacher states, “Students will examine a series of groups and determine which term or phrase does not belong with the group. 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 provides a measurement of student learning to act as a baseline. It should not be taken for a grade.”
- Materials include a constructed response question that requires students to propose a reasonable claim, provide supporting evidence, and include logical reasoning that acts as a summative assessment for key concepts of a scope. For instance, in the VSEPR Shapes scope within the Evaluate tab, the Claim-Evidence-Reasoning activity prompts the student to "construct and support an argument that explains the patterns observed in lone pairs and bond angles of molecules."

- The materials provide questions that serve as a formative assessment of the Exploration activities within each scope. For instance, the scope Naming Molecules provides formative assessments in the form of questions after the exploration activity Explore: Marshmallow Models. This activity includes questions such as “What is the octet rule?” and “What type of bond (single, double, or triple) is involved in O_2?” The materials provide an answer key for this activity, allowing the teacher to evaluate student responses and monitor student progress.

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

- Materials assess all student expectations and indicate which student expectations are assessed via the Scope Assessment Keys included within the Evaluate Tab of each Scope. This key includes the correct answers to the scope questions and the TEKS standards that each question specifically covers. For example, the VSEPR Shapes Scope Assessment Answer Key includes a table of questions one through ten with answers, item types (multiple choice, multiple select, drag and drop, text entry, etc.), standards (ex. C.7C C.1G), Depth of Complexity (DOK) level, contains a stimulus (yes/no) and auto-graded (yes/no).
- The materials include a Pulse Checks activity within the Explain tab of each scope that indicates each student's expectations and allows teachers to assess all of the student expectations of that scope informally. For example, The Mole scope Pulse Check states, “Students will play a gamelike assessment to help measure their comprehension of scope concepts.” The concepts are listed in a standards icon on the page for this activity.
- Each of the activities, including assessment activities, under the Engage, Explore, Explain, Elaborate, and Evaluate tabs provides an icon for a teacher to click and view the standards attached to that activity. For example, the Nuclear Technology scope includes a Pre-Assessment and Accessing Prior Knowledge activity that links to standard “74.4.c.1.A: use prior knowledge and experiences to understand meanings in English, 112.43.c.3.B: communicate explanations and solutions individually and collaboratively in a variety of settings and formats, and 112.43.c.14.C: give examples of applications of nuclear phenomena such as nuclear stability, radiation therapy, diagnostic imaging, solar cells, and nuclear power.”

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

- The Standards Planning page in every scope includes a TEKS correlation chart that shows how each activity in the Scope assesses the target TEKS for that scope. In the Light and Atomic Emission Spectra,'' the Scope Matrix on the Standards Planning page shows the teacher the correlation between each content standard and each scope activity. For example, TEKS “C.6C investigate the mathematical relationship between energy, frequency, and wavelength of light using the electromagnetic spectrum and relate it to the quantization of energy in the emission spectrum” is included in activities such as Assessing Prior Knowledge, Scope Phenomenon, Explore, etc. The Scope Matrix also offers a correlation chart for the scientific and engineering practices and the ELPS.
- The assessments integrate scientific concepts and science and engineering practices. For instance, in the Solubility and Reactions scope, the summative assessment requires students to engage in a claim-evidence-reasoning activity that states, “Students will construct and support an argument that explains how and why the temperature of cola affected the height of the foamy geyser.”

- Each of the assessments within each scope has both processing and content TEKS. For example, in the Naming Molecules Scope Assessment, the TEKS listed are 112.43.c.7.B: name and write the chemical formulas for ionic and covalent compounds using International Union of Pure and Applied Chemistry (IUPAC) nomenclature rules (content TEKS), 112.43.c.1.F: organize quantitative and qualitative data using oral or written lab reports, labeled drawings, particle diagrams, charts, tables, graphs, journals, summaries, or technology-based reports (Processing TEKS), 112.43.c.4.B: relate the impact of past and current research on scientific thought and society including research methodology, cost-benefit analysis, and contributions of diverse scientists as related to content (Processing TEKS).

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

- The materials include assessments that require students to apply knowledge and skills to novel contexts. For example, each scope includes an Elaborate section providing multiple activities integrating science concepts and Science and Engineering Practices (SEPs). Within the Types of Solutions scope, the Elaborate section offers an activity called Engineering Connection, in which students "design and construct a conductivity meter to test the conductivity of various solutions." According to the Scope Matrix, this activity assesses the Chemistry content of TEKS 11B and SEP TEKS 2D.
- The materials include Claim-Evidence-Reasoning (CER) activities that allow students to explore an unfamiliar topic and apply their knowledge. For example, the Empirical Formulas and Percent Composition scope includes a CER activity that states, “Students will construct and support an argument that differentiates between empirical and molecular formulas.” The student handout includes a scenario and external data for students to evaluate to determine which of the student statements in the external data is accurate.
- The Scope Assessment assessment questions give real-world examples in which students have to apply their knowledge and skills to novel contexts. For example, the Scope Assessment: Naming Molecules includes the question, “Building on the work of alchemists, one significant transition to modern chemistry was a system of naming chemical compounds, first proposed in 1787 by Antoine Lavoisier and his colleagues. How do you think an internationally accepted system helps chemists in their work?”

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Indicator 6.2

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

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

Meets | Score 2/2

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

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

Evidence includes but is not limited to:

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

- The materials include information and/or resources that provide guidance for evaluating student responses. For example, materials include a rubric for the Claim-Evidence-Reasoning activities in the Evaluate and Explore (if this section includes a CER activity) sections of the scopes. In the Explore activity for the Atomic Models Scope, the materials state, Using the information gained in this Explore activity and the data table below, write a scientific explanation about which of the listed elements is an anion. The materials provide a way to grade students' responses with the Rubric for Writing a Scientific Explanation.
    - Rubrics include a breakdown of scoring criteria and state how a student can earn full, partial, or no credit for a response. For example, the CER activity in the Evaluate section of the Calorimetry scope includes a rubric that demonstrates what each of the responses for the Reasoning section should look like to earn whole, partial, or no credit. For a full credit response: The student accurately connected the evidence to heat transfer from the metal to the water with an accurate explanation for the selected metal. For a partial credit response: The student accurately explained heat transfer from the metal to the water but did not connect it back to the evidence. For a no-credit

response: The student did not connect any evidence to the claim or made only inappropriate or inaccurate connections to the evidence.

- The materials include answer keys to checkpoint assessments such as Pre-Assessments, Pulse Checks, and Scope Assessments.
    - For example, the Molarity scope includes a Pre-Assessment Key that includes the five multiple-choice questions with all answers and highlights the correct answer in red. The key also includes a Molarity Pre-Assessment Rubric and Answer Key after the questions that include the question number, the answer key, the item type (multiple choice, multiple select, constructed response, etc.), standards (C.11A, C.11B, etc.), and automated (yes/no). The Scope Assessment includes an answer key with similar formatting.

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

- The materials provide guidance on differentiation to support individual students' needs. Each scope provides tiered intervention strategies within each activity for the teachers to implement. For example, the Average Atomic Mass scope includes a Progress Monitoring and Reflection activity that allows students to record their progress at specific points within the lesson. The teacher can then assign various differentiation activities based on student responses. The materials state, Students who answered all of the Scope Assessment questions correctly may be given accelerated instruction, and students who did not answer all of the questions correctly may be assigned intervention activities.
- The materials include Tiered Intervention Strategies within each section of the materials. For example, the Types of Solutions scope includes a STEMscopedia activity with differentiation in the form of Chunking Tiered Strategies.
    - Tier 1 states, Remind the student that after reading each chunk, they are to take notes. Specify the type of notes that the student is to write down.
    - Tier 2 states, Provide the student with a blank Chunking Graphic Organizer. Instruct the student to complete the graphic organizer and include it in the ISN.
    - Tier 3 states, Provide the student with numbered handouts that include a separate, chunked portion of the reading (for example, if the text was broken down into four chunks, then the student will have four handouts numbered in the order of the reading). Attach to each handout the corresponding portion of the Chunking Graphic Organizer. Specify on the graphic organizer the type of notes that the student is to write down for that section of the reading.

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

- The materials include a Progress Monitoring and Reflection log for students to record checkpoints mastery throughout each lesson. The checkpoints include Pre-Assessments, Pulse Checks, and Scope Assessments that the teacher can review and use to inform planning instruction, intervention, and extensions. The Progress Monitoring and Reflection log allows the teacher to view student mastery or misconceptions from formal and informal assessments as

students reflect on their learning. Depending on the student's responses, the teacher can assign accelerated instruction or intervention activities

- The Scope Assessment gives teachers an idea of students' understanding of the content. Students complete the Scope Assessment as the third checkpoint in their learning at the end of each scope. The teacher can analyze the data from these assessments, and as an optional part of the Evaluate, you may go over each question of the Scope Assessment with students to clarify any misconceptions that remain.
- The materials include Intervention and Extension tabs that provide intervention opportunities for small-group intervention and re-evaluation through a Concept Attainment Quiz and extension opportunities with STEM Choice Board and Science Art activities. For example, after students complete certain checkpoints (pre-assessments, pulse checks, scope assessments), the teacher can implement intervention or extension activities based on student responses. The Gas Laws scope includes a Small-Group Intervention that states, In the Active Practice, students will play the Concentration game to practice scope concepts and vocabulary. Afterward, Students will take a quiz to assess their mastery level after participating in the Small-Group Intervention.

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

- The materials provide guidance and direction to respond to individual student needs through the differentiation section within the Evaluate section. The differentiation section includes tiered intervention strategies for Tier 1, Tier 2, and Tier 3 learners. For example, in the Naming Molecules scope, under the Scope Assessment within the Evaluate tab, the materials state, Tier 1: Prompt the student to skip a question that they are stuck on. If time remains at the end of the assessment, remind the student to go back and answer skipped questions. Tier 2: Provide the student with a copy of the test that has questions with underlined or highlighted keywords (i.e., not, never, none, always, only, often, usually, most, all, etc.). Tier 3: 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.
- The Progress Monitoring and Reflection section under the Engage tab provides guidance for the teacher on how to leverage different activities after specific lesson content checkpoints. For example, the Atomic Models scope includes a Pre-Assessment and Accessing Prior Knowledge activity that acts as the first checkpoint of the lesson, a Pulse Check activity that acts as the second checkpoint, and a Scope Assessment that acts as the last checkpoint of the lesson. The materials state:
    - After the first two checkpoints, ask students to complete the After Assessment Reflection based on their rankings for each I Can Statement. If students ranked their understanding high prior to a checkpoint but did not score well on the checkpoint, they may need misconceptions clarified during the Explore and Explain sections…
    - After students record their responses to the Scope Assessment questions, have them complete the Scope Assessment Reflection for each TEKS based on their overall learning. Students who answered all of the Scope Assessment questions correctly may be given accelerated instruction, and students who did not answer all of the questions correctly may be assigned intervention activities.

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Indicator 6.3

Assessments are clear and easy to understand.

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

Meets| Score 2/2

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

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

Evidence includes but is not limited to:

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

- Assessments contain items for the course that are scientifically accurate, avoid bias, and are free from errors. For example,
    - The Light and the Atomic Emission Spectra Scope Assessment includes a variety of question types such as multiple choice, short answer, fill in the blank, calculations, and written response. One question states, “The table below lists characteristics of waves. Identify the characteristics described in each column. Write the answers in the correct boxes.”
    - The Stoichiometry Scope Assessment includes correctly balanced chemical equations such as “$Zn + CuCl_2 \rightarrow Cu + ZnCl_2$” and “$C_2H_4 + 3O_2 \rightarrow 2CO_2 + 2H_2O$”.
    - The Concept Attainment Quiz in the Gas Laws scope includes correct answer choices. For example, the quiz contains a Label section with a word bank and sentences with missing words. The word mmHg is included and fits in the blank in the sentence, “A commonly used unit of pressure, _____, has a standard value of 760 and equals 1 atm.”
    - The Science Today formative assessment activity in the Elaborate section of the Acid-Base Products scope includes scientifically accurate information. For example, the materials state, “Cavities have long been thought to develop in a poorly cleaned mouth when acids left by food start to wear away tooth enamel. Many acids react with bases, like those in many toothpastes.”

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

- Assessment tools use clear pictures and graphics that are developmentally appropriate. For example,
    - The Claim-Evidence-Reasoning assessment activity in the Models of Electron Configurations scope includes a color-coded diagram of Mendeleev's first periodic table.
    - The Different Types of Bonds Scope Assessment includes clear and detailed images of the electronegativity values for the elements on the periodic table and a graphic for the electron sublevels present for the elements.
    - The Pulse Check formative assessment activity in the Trends of the Periodic Table scope includes the question, "The Periodic Table provided here shows five different elements. Which numbers show the locations of the two elements with the highest ionization energy?" followed by a blank periodic table with five numbers placed where different elements would be.
    - The Pre-Assessment formative assessment activity in the VSEPR Shapes scope includes a graphic depicting the Lewis Dot diagrams for the cation of Sodium and the anion of Chlorine and asks the question, "What is occurring in the picture below?"

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

- The materials on the Evaluate page within the scope have specific guidance stating, "Students will be assessed on the knowledge gained after completing the activities in the Engage, Explore, Explain and Elaborate sections of the scope." In addition, the materials provide an assessment activity and differentiation section on the same page to give more detailed instructions. This occurs with each scope.
    - For example, the Models of Electron Configuration scope includes a Scope Assessment: Models of Electron Configuration with instructions that state, Refer to Progress Monitoring and Reflection for student self-assessment activities centered around the Scope Assessment. Give each student a copy of the Scope Assessment. Inform the students that they have a certain amount of time to complete the Scope Assessment. Once the time has elapsed, collect the Scope Assessment from each student. As an optional part of the Evaluate, you may go over each question of the Scope Assessment with students to clarify any misconceptions that remain.
- The materials include a Suggested Scope Calendar on the Home page of each scope that helps ensure the full potential of learning for the intended scope. For example, the Suggested Scope Calendar for the pH of Strong and Weak Acids scope begins with a suggested pre-assessment to be administered on day one of the scope, a pulse-check/progress monitoring activity on day four, and the scope assessment on day seven of the scope.
- The materials provide teacher guidance for the Scope Pre-Assessment and Accessing Prior Knowledge activity. For example, the Pre-Assessment and Accessing Prior Knowledge activity for the VSEPR Shapes scope offers the teacher a description of the assessment, the materials needed, preparation suggestions, and step-by-step directions for administering the assessment.

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

- The materials include a Differentiation section on the Scope Assessment in each scope. The Tiered Intervention Strategies listed in this section provide Tier 1, Tier 2, and Tier 3 intervention strategies.
    - For instance, the Balancing Equations Scope assessment differentiation states, “Provide a visual reminder of test-taking tips for the student to refer to during the test. Note or announce the time remaining. If necessary, prompt the student to skip a question or section and then come back to answer it before time runs out.” For Tier 1 interventions, “Be the timekeeper by giving the student one part of the test at a time. Continue providing the remaining test portions at a pace that enables the student to complete the entire assessment within the allotted time. If needed, provide the student with additional time to finish.” for Tier 2 interventions and “Allow the student to have the test read aloud. Allow the student to answer orally and have someone scribe their answers” for Tier 3 interventions.
- The materials also provide a Differentiation section within the Claim-Evidence-Reasoning assessment in the Evaluate tab of each scope. For instance, the Solubility and Reactions scope includes a CER assessment that allows students to “construct and support an argument that explains how and why the temperature of cola affected the height of the foamy geyser.”
    - In this instance, the materials provide English Language Support Strategies for beginner, intermediate, and advanced/advanced high students. The beginner strategy states, “Teachers working with students in this group will provide completed lists of words that include visuals when appropriate.” The intermediate strategy states, “Teachers working with students in this group will provide students partial lists of words with visuals when appropriate.” The advanced/advanced high strategy states, “Teachers working with students in this group will provide tools for organizing words. Students may provide their own visuals as appropriate.”

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Indicator 7.1

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

1	Materials provide recommended targeted instruction and activities to scaffold learning for students who have not yet achieved mastery.	M
2	Materials provide enrichment activities for all levels of learners.	M
3	Materials provide scaffolds and guidance for just-in-time learning acceleration for all students.	M

Meets| Score 2/2

The materials meet the criteria for this indicator. Materials include guidance, scaffolds, supports, and extensions that maximize student learning potential.

Materials provide recommended targeted instruction and activities to scaffold learning for students who have not yet achieved mastery. Materials provide enrichment activities for all levels of learners. Materials provide scaffolds and guidance for just-in-time learning acceleration for all students.

Evidence includes but is not limited to:

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

- The materials provide recommended targeted instruction and activities to scaffold learning for students who have not yet achieved mastery. Each scope provides an intervention tab that gives suggestions for small group interventions and includes a Concept Attainment Quiz. For example, the VSEPR Shapes scope Small-Group Intervention activity has students “play the Ask, Ask, Switch game to practice scope concepts and vocabulary” and includes key concepts that students should master, such as “Pairs of electrons repel each other both in bonds and lone pairs.” Tiered Intervention Strategies are provided in the Differentiation section of this tab. The Concept Attainment Quiz states, “Students will take a quiz to assess their mastery level after participating in the Small-Group Intervention” and provides the teacher with a three-part quiz that includes vocabulary matching, labeling, and short constructed-response items.
- The materials provide a Differentiation section that includes Tiered Intervention Strategies and English Language Support Strategies. The Tiered Intervention Strategies offer a strategy for Tier 1, 2, and 3 support, and the materials provide a link to more information on tiered intervention in the Teacher Resources. The English Language Support Strategies include a strategy to support Beginning through Advanced/Advanced-High ELL students.
    - The Tiered Intervention Strategies section in the Learner Supports tab of the Teacher Resources includes a Checking for Understanding Learning Pathways graphic that provides teachers with visuals to show where intervention happens. For example, after administering a pre-assessment, teachers provide Tier 1 instruction for all students and

then administer a pulse check. At this point, the teacher can use the pulse check to choose between supplemental or targeted Tier 2 interventions based on student needs.

Materials provide enrichment activities for all levels of learners.

- The Explore Tab includes an Advanced Strategies section that provides enrichment activities for all learners. For example, the Light and Atomic Emission Spectra scope includes a Branching Out activity in the Advanced Strategies section that states, “Ask students to name a distinctive, somewhat familiar topic they find interesting that is related to the current topic of study. As a class, choose one to explore together. On a classroom board, write the selected topic in the middle of the board and circle it. Then, ask students to brainstorm what comes to mind when they think about it. Draw branches from the primary circle to map out relationships and/or associations. The diagram can also be drawn to show how one idea led to another. After about 5-10 minutes, reflect on the diagram. What patterns or relationships do students notice?”
- The materials provide an Acceleration tab that includes a STEM Choice Board, which provides "students with many different approaches to applying the topics in this scope in new, relevant methods that connect learning to the world around them." In the Different Types of Bonds scope, the Choice Board provides students with nine possible extension activities, such as Scientist Spotlight: Dr. Gilbert Newton Lewis, Career Connection: Metallurgist, and Virtual Field Trip. A Science Art activity where students will “write and perform 60-second plays that illustrate the three types of chemical bonds: ionic, covalent, and metallic” can also be found in the Acceleration tab.

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

- The materials provide a Differentiation section for multiple activities throughout each Scope. A Differentiation section that provides Tiered Intervention Strategies can be found in the teacher guidance materials for the activities in the Engage, Explore, Explain, Elaborate, and Evaluate tabs. For example, within the scope Models of Electron Configuration, the STEMscopedia activity in the Explain tab of the scope includes a Chunking Tiered Strategies section that provides teacher guidance for Tier 1, 2, and 3 intervention as well as an optional Chunking Graphic Organizer to help students as they read. The Tier 1 strategy states, “Remind the student that after reading each chunk, they are to take notes. Specify the type of notes that the student is to write down.”
- The materials provide a Picture Vocabulary activity in the Explain tab of each scope that suggests the teacher introduce vocabulary words during an Explore activity and then “Encourage students to practice using these terms in context during subsequent scope activities.” The materials provide three activities that the teacher can use to support just-in-time learning acceleration to help close student learning gaps. For example, the teacher can assign an Interactive Word Wall activity where students “can interact with the vocabulary terms on a class bulletin board to better comprehend and recall their meaning.” The students make connections between the words and definitions, and teacher guidance states that the teacher can “purposefully make incorrect connections and then challenge students to find and correct the mistakes.”

Accelerate Learning STEMscopes Science
Texas Chemistry

Indicator 7.2

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

1	Materials include a variety of developmentally appropriate instructional approaches to engage students in the mastery of the content.	M
2	Materials consistently support flexible grouping (e.g., whole group, small group, partners, one-on-one).	M
3	Materials consistently support multiple types of practices (e.g., modeled, guided, collaborative, independent) and provide guidance and structures to achieve effective implementation.	M
4	Materials represent a diversity of communities in the images and information about people and places.	PM

Partial Meets | Score 1/2

The materials partially meet the criteria for this indicator. Materials include some research-based instructional methods that appeal to a variety of learning interests and needs.

Materials include a variety of developmentally appropriate instructional approaches to engage students in the mastery of the content. Materials consistently support flexible grouping (e.g., whole group, small group, partners, one-on-one). Materials consistently support multiple types of practices (e.g., modeled, guided, collaborative, independent) and provide guidance and structures to achieve effective implementation. Materials represent some diversity of communities in images and information about people and places.

Evidence includes but is not limited to:

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

- Each scope starts with activating prior knowledge using an activity and a pre-assessment quiz. For example, The Mole Scope uses the 'Four Corners' prior knowledge activity where the teacher asks "students to look at the four corners and think about which corner image best represents the molecule with the most mass." Students can then complete a pre-assessment activity with questions like "How many atoms of each element are present in two molecules of H_2O?"
- The Explore tab allows students to engage with a phenomenon-based activity during a class demonstration before moving into small groups to complete a hands-on lab activity. The Gas Laws scope has students "place a mini marshmallow in a syringe, put their finger over the end, and compress and pull back the plunger twice" and then record their observations in the student handout.
- The materials provide students with Picture Vocabulary, which includes opportunities to play games, create a word wall, and view vocabulary slides. Students can also read the scientific text

and answer questions in the STEMscopedia activity and the Reading Connection, Writing Connection, and STEM Choice Board activities.

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

- Materials support flexible grouping options during the course of a scope. The materials include directions for the teacher that explicitly suggest using small groups or partners, whole group, or one-on-one grouping strategies. For example:
    - The Molarity scope includes a Science Connection activity that states “allow students to work in small groups” as well as a Match Connection activity that allows the teacher to “decide on a grouping format, or have students work individually”. After completing this activity, students “share their work with partners using the think-pair-share strategy” and then review as a class.
    - The Mole scope includes an activity titled Explore: Bottled Moles that instructs the teacher to “divide students into seven groups.” As students complete the activity, teachers receive further grouping support, such as “organize students into small groups of four, and assign them to a lab station” and “as a class, debrief students using this questioning strategy: High 5.”

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

- The materials support teachers with multiple types of practices throughout the various activities within a scope. In the Models of Electron Configuration scope, the Explore: Electron Configuration activity divides students into groups of two or three and models electron configurations using bingo chips. The students also have the opportunity to “turn and talk to their partners. Partners should answer the students' questions and then pose another question.” In the end, students use whiteboards, individually or as a group, to answer whole class questions such as “What does the large number in an electron configuration represent?”
- The Explain tab in the Models of Electron Configuration scope contains a set of independent, guided student activities for the learner to perform in the Interactive Science Notebook. One activity is the STEMscopedia, where students “read and comprehend grade-appropriate complex text about models of electron configurations and Lewis dot structures used to express the arrangement of electrons in atoms.”
- The Evaluate tab in the Models of Electron Configuration scope includes a Claim-Evidence-Reasoning activity where “Students will construct and support an argument that uses the group number of the Periodic Table to predict the number of valence electrons and dot structures of unknown elements.” The performance of this activity determines what students will do next. For example, “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,” and other students can work individually on Elaborate or Acceleration elements.

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

- The STEMscopedia activity in the Explain section for each scope includes a Scientists in the Spotlight section, which provides a short historical text linking a scientist to a topic but with little

to no images. For example, the VSEPR Shapes scope includes a spotlight on Louis and Mary Fieser and Molecule Shapes.

- The Acceleration tab includes a STEM Choice Board, in which materials offer students an opportunity to research Dr. Donna Blackmond, make career connections by researching pharmacists, make historical connections by researching the impact of an oil spill in the Gulf of Mexico, or research an active scientist in a field related to current content.

Accelerate Learning STEMscopes Science
Texas Chemistry

Indicator 7.3

Materials include listening, speaking, reading, and writing supports to assist emergent bilingual students in meeting course-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 course-level science content expectations.

Materials include guidance for linguistic accommodations (communicated, sequenced, and scaffolded) commensurate with various levels of English language proficiency as defined by the ELPS. Materials encourage strategic use of students' first language as a means to linguistic, affective, cognitive, and academic development in English.

Evidence includes but is not limited to:

Materials include guidance for linguistic accommodations (communicated, sequenced, and scaffolded) commensurate with various levels of English language proficiency as defined by the ELPS.

- The materials include guidance for linguistic accommodations commensurate with various levels of English language proficiency defined by the ELPS. The Standards Planning tab in each scope includes an English Language Proficiency Strategies list that is broken down into learning, listening, speaking, reading, and writing strategies for Emergent Bilingual learners.
- The materials provide guidance for English Language proficiency by identifying the specific labels, including Beginner, Intermediate, and Advanced/Advanced High in the English Language Supports Strategies in each of the Engage, Explore, Explain, Elaborate, and Evaluate sections.
    - In the scope Atomic Models, students complete a Claim-Evidence-Reasoning activity that identifies Word Study Books as the English Language Support Strategies for ELPS: Writing, c5A: learn relationships between sounds and letters of the English language to represent sounds when writing in English.
    - The materials provide guidance for the Word Study Book strategy for Beginner EB students by stating, Teachers working with students in this group will provide complete lists of words that include visuals when appropriate; for Intermediate EBs by stating, Teachers working with students in this group will provide students partial lists of words with visuals when appropriate, and Advanced/Advanced High EBs by stating Teachers working with students in this group will provide tools for organizing words. Students may provide their own visuals as appropriate.

Accelerate Learning STEMscopes Science
Texas Chemistry

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

- Materials provide support for Emergent Bilingual learners through tiered ELPS strategies on learning, listening, speaking, and writing, such as use strategic learning techniques such as concept mapping, drawing, memorizing, comparing, contrasting, and reviewing to acquire basic and grade-level vocabulary.
- The Model of Electron Configuration scope includes an English Language Support Strategies section for Beginner, Intermediate, and Advanced/Advanced High in the Claim-Evidence-Reasoning activity. The 'Beginner' strategy states, "Teachers working with students in this group will allow students to express some of their writing in their native language and some new content in English. Students will provide additional drawings for all new content."
- The materials include an English Language Support Strategies document that includes strategies that focus on supporting the use of a student's first language. These strategies can be identified by a speech bubble icon and include strategies such as Expert/Novice, Margin Notes, Draw and Write, and Free Write.

Accelerate Learning STEMscopes Science
Texas Chemistry

Indicator 7.4

Materials provide guidance on fostering connections between home and school.

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

Meets | Score 2/2

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

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

- Materials provide information to be shared with students and caregivers about the program's design in an editable parent letter that is included in the Texas Resources section under the Resources Tab.
    - The Parent Letter describes the curriculum philosophy and states, “Lessons are built using the research-based “5E+IA” model, which stands for Engage, Explore, Explain, Elaborate, Evaluate, Intervention, and Acceleration. Each one of these components of the lesson cycle features specific resources to support not only our students’ understanding of scientific concepts but also that of our teachers.”
    - The letter also details some of the features. It states that students “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. Each of these STEMscopedia reading passages incorporates hands-on activities. Additionally, rather than a traditional textbook, your student may come home with various types of assignments, like reading passages, vocabulary exercises, and at-home hands-on lessons.”

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

- The Science Outside the Classroom section of each scope includes information that can be sent home about what students are learning. This section lists the specific Texas Essential Knowledge

and Skills (TEKS) that will be covered in the scope, as well as background information, terms to know, with definitions of each term, and an activity that students with their caregivers can complete.

- For example, the Naming Molecules scope includes TEKS "C.7 B name and write the chemical formulas for ionic and covalent compounds using International Union of Pure and Applied Chemistry (IUPAC) nomenclature rules" as well as background information on ionic and covalent compounds and how they form. The materials provide caregivers with terms such as anion, cation, and valence electrons, as well as their definitions to support learning outside the classroom.
- The Science Outside the Classroom activity within each scope can be completed at home to "help students practice and learn about" the content of the scope. For example, in the scope VSEPR Shapes, students and caregivers can complete the Balloon Molecules activity, where students use balloons to model molecular shapes and then answer questions, such as "How did the balloons interact with each other when they were attached to the paper clip?" and "How did adding lone pair electrons affect the shape of the molecule?" The materials include answers to these questions for caregivers.

Materials include information to guide teacher communications with caregivers.

- The materials include information to guide teacher communication with caregivers. For example, the Texas Resources section includes a Parent Letter subsection that states, "Within each scope, you will also find a home-school connection. In the kindergarten through 2nd-grade scopes, there is a parent letter highlighting vocabulary, content, and activities students experience in class and suggesting activities to do at home. In the 3rd grade through high school scopes, a resource titled Science Outside the Classroom provides the content being addressed, background knowledge, and an activity that could be completed at home."
  - The teacher facilitation materials for the Science Outside the Classroom section state, "The attached document can be sent home digitally or in print to help provide an overview of learning standards and key terms. In addition, it includes an activity to connect the content to home and the world outside the science classroom."
  - The teacher facilitation materials for the Progress Monitoring and Reflection Log state, "The Progress Monitoring sheet is a useful communication tool to use with a student's caregiver about the successes and/or needs of the student. This can be referenced when discussing student progress, areas of concern, or needs for differentiation."

Accelerate Learning STEMscopes Science
Texas Chemistry

Indicator 8.1

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

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

Meets | Score 2/2

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

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

Evidence includes but is not limited to:

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

- The materials provide a scope and sequence in teacher resources within the resource portal. On the third page of the scope and sequence, the materials include the topic scope name, TEKS alignment, and suggested pacing calendar.
- Each topic scope includes teacher guidance materials that offer teachers a suggested pacing calendar for daily lessons, as well as the TEKS alignment for the specific content within the topic scope. For example, the Naming Molecules scope includes guidance materials providing the teacher with the TEKS aligned to the scope content, Student Learning Objectives, and a Suggested Scope Calendar.
- The Planning with STEMscopes tab under teacher resources has suggested scope and sequence with the topic, TEKS, and suggested number of days. In the topic scope Trends of the Periodic table, under standards planning, the TEKS alignment can be found for the specific content and is aligned with the provided scope and sequence.

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

- Materials provide multiple opportunities for clear teacher guidance across core concepts. For example, in the scope titled Trends of the Periodic Table, “under standards planning, there is a section that provides the scientific and engineering practices, recurring themes and concepts,

vertical alignment of science TEKS, and connections to math and reading TEKS. The scope also provides opportunities for students to activate prior knowledge and address potential misconceptions in the Engage section.

- The materials provide teacher guidance in the scopes tab under Standards Planning. For example, the scope titled Light and the Atomic Emission Spectra includes a drop-down box showing that students will engage with TEKS C.1F in the Pulse Check, Math Connection, and Scope Assessment activities.
- The guidance materials in the Explore section, under the subheading Making Connections, make specific connections to the Science and Engineering Practices. These connections are also included in the scopes tab. For instance, in the Atomic Models scope, the materials direct teachers to pose questions that will help students make connections between student-created models and models they saw in a video from a previous learning experience
- Each scope provides opportunities for a pre-assessment and accessing of prior knowledge for students to make connections. In addition, under the tab titled "Science outside the classroom," students have opportunities to deepen their understanding of the content with activities they can conduct at home, such as the Soda Solubility activity.

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

- The materials include a section on the home page of each scope titled Spiral Opportunity. This section suggests possible concepts from previous scopes that teachers can review to support mastery and retention. For example, within The Mole scope, the Spiral Opportunity section provides teachers with concepts that can be spiraled when teaching these lessons. For The Mole scope, those concepts include stoichiometry, empirical formulas, and percent composition.
- Each scope provides opportunities for pre-assessment and addressing misconceptions. For example, in the scope titled "Defining Acids and Bases," under the Engage section, there is a section titled "Pre Assessment and Accessing Prior Knowledge" that provides students with a pre-assessment and addresses misconceptions. In addition, the section offers a differentiation section with tiered intervention strategies. The scopes also provide concept attainment quizzes and small-group intervention.
- Furthermore, each scope provides teachers with opportunities to review and practice knowledge and skills that support mastery and retention. Materials provide small group intervention that allows students to practice scope concepts and uses, as well as concept attainment quizzes that assess student mastery level.
- All materials provide review and practice of knowledge and skills spiraled throughout the year. For example, in the scope titled "Calorimetry," there is a section titled Spiral Opportunity that provides teachers with guidance on how the concept can be reviewed in the particular scope; in this case, the scope titled "Thermodynamics and Reactions" and when this can be reviewed specifically, in this case, "What heat is in calorimetry can be reviewed when students study how heat behaves according to thermodynamics"

Accelerate Learning STEMscopes Science
Texas Chemistry

Indicator 8.2

Materials include classroom implementation support for teachers and administrators.

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

Evidence includes but is not limited to:

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

- Materials include opportunities for teacher guidance through the “STEMscopedia” in the Explain tab within each unit. Teacher instructions are included in the Activity section of the STEMscopedia guide before, during, and after an activity. For instance, the activity guide in the Average Atomic Mass scope states, “Before students read the STEMscopedia, instruct them to review and complete the before reading activity on the Interactive Student Notebook left page.”
- The materials provide embedded technology through the Elaborate tab under the virtual experience in each tab and a virtual explore activity. The materials in the Explore section are available in both digital and print formats.
- Materials provide teachers with recommendations and guidance documents to support the implementation of scaffolds to support and enhance student learning. For example, on the Learner Supports guidance page for Tiered Intervention Strategies, materials provide a "suggested pathway to help support all students in the science classroom." The materials also

provide teacher guidance through research-based instructional strategies within the Intervention tab for each scope. Intervention strategies provided include small group intervention, tiered intervention strategies, and advanced strategies.

- The materials support teacher guidance through enrichment activities within the Acceleration tab. Materials include opportunities for students to engage in enrichment activities such as science art or STEM Choice Boards. A STEM Choice Board “provides students with many different approaches to applying the topics in this scope in new, relevant methods that connect learning to the world around them.”
- The Explore tab includes instructional strategies under the "English Language Support Strategies." In the Light and Atomic Emissions Spectra scope under the "Explore: Flame Test '' the strategy "Think, Pair, share" is listed to support Emergent Bilinguals with the research included to support this strategy.

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

- The material provides in their standards planning tab: Content TEKS, Scientific and Engineering Practices with Recurring Themes and Concepts, Standards and Vocabulary Unwrapped, Vertical Alignment of Science TEKS, College and Career Readiness, Math TEKS, Reading Language Arts TEKS, and the ELPS.
- In high school Chemistry, each scope has an Elaborate section that provides connections to science, technology, engineering, math, reading, and writing. For example, The Periodic Table Scope has the Math TEKS Connection using TEKS 1.1 D: communicate mathematical ideas.
- The teacher background has specific TEKS correlation for the TEKS in each scope. Under the Average Atomic Mass scope, the TEKS “calculate the average atomic mass of an element using isotopic composition” has background information specifically for what an isotope is as well as sample calculations for average atomic mass.

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

- Teachers can access a materials list under Teacher Resources in the Planning with STEMScopes tab. Within this tab, teachers can reference the Scope Kit Lists under the resource tab to find the materials needed for Explore activities. The materials are organized by Scope Name, Explore Title, and whether or not it is a consumable or reusable item.
- Each scope and explore title includes a materials section. For example, Explore: Electron Configuration includes a materials list for Activity Files and Reusable and Consumable Materials. The Activity Files tab informs teachers of materials needed, such as 1 Student Handout: Electron Configuration Models (per student), 1 Set of ISN pages (per student), and 1 Electron Configuration Orbital Chart (per group). This is provided to support instructional activities.

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

- The Instructional Supports tab under teacher resources includes a section titled “Lab Safety” that provides safety posters, safety equipment, safety contracts, and safety data sheets.

- Materials provide the teacher with safety posters that include guidance for safety practices in a lab using textual and graphic instructions. Posters include instructions for washing hands, reporting chemical spills, and keeping lab stations clean, among other safety practices. The materials also include safety precautions following the "Preparation" section in the "Explore" tab. For example, during the "Explore: Flame Test" activity in the Light and Atomic Emission Spectra scope, the materials state, "Remind students of proper clothing and closed-toe shoes the day of this activity. Wear gloves, apron, and goggles while preparing solutions. Have a fire extinguisher available."
- Materials include details for preparing lab investigations, such as in the Explore Activity: Solution or Precipitation Lab, which tells how to prepare salt solutions safely for use in the lab and prepare a safe lab environment for the lab setup.

Accelerate Learning STEMscopes Science
Texas Chemistry

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 can be completed in one school year.

Evidence includes but is not limited to:

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

- The materials provide a suggested Scope Calendar within the Scopes Standards Overview page on each Scope. The materials guide the teacher through a suggested calendar by including tabs labeled Day 1, Day 2, Day 3, etc., and a note stating, “This schedule assumes there is a 45-minute period each day.”
- The Chemistry Scope and Sequence document provides suggestions for the pacing and order of Scopes. For example, the document suggests that teachers devote seven instructional days to the scope titled Different Types of Bonds and eight instructional days to the Scope titled Solubility and Reactions.
- The Scope Calendar breaks activities down into days. For example, in the Acid-Base Products scope, the Engage activity is recommended for Day 1, the Explore activity for Day 2 and Day 3, the Explain activity for Day 3 and Day 4, the Elaborate activity for Day 5 and Day 6, and the Evaluate activity for Day 7. Additional days can be spent on Intervention or Acceleration activities to support all students.

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

- Materials provide a Suggested Scope Calendar that outlines the pacing and order of lessons for the Scope. The Suggested Scope Calendar provides guidance and recommendations to present

the content in the correct 5E sequential manner beginning with Engage, Explore, Explain, Elaborate, and Evaluate.

- Materials provide the teacher with a suggested Scope Order and Pacing Guide that states, "Scopes are ordered to support the scaffolding of students' learning." For example, in the provided Scope and Sequence, the Scope titled "The Periodic Table" is presented to students before the Scope titled "The Mole." This sequential order of content follows a developmental progression.

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

- The materials provide a suggested Scope and Sequence with pacing. The suggested pacing for Chemistry includes 172 instructional days. Given that there are 180 required instructional days in Texas, the suggested scope and sequence can be completed in one school year. At the bottom is a disclaimer that says, " The order of scopes is suggested but not required; can be adjusted to fit the needs of campuses and district."
- The materials provide a "Suggested Scope Calendar" on the Home page of every Scope that includes core content activities, as well as intervention and acceleration activities. The schedule assumes a 45-minute science period each day. For example, this can be observed in the scope calendar for the scope titled "Calorimetry," which has a scope calendar with tabs for planning, the seven instructional days, and two additional tabs for intervention and acceleration. The materials offer guidance to adapt lessons, identifying activities as low-complexity or high-complexity, evident within this topic scope.

Accelerate Learning STEMscopes Science
Texas Chemistry

Indicator 9.1

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

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

Not Scored

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

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

Evidence includes but is not limited to:

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

- The materials include an appropriate amount of white space and a design that supports and does not distract from student learning. For example,
    - The Naming Molecules scope includes a pre-assessment with four questions per page, allowing students an apportioned amount of white space to write their answers and focus on the specific question.
    - The Nuclear Chemistry scope includes a STEMscopedia activity under the Explain tab that is laid out clearly and concisely with plenty of white space, clear titles, and images that enhance student learning.
    - The Interactive Science Notebook handouts include a short list of instructions with space for students to work. For example, the Balancing Equations scope consists of an Interactive Science Notebook activity with a blank mini-book and instructions for students to cut and paste the mini-book into the large white space on the handout.

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

- The materials provide age-appropriate visuals and graphics that support learning without being visually distracting. For example:
    - The Light and the Atomic Emission scope provides a STEMscopedia student handout that includes images of the electromagnetic spectrum, waves, particles, atomic line spectra, and magnified salt crystals.

- The Naming Molecules scope includes a Picture Vocabulary Slides activity with definitions and images designed to enhance the learner's understanding of the scope vocabulary. The scope consists of a picture of an anion that shows sodium losing an electron and chlorine gaining an electron, with chlorine in a box to demonstrate it is the anion. The materials define anion as “Any atom or group of atoms with a negative charge.”
- The Periodic Table scope includes a pictorial representation of the Periodic Table of Elements that is age appropriate and relevant to the content.

Materials include digital components that are free of technical errors.

- The materials include digital components that are free of technical errors.
  - The materials are free of grammatical and spelling errors. For example, the student handout for the STEMscopedia in the Light and Atomic Emission Spectrum scope states, “Scientists have been fascinated with the behavior of light dating back to the 1600s when Isaac Newton believed that light was composed of particles.”
  - The materials are free of inaccurate content materials or information. The Virtual Explore: Periodic Table Mystery Elements in the Periodic Table scope includes a student handout that states, “The Periodic Table is arranged by atomic number. The patterns that are generated by this arrangement are highly useful to chemists. They are so useful that the Periodic Table has become iconic as a symbol of chemistry.”
  - The materials are free of wrong answer sheets to problems. The Scope Assessment: Different Types of Bonds answer key in the Different Types of Bonds scope includes the question, “Sodium chloride is formed by transferring electrons from sodium to chlorine. Which property is the result of strong intramolecular and intermolecular forces for this ionic compound?” and states that the answer is “High melting point.”

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Indicator 9.2

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

1	Materials integrate digital technology and tools that support student learning and engagement.	Yes
2	Materials integrate digital technology in ways that support student engagement with the science and engineering practices and course-specific content.	Yes
3	Materials integrate digital technology that provides opportunities for teachers and/or students to collaborate.	No
4	Materials integrate digital technology that is compatible with a variety of learning management systems.	Yes

Not Scored

Materials are somewhat 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 and course-specific content. Materials integrate digital technology that provides some 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. For example:
    - The materials integrate Virtual Explore activities within each scope. For instance, The Mole scope includes a Virtual Explore: The Mole activity in the Explore tab that is “designed to be performed in a virtual classroom setting” and allows students to “determine the mass, number of moles, and/or number of particles for different element samples.”
    - In the Stoichiometry Scope, the Virtual Explore activity includes an interactive, multimedia digital quiz in which the materials provide students with pictures related to a question. Students choose an answer from the listed options; then, the interactive tool provides immediate feedback. The materials also provide hints to support student learning and engagement.
    - The materials integrate Virtual Experience activities within each scope. For instance, the Balancing Equations scope includes a Virtual Experience activity in the Elaborate tab that states, “Students will complete a guided inquiry using a PhET simulation about what happens to atoms and molecules during chemical reactions. After completing the guided

practice, students will have the opportunity to continue exploring the simulation independently, noting observations and any outstanding questions."

Materials integrate digital technology in ways that support student engagement with the science and engineering practices and course-specific content.

- The materials integrate digital technology in ways that support student engagement with the science and engineering practices and course-specific content.
  - Virtual Explore activities included in each scope support student engagement with science and engineering practices and course-specific content. The Virtual Explore: Percent Composition activity in the Empirical Formulas and Percent Composition scope engages students with a virtual version of using a digital scale to use mass data to calculate percent composition. Students use digital technology to manipulate laboratory tools, record data, and perform calculations.
  - Virtual Experience activities included in each scope support student engagement with science and engineering practices and course-specific content. The Virtual Experience activity in the VSEPR Shapes scope states, "Students will complete a guided inquiry using a Tuva dataset about how elements in the Periodic Table are organized. After completing the guided practice, students can continue to explore the dataset on their own, noting observations and any outstanding questions."
  - The materials provide Technology Connection activities that often require students to collaborate to develop a digital product. For instance, in the Naming Molecules scope, the Technology Connection activity within the Elaborate section provides students with the opportunity to "research how technological advances have helped pharmacists and pharmaceutical researchers worldwide use common nomenclature for chemicals to ensure proper formulation and then present their findings through a digital product."

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

- The materials integrate digital technology that provides some opportunities for teachers and/or students to collaborate. For example:
  - The Virtual Experience activity in the Elaborate tab within The Mole Scope allows for face-to-face collaboration by instructing the teacher to "assign students to groups of between two and four students or as many as can be divided evenly between the classroom's available internet devices." After completing the guided practice, "students will have the opportunity to continue to explore the 3-D renderings on their own, noting observations and any outstanding questions." Students then "write their outstanding questions and unclear thoughts on sticky notes. Students can post their sticky notes in a designated spot in the classroom." While this provides the opportunity for student-to-student collaboration, it does not incorporate digital technology to support that collaboration, such as a digital forum where students could post their outstanding questions.
  - The Virtual Explore activities "can be done in groups or individually." This allows student-to-student collaboration. However, it does not integrate digital technology into that collaboration. Students complete the Virtual Explore: Stoichiometry activity in the Elaborate section of the Stoichiometry scope with a partner and write down the

information on the student handout. Afterward, the teacher debriefs the students as a class by using the "questioning strategy: I Wonder…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…Collect the sentence stems to identify class questions." While this allows students to experience face-to-face collaboration, it does not integrate digital technology to support the collaboration, such as video conferencing between students or a forum to post their questions.

- The materials include limited opportunities to integrate digital technology for teacher-to-student collaboration in the sense that there is no virtual whiteboard or forum where the teacher can respond to questions.

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

- The digital materials are accessible and compatible with multiple operating systems and devices. For example:
  - The materials are accessible and compatible with Chromebooks, iPads, PCs, Apple computers, and/or smartphones.
  - The materials are accessible online through any device with internet access. Students, parents, and teachers can log in to the website using their username and password in any internet browser.
  - The materials are downloadable and accessible without access to the internet. Digital materials can be printed from STEMscopes to allow for access without the internet.
  - The acceleratelearning website includes a STEMscopes Tech Specifications tab that details the technology requirements of the program and provides a list of web browsers, devices, and additional apps (PDF viewer) that meet those requirements.

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Indicator 9.3

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

1	Digital technology and online components are developmentally appropriate for the course 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 course-appropriate and provide support for learning.

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

- The digital technology and online components are developmentally appropriate for the course and align with the course scope and approach to science knowledge and skills progression. For example:
    - The materials integrate a Virtual Experience in the Elaborate stage within each scope. For instance, The Mole scope includes a Virtual Experience activity where "students will complete a guided inquiry using virtual 3-D renderings of one-mole samples of five different elements." This virtual experience allows students to visualize abstract concepts and make them more concrete.
    - The Virtual Explore in the Explore stage of each scope allows students to interact with developmentally appropriate and scope-aligned manipulatives. For instance, the Virtual Explore activity in the Trends of the Periodic Table scope allows students to “sort given elements in order of atomic radius, ionization energy, and electronegativity” using a digital drag-and-drop feature.
    - The materials include a list of standards for each activity that show how they align with the TEKS. For instance, the Models of Electron Configuration scope includes a Virtual Experience activity that allows students to “complete a guided inquiry using virtual 3-D renderings of electron configuration” and is aligned to TEKS 112.43.c.6.E and 112.43.c.3.A.

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

- The materials provide teacher guidance for the use of embedded technology to support and enhance student learning. For example:
    - The Explore tab in the Models of Electron Configurations scope includes a virtual explore activity that allows students to "discover the organization of the Periodic Table based on electron location and how to write the electron configurations of elements." The materials include a Preparation section and teacher instructions on how to implement the activity, such as "Ideally effectively, students should access the simulation on a device. The activity can be done in groups or individually. If devices are unavailable, you can project the simulation for students to complete as a class." "Use question prompts at the beginning of the Explore activity to gauge current student knowledge and identify potential misconceptions."
        - Each Virtual Explore activity includes a Starter section that provides the teacher with question prompts, an Explore section with instructions on beginning the activity, an Explain section that provides instructions on how to end the activity, and a differentiation section that includes tiered intervention strategies.
    - The materials include a Technology Connection in each scope that provides teacher guidance on implementing the activity. For example, the Solubility and Reactions scope includes a Technology Connection activity that asks students to "research how technological advances have helped create medication that reacts quickly and effectively and then present their findings through a digital product." The materials provide step-by-step instructions on how to implement the activity, such as "Read the driving question to the class." and "Have each student select a topic to prevent repetition among the class."

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

- The materials include resources for parents and caregivers on supporting student engagement with digital technology and online components. For example:
    - The materials include a Parent Letter Science that details the program's features, including digital technology and online components. The letter states, "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. Each of these STEMscopedia reading passages incorporates hands-on activities. Additionally, rather than a traditional textbook, your student may come home with various assignments, like reading passages, vocabulary exercises, and at-home hands-on lessons."
    - The materials include a Science outside the Classroom section in every Scope that teachers can send home to parents. This section includes background knowledge, terms to know, and a Science outside the Classroom activity that can be completed at home by caregivers and students. For example, the Molarity scope includes the activity Science outside the Classroom: Food Coloring Concentration, which states, "To help students practice and learn more about Molarity, use the Food Coloring Concentration activity." The activity includes directions, a data table, and questions.