Accelerate Learning STEMscopes Science Texas Physics

Accelerate Learning STEMscopes Science Texas Physics 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.

Accelerate Learning STEMscopes Science Texas Physics

Section 7. Supports for All Learners

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

Section 8. Implementation Supports

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

Section 9. Design Features

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

Section 10. Additional Information

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

Accelerate Learning STEMscopes Science Texas Physics

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 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 materials examined provide multiple opportunities for students to develop and demonstrate grade-level appropriate scientific and engineering practices as outlined in the TEKS. For instance, in the unit of Newton's Three Laws, an activity enables students to design and test an air-powered rocket. This example highlights how the materials systematically facilitate the use of SEP to investigate content concepts appropriate to the grade level. Further evidence of this is found under the Elaborate tab within each unit, where an Engineering Connection Activity is included. For example, in the Projectile Motion Unit, students are tasked with designing and building a model to demonstrate and explain variables at work in a real-world example of uniform circular motion.
- In Real-World Electromagnetism, students are afforded an opportunity to demonstrate their problem-solving ability and engineering practice through a virtual Escape Room activity. This involves solving puzzles and riddles to escape. Another example is the Energy of a System unit prompts students to design their own roller coaster in the Explore section, reinforcing the integration of both scientific and engineering practices.

- The materials also allow students to develop models by using physics phenomena, enhancing their mastery of concepts through progressive complexity in activities. For instance, in the Energy of a System lesson, students are asked to construct and support an argument by applying the law of conservation of energy to calculate the velocity of a roller coaster at various points. Another activity in the lesson on impulse and momentum begins with an Exploration activity that allows students to discuss how sports illustrate the conservation of momentum. This lesson culminates with students designing an experiment to demonstrate the difference between elastic and inelastic collisions, which meets the skills outlined in TEKS P.7(D), P.7(E), and SEP P.1(G).

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.

- The materials under examination strategically and systematically develop students' content knowledge and skills as befitting for the grade level and the course as per the TEKS. For example, in the Graphing Motion unit, students initially engage in graphing and describing motion using scalar and vector quantities. This foundational knowledge is further developed in the succeeding unit, Motion Equations, wherein students employ kinematic equations to calculate motion. Teachers are supported in their efforts to facilitate student understanding of content concepts through resources and cues peppered throughout the lessons and units. These aids include a teacher background guide at the beginning of each lesson, providing valuable insight into the content being taught. An example of this is found in the Projectile Motion Unit, where the teacher is reminded that time is the only variable that can be moved between horizontal and vertical formulas.
- In the Real-World Electromagnetism unit, students extend their understanding of electromagnetism by designing a newscast after researching why and how colored lights appear in the sky. Additionally, in the Conservation of Charges unit, students explore how different objects create a charge after being presented with an image of the inside of a Van de Graff generator and are asked to determine how a charge forms on the machine. These examples illustrate the strategic and systematic development of content knowledge in action.
- Each scope strategically maps out a learning path that starts with exploration activities to lay the groundwork for more complex concepts. For instance, in the lesson "Characteristics of Waves," which aligns with TEKS P(8).C, students commence with a virtual exploration to visually learn about the parts of a wave, such as wavelength and amplitude. Toward the lesson's end, students apply the concepts of wavelength and frequency to calculate wave speed. Teachers are supported in developing student concepts and skills by the inclusion of a Scope Matrix in each unit, like in Simple Harmonic Motion, where TEKS P.8(A) is linked to SEP P.1(B) through an exploration activity in which students analyze the motion of a pendulum and predict its period.

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 under review provide ample opportunities for students to engage in scientific and engineering practices as they ask questions and conduct investigations. For instance, in the Energy of a System scope, an activity encourages students to analyze a situation where a town requires an energy source, prompting them to ask questions and design a model device to address this problem. The Universal Gravitation Unit introduces another activity where students design a model illustrating how a near-Earth object (NEO) could potentially collide with Earth. In this exercise, students must persuade policymakers to support agencies tracking such objects. The model design includes specific constraints like stating the law of universal gravitation, showing how Earth and NEO attraction changes with proximity, demonstrating the attraction of NEOs with different masses, and appropriately sizing the model to demonstrate the effect of changing distances.

- Moreover, the scopes include a Science Outside the Classroom section promoting field investigations. For example, in the Electric Circuits unit, students test circuits using common household materials. In the Real-World Electromagnetism unit, students are urged to experiment with two magnets, a TV screen, and other objects to explore transformers. Students are then expected to ask questions regarding the usage of transformers.
- Further extending opportunities for engineering practices, the materials facilitate problem-solving through activities that progressively increase in complexity. In the Impulse and Momentum scope, an initial student activity presents conceptual questions about collisions in sports. The lesson culminates with a Scope Assessment featuring computational problems based on colliding spheres.

Accelerate Learning STEMscopes Science Texas Physics

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.

- The materials incorporate phenomena and real-world problems throughout lessons, supporting student engagement in scientific and engineering practices as outlined in TEKS. In the Projectile Motion Unit, teachers are provided with an outline of all TEKS covered, while in the Universal Gravitation unit, students explore the concept through an authentic, real-world AP article.
- In lessons like Coulomb's Law and Work and Power, students undertake engineering projects that afford them a practical application of the principles they have learned. For instance, utilizing the Engineering Design Process, they devise a solution for maximizing the storage of boxes in a warehouse, thereby applying these principles in a real-world scenario.
- Materials progressively increase in complexity, such as in the Behavior of Waves scope, where students initially explore various wave phenomena before analyzing and applying the concept of refraction. After learning about collisions in the Impulse and Momentum scope, students apply knowledge to an investigation of NFL helmet impact, demonstrating a connection to real-world scenarios.

Accelerate Learning STEMscopes Science Texas Physics

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

- The materials present various entry points for learning phenomena and solving problems, encompassing methods such as teacher-led demonstrations, hands-on activities, videos, text, data, and images. For instance, in the Universal Gravitation Unit, students engage with phenomena through a teacher demonstration and an online simulation, illustrating how mass and distance affect gravitational forces.
- To build upon existing knowledge, the materials include sections that outline spiraling opportunities for each lesson and tools such as pre-assessment and accessing prior knowledge activities. Activities like determining truths and lies about electromagnets allow students to utilize their previous understanding.
- Student interaction with natural phenomena is a focal point of the materials, demonstrated in lessons like Simple Harmonic Motion and Characteristics of Waves, where students observe and recreate different types of waves. These materials leverage students' knowledge and experiences in a comprehensive and varied manner.

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

- The instructional materials provide teachers with a clear outline of the scientific concepts and objectives behind each phenomenon and engineering problem, enhancing their understanding and effective delivery of each unit. This is exemplified in units like Motion Equations, where the landing page comprehensively outlines the student learning goals.
- Additionally, resources such as the teacher background information on the Scopes main page and the Standard Planning tab in units like Electric Circuits further equip teachers with a robust understanding of the scientific and engineering practices involved in the unit.
- The materials also provide guidance on the sequential presentation of concepts, fostering connections across different units. Notably, the Energy of a System scope provides background on the work-energy theorem for a student activity about technology that harnesses wind or air to perform work, illustrating a practical application of the concept. Furthermore, units such as Simple Harmonic Motion and Behavior of Waves identify key objectives like examining wave propagation in various media, creating continuity and progression in the learning process.

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 instructional materials effectively interweave new learning with previous and future learning goals both within and across units. For instance, in the Universal Gravitation unit, students observe how mass affects gravity, linking back to the earlier Newton's Law Unit, where forces and masses are related. This trend continues in Newton's Three Laws Unit, where calculations of force, mass, and acceleration build on the Graphing Motion Unit's data collection for motion changes.
- Similarly, in the Conservation of Charge and Real-World Electromagnetism units, teachers are guided to seize "spiraling opportunities" where students can relate current understanding to past and future learning, reinforcing their knowledge and skills across units.
- The materials exhibit a conscious effort to progress in complexity within lessons and across units. For example, in the Simple Harmonic Motion scope, students begin with analyzing a swing as a model for a harmonic oscillator and gradually move towards identifying properties such as velocity, acceleration, and displacement. Furthermore, the concept of simple harmonic motion becomes foundational in the Behavior of Waves scope for studying moving wave dynamics, demonstrating an integrated, evolving approach to the presentation of knowledge.

Accelerate Learning STEMscopes Science Texas Physics

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

- The instructional materials employ a progression of concrete, representational, and abstract reasoning to foster increasingly deeper conceptual understanding. For instance, in the Universal Gravitation Unit, students transition from an experiential activity involving mass and fabric stretch to calculating how distance and mass affect gravity's force, culminating in a STEM Choice board where they make their own connections through various research topics.
- This trend is mirrored in the Impulse and Momentum scope, where students progress from creating collisions to understanding energy conservation through a video and finally to conceptual and computational problems.
- The materials are also structured to activate or build on prior knowledge before explicit teaching. For example, in Newton's Three Laws Unit, students observe how mass influences a jar's roll before designing an air-powered rocket, leading up to the STEMscopedia activity that outlines the theory behind these activities. Scaffolding is a key feature of these materials, allowing for a deeper comprehension of complex concepts. For instance, in the Real-World Electromagnetism scope, students construct a fan, offering them insight into machine design and circuitry.

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

- The materials under review consistently apply the 5E (Engage, Explore, Explain, Elaborate, Evaluate) instructional model for sequencing science instruction. For example, in the Projectile Motion Unit, each phase of the model guides students through inquiry, hands-on activities, comprehension of complex texts, application of technology to real-world situations, and knowledge assessments. Similarly, the Simple Harmonic Motion scope follows the same sequence, incorporating a variety of learning experiences such as developing a simple model, applying concepts through video, learning new vocabulary, and creating a seismograph to emulate earthquake motion.
- Each unit clearly states the specific Texas Essential Knowledge and Skills (TEKS) addressed. For instance, the Work and Power unit outlines TEKS 7.A, detailing the study of work and power in one dimension, while the Conservation of Charge unit corresponds with TEKS P6.C, focusing on the conservation of charge through various methods and materials.
- From the Newton's Laws Unit to the Behavior of Waves scope, teachers are presented with day-to-day scopes and sequences, intervention and extension activities, and spiraling opportunities. These tools help facilitate effective instruction and include all learners, from conceptual learning modules such as virtual explorations to hands-on activities, designing experiments, and tackling practice problems requiring mathematical skills.

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

- The reviewed materials consistently include clear learning targets for each course, articulated through the use of "I can" objectives that outline student expectations for each unit. These objectives, for instance, in the Motion Equations Unit, provide explicit guidelines, such as "I can describe motion in one dimension through equations for different variables.” Similarly, the Behaviors of Waves scope targets include, "I can investigate wave behaviors, including reflection, refraction, diffraction, interference, standing wave, the Doppler effect, polarization, and superposition."

- The content boundaries for students' mastery of each course are clearly defined. For example, in Coulomb's Law Unit, the defined objectives include predicting the size of the electrical force between two objects based on charges and distance through Coulomb's law. Likewise, the Conservation of Charge and Electrical Circuits units provide explicit "I can" objectives covering schematics, designing and constructing electric circuits, and calculations using Ohm's Law. Additionally, the Impulse and Momentum scope outlines the requirement to "describe the impulse and momentum of objects in physical systems."

Accelerate Learning STEMscopes Science Texas Physics

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 instructional materials offer robust guidance documents that aid teachers in comprehending how new learning correlates to previous and future learning across the course. Each unit landing page details a scope and sequence for the unit and identifies spiraling opportunities. For instance, in the Universal Gravitation Unit, one such opportunity linked to the preceding Newton's Three Laws Unit illuminates the interaction of gravitational force with object motion.
- This pattern is mirrored in the Electric Circuits and Work and Power units, where the homepage presents a suggested scope, sequence, and spiraling opportunities, reinforcing the utilization of prior knowledge.
- Materials underscore the increasing depth and complexity of content and concepts across lessons and units within the grade level. A useful example can be seen in the Motion Equations unit, where teachers are given a clear differentiation between distance and displacement.
- Additionally, the Standards Planning segment of the Image Formation scope exhibits the vertical alignment of past, present, and future knowledge, providing a context for teachers. It shows the connection from previous TEKS dealing with energy to the current lesson's content on image formation and the future understanding of the geometry of optics.

- To assist teachers in executing activities promoting SEP, the materials contain a detailed activity breakdown. All lessons include a scope Matrix for teachers, providing a comprehensive outline with TEKS, SEP, and ELPS. This structure is evident in the Electromagnetic Spectrum scope, where an Engineering Connection activity covers specific TEKS and SEP, guiding students to design a microwave oven that mitigates specific heating or cooking issues.

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 instructional materials under review consistently demonstrate a clear purpose and rationale for their design, with an emphasis on the 5E model of unit organization. The materials provide key features of this instructional design in the Resources Tab, clearly stating the primary intentions and goals of the program.
- To support educators in their understanding of subject matter, a Teacher Background tab is available. For instance, in units like Work and Power and Conservation of Charge, this tab delivers an in-depth explanation of concepts and formulas, thus empowering teachers to facilitate learning effectively.
- The materials also accommodate more complex topics by providing adult-level explanations, such as the Applications of Quantum Physics scope, which covers the transition from classical physics to quantum mechanics, and the Malus's Law scope, which offers a detailed understanding of light polarization and its applications.

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

- The instructional materials offer a clear purpose and rationale for their design, thoroughly explaining why the resources are organized as they are. The STEMscopes Framework under the Resources tab emphasizes the use of the 5E model for unit organization, providing a comprehensive explanation of the main intentions and goals of the program.
- This is further elucidated in the 5E+IA model, available under the STEMscopes Framework and STEMscopes Pedagogy in the Resources tab, which supplements teachers with additional “interventions, accelerations, and enrichment activities, such as…”
- In reinforcing this approach, teacher materials underline the benefits of the 5E model for student learning. The Teacher Resources assert that the goal of STEMscopes is to furnish an inquiry-based curriculum aligned with the research-based, constructivist phases of the BSCS 5E Instructional Model. Moreover, the Planning Instruction section illustrates the program's objective behind its lesson structure, emphasizing the integration of the Interactive Science Notebook (ISN) in the Explore phase to encompass part of the Explain section.

Accelerate Learning STEMscopes Science Texas Physics

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 instructional materials consistently foster meaningful sensemaking in students through diverse learning activities. Students are encouraged to act as scientists and engineers, applying knowledge from lessons to creating models and tackling real-world problems. For instance, in the Graphing Motion scope and the Projectile Motion scope, students collect information and design apparatuses, respectively.
- Similarly, in units like Real-World Electromagnetism and Conservation of Charge, students are provided with opportunities to think and act as scientists and engineers through engineering projects and Interactive Science Notebook activities.
- The materials also recognize and address student misconceptions as an integral part of supporting sensemaking. The Planning Instruction section recommends reviewing the scope Phenomenon Activity to uncover any misconceptions students might have. This is exemplified in

the Photoelectric Effect scope, where students act like scientists by building an electroscope, collecting data, discussing their findings, and writing a conclusion, thereby facilitating their understanding of the concept.

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

- The instructional materials consistently present students with targeted activities involving appropriate scientific texts, fostering their comprehension and understanding of course concepts. In each unit, sections such as STEMscopedia and Reading Science, under the Elaborate section, provide relevant text and a set of summary and comprehension questions that reinforce the unit content.
- Materials offer multiple opportunities for engagement with grade-level appropriate scientific texts and activities, as demonstrated in the Conservation of Charge and Work and Power units. As they move from Engage to Explore, Explain, and Elaborate sections, students encounter various activities tailored to develop and reinforce their understanding of the concepts.
- Moreover, the materials enable students to engage in purposeful activities with high school physics-appropriate texts, as showcased in Malus's Law and Behavior of Waves scopes. These sections include activities that facilitate reading, writing evaluations, and the completion of a Claim-Evidence map, all contributing to a further understanding of physics 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.

- The instructional materials offer numerous opportunities for students to engage in different written and graphic modes of communication, as noted in the Motion Equations and Projectile Motion scopes. For example, in the Walk it Out Explore Lab, students graphically depict their motion to calculate distance and displacement, while in the Elaborate section of the Projectile Motion scope, students create and interpret a graph from a set of motion data.
- Further, in the Work and Power and Electric Circuits units, students are given opportunities to graphically interpret data, draw out plans, and chart electric circuit diagrams, fostering their understanding of the relevant concepts. Particularly, in the Engineering Connections section, students are encouraged to determine and visually communicate plans for warehouse shelving.
- In addition, the materials emphasize the communication of scientific concepts in written and graphical forms through the Interactive Science Notebook (ISN) elements. Notably, in the Electromagnetic Spectrum and Characteristics of Waves scopes, students use graphic organizers in their ISN to define terms, provide examples through diagrams and pictures, and draw and label various types of waves.

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 consistently foster authentic student engagement and perseverance through productive struggle as they emulate the roles of scientists and engineers. This is apparent in the Projectile Motion scope's Elaborate section, where students design and build a model to demonstrate variables in a uniform circular motion, going through the initial stages of design and engineering practices. Likewise, the Box Flinging! Lab encourages students to apply knowledge flexibly in a new situation, designing apparatuses to land packages on a target island using projectile motion.

- In addition, the materials support students' engagement in phenomena and engineering design processes, as evident in the Electric Circuits and Real-World Electromagnetism units. Specifically, students design and test electric circuits in the Harnessing Energy activity, while the Electromagnets and Motors activity allows students to devise the best design for an electromagnet and a motor, embodying the practices of scientists and engineers.
- The materials also promote students' sensemaking of concepts through productive struggle, as seen in the Image Formation and Behavior of Waves scopes. For instance, in the Elaborate section of the former, students evaluate the strengths and weaknesses of a model device designed to view a bird's nest from a height, thereby encouraging reflection, discussion, and the identification of potential improvements. Meanwhile, the latter scope allows students to design a wave machine to demonstrate different wave behaviors, with guiding questions for teachers to assist groups when they encounter difficulties.

Accelerate Learning STEMscopes Science Texas Physics

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

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

Evidence includes but is not limited to:

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

- The materials consistently prompt students to use evidence to support their hypotheses and claims. For instance, the Graphing Motion Scope features the That's How We Move activity, which requires students to write in a Claim-Evidence-Reasoning (CER) format. Guidance is provided on what constitutes effective evidence, including the direct citation of data from the activity or investigation, interpretation of data patterns, and accurate use of labels.
- Further, within the same scope, the Evaluate section's CER assessment gives teachers a prompt to remind students that the evidence section should cite data or observations directly from the scenario and external data. Students are provided with space to add their evidence and are reminded via the grading rubric that they must provide multiple pieces of evidence.
- Similar practices are evident in the Real-World Electromagnetism scope, where an activity titled Electromagnets and Motors culminates in a CER section, allowing students to formulate a hypothesis and substantiate it with evidence gleaned from the activity. Furthermore, the Electric Circuits scope offers an activity, Harnessing Electricity, in which a CER exercise prompts students

to write a scientific explanation advocating for a specific type of electric circuit based on its efficacy in moving a current across multiple resistors.
- The materials continue this trend of encouraging evidence-based reasoning in the Evaluate section's Image Formation lesson, where students develop a scientific explanation using a telescope diagram and a chart to generate their claims in a CER format. Finally, in the Photoelectric Effect scope, an activity under the Evaluate section pushes students to develop an explanation of the photon model of light after analyzing visual and written depictions of a photon impacting a metal surface and releasing another photon.

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

- The materials consistently give opportunities for students to apply scientific vocabulary within the context of their learning. For instance, the Rubber Stopper Cyclone activity in the Projectile Motion scope's Explore section includes a Vocabulary in Context portion. Here, students are encouraged to use specific vocabulary terms like "vector quantity," "uniform circular motion," and "periodic motion" in their Interactive Student Notebook.
- Also, within the Electric Circuits section, the Elaborate tab has a Writing Science section that prompts students to write an essay explaining the importance of circuit breakers in electrical wiring, instructing them to use appropriate vocabulary for the section. The Work and Power scope in the Explain tab also has a picture vocabulary section with activities for practicing vocabulary use.
- In the Electromagnetic Spectrum scope's Explain section, students engage in a game-based activity to practice their vocabulary, demonstrating their understanding by matching definitions in a Bingo format. The Malus's Law scope offers multiple representations of vocabulary terms, including images and equations, as students use an Interactive Science Notebook and the STEMscopedia handout to familiarize themselves with new vocabulary, illustrated by a diagram depicting Malus's law and its corresponding equation.

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

- The materials consistently integrate argumentation and discourse within stages of the learning cycle, promoting student development of content knowledge and skills. For instance, in the Graphing Motion scope's Engage section, students participate in a Sliding Scale activity. They must rank their agreement or disagreement with each statement and subsequently pair with someone with an opposite viewpoint to explain their reasoning.
- Likewise, the Conservation of Charge scope's Elaborate tab contains a Science Today section, offering an article on electric vehicles. Students are expected to answer questions and engage in debates about the aspects of using electric vehicles. In the Work and Power scope, a Science Connection section asks students to split into two groups, one researching work and the other power. The groups then converse to decide whether work and power can exist independently of each other.
- Further, the materials provide students with ample opportunities to refine their argumentation and discourse skills. For instance, within the Universal Gravitation scope's Virtual Explore Universal Gravitation activity, a High 5 activity encourages students to brainstorm five facts they learned from the simulation, rank them in order of importance, and then engage in meaningful discussions with their classmates about their rankings, justifying and constructively critiquing each other's rankings.

- In the Behaviors of Waves scope's Engage section, an Accessing Prior Knowledge activity prompts students to discuss wave behaviors using the Four Corners activity, where students describe phenomena based on four images. Similarly, the Malus's Law scope includes an activity where students engage in discussions by answering questions such as "Polarized sunglasses are very dark, so only a little bit of the sunlight can get through. Do you agree or disagree?" as a preparation for a pre-assessment.

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 instructional materials consistently present opportunities for students to justify explaining phenomena and solutions to problems, using written and verbal arguments founded on evidence from learning experiences. In the Coulomb's Law scope's Elaborate section, for instance, students are tasked with delivering demonstrative speeches about Coulomb's law using everyday items. Assigned a topic concerning items that attract or repel, students investigate how these objects become charged and why they behave as they do.
- Furthermore, within the Work and Power scope's Elaborate tab, a Technology Connection section prompts students to research and compose an essay determining how technology has improved the horsepower of cars. Their research must be substantiated with evidence. Another activity in the Electric Circuits scope's Explain tab, the STEMscopedia, necessitates students to provide reasons and explanations for why alternating current impacts the resistance field and why equivalent resistance differs for series and parallel circuits.
- Moreover, the materials provide criteria for developmentally appropriate arguments to explicate a phenomenon, relying on evidence from learning experiences. For instance, the Photoelectric Effect scope's Elaborate section requires students to read and annotate an article about solar energy, followed by completing a Response Log to deepen understanding. In the Application of Quantum Mechanics scope's Elaborate section, an activity encourages students to read a passage, analyze a given statement, and write an essay about the wave-particle duality of light, all while adhering to provided guidance.

Accelerate Learning STEMscopes Science Texas Physics

Indicator 5.2

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

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

Meets | Score 4/4

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

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

Evidence includes but is not limited to:

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

- The materials analyzed provide extensive teacher guidance, offering potential student responses to various questions and tasks, facilitating lesson execution, and promoting deeper student thinking. In the Graphing Motion scope, for instance, the Explore section, the That's How We Move activity comes with an answer key, enumerating possible student responses to the phenomena they observe. Similarly, the Motion Equations scope's Evaluate section provides an answer key with both correct and incorrect answers, accompanied by supporting evidence. For constructed responses, teachers receive a rubric delineating correct, partially correct, and incorrect answers.
- In the Real-World Electromagnetism scope, the Explore tab includes an activity called Electromagnets and Motors, wherein teachers are provided with an answer key offering anticipated student responses to questions, fostering a deeper understanding through the Claim-Evidence-Reasoning (CER) framework. The Energy of a System scope promotes peer collaboration, recommending that students share their work using the think-pair-share strategy after working on the Elaborate section's Math Connection, which also offers a key to possible student responses.
- The Image Formation scope's Elaborate section provides an excellent instance where teachers can anticipate student responses, like "As the distance of an object from the focal point of a

convex lens increases, the size of the real image formed decreases," while analyzing data on image size and distance from a convex lens. The Photoelectric Effect lesson extends this principle, encouraging teachers to ask probing questions like, "How do solar panels work?" and "What was the cause of the leaves moving on your device?" to promote critical thinking. Such resources support teachers in both lesson delivery and promoting student engagement.

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

- The materials examined by the reviewers demonstrate substantial embedded support for teachers to scaffold students' development and use of scientific vocabulary within the context of the concepts being taught. In the background for the Projectile Motion scope, definitions and examples of complex concepts like two-dimensional motion are provided to facilitate understanding, characterizing it as motion occurring in multiple directions simultaneously with shared time as a connecting variable.
- Additional scaffolding techniques are encouraged in the Explain section of Newton's Three Laws scope, where a Picture Vocabulary activity guides the teaching process by indicating which vocabulary words should be addressed and suggesting interactive methods, such as word-matching activities.
- For instance, in the Energy of a System scope, students are prompted to write their own definitions before being handed Information System Network (ISN) sheets with scientific definitions, encouraging them to use these terms in their responses. Scenarios for the practical application of vocabulary are also provided, such as the What's your Horsepower? activity in the Work and Power scope. Here, teachers are guided to use different colored cards to facilitate understanding of true and false statements related to the concept and encouraged to use Venn diagrams as a tool for comparing and contrasting work and power.
- Finally, the Malus's Law scope encourages vocabulary use by providing a list of new terms, including "polarization," "Malus's law," and "liquid crystal" for a real-life polarization analysis activity. The Applications of Quantum Physics scope enhance understanding of advanced concepts like Heisenberg's Uncertainty Principle by defining it and distinguishing it from the observer effect, preventing potential confusion.

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

- The materials under review equip teachers with guidance to prepare for student discourse and support students in utilizing evidence to construct both written and verbal claims. For instance, Newton's Three Laws scope includes a Claim-Evidence-Reasoning (CER) activity in the Evaluate section, where students predict the outcome of a balloon experiment.
- This emphasis on CER is also echoed in the Electric Circuits scope, where teachers are given potential answers to guide students' responses. In the Universal Gravitation scope's Elaborate section, students are tasked with creating a newscast explaining gravity's effects. A rubric is provided, offering guidance on collaboration skills and scaffolding the development of coherent, evidence-based claims. Likewise, the Conservation of Charge scope's Shocking Stations CER guides teachers in improving students' written claims by drawing from evidence.
- Furthermore, the Electromagnetic Spectrum scope's Evaluate section features a CER activity concerning the energy of infrared waves. Teachers have access to key points to assist students who may have difficulty starting, such as suggesting direct citations from scenarios and external

data as evidence. The Image Formation scope's Elaborate section prompts a debate among students on whether lenses or mirrors are optimal for telescopes. Teacher guidance is provided in the form of a driving question and recommendations for structuring the debate, demonstrating the materials' commitment to facilitating productive student discourse.

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

- The materials under review provide substantial teacher support and guidance to stimulate student thinking through various modes of communication. A consistent feature across all scopes is the Claim Evidence Reasoning activity under the Evaluate tab. The accompanying rubric guides students in articulating their claims, substantiating them with evidence, and reasoning their claims' connection with the evidence.
- Specific scopes exemplify this focus on engaging student thinking in different communication modes. For instance, Coulomb's Law scope instructs students to compose a speech demonstrating how objects can be charged. Materials give clear guidelines on speech structure, aiding students in delivering an effective presentation. Similarly, the Conservation of Charge scope offers several activities promoting student communication and solution sharing. Activities such as creating and sharing riddles based on the lesson content, and updating word definitions in a collaborative chart after reading the STEMscopedia article, are suggested. The Impulse and Momentum scope's Engineering Connection section under the Elaborate tab gives teachers advice on facilitating student brainstorming for a project. Afterward, students are directed to share, plan, and construct a model representing elastic and inelastic collisions, further promoting communication and collaboration.
- The instructional materials provide robust teacher support, as seen in the Electromagnetic Spectrum scope's Explore section. Here, students are guided to research electromagnetic waves, create illustrative posters, and participate in a gallery walk. This activity involves hanging their posters and recording definitions in their notebooks, a process that fosters collaborative learning and enhanced understanding.

Accelerate Learning STEMscopes Science Texas Physics

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 to assess student learning in a variety of formats. Materials assess all student expectations over the breadth of the course and indicate which student expectations are being assessed in each assessment. Materials include assessments that integrate scientific concepts 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 instructional materials are noted to incorporate a range of diagnostic, formative, and summative assessments aimed at enabling teachers to monitor progress and facilitate student learning. These assessments come in various formats, both formal and informal, to cater to diverse learning preferences and styles. Diagnostic assessments are prominently used, as seen in the Coulomb's Law scope, which features pre-assessment activities such as a Science Terminology Inventory. This inventory encourages students to interact with new vocabulary and assess their understanding of the terminology. Similarly, the Behavior of Waves scope includes pre-assessments that evaluate students' prior knowledge of the content.
- Formative assessments are also in use, presenting an opportunity to measure ongoing student learning. For instance, every scope includes a Pulse Check quiz after the Explore and Explain sections to gauge students' grasp of the content. This formative approach also extends to the Evaluate sections in the various scopes, like Image Formation, which contains a Scope Assessment that tests knowledge gained after completing preceding activities.
- Summative assessments form the final layer of assessment, offering a comprehensive evaluation of learning outcomes. The Evaluate section of each scope houses a Scope Assessment, which deploys a variety of question types to gauge overall student understanding. Other examples include the Real-World Electromagnetism and Conservation of Charge scopes, which feature a

Claim-Evidence-Reasoning (CER) format, enabling students to articulate their understanding in scientific explanations. These assessments are supplemented with scoring rubrics, offering further clarity and guidance.

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

- The instructional materials are consistently acknowledged by reviewers to successfully assess all student expectations and clearly indicate which expectations are evaluated. Each scope is found to correlate with the Texas Essential Knowledge and Skills (TEKS), providing a comprehensive outlook of the curriculum alignment.
- The materials make extensive use of the Resources tab, housing a Planning with STEMscopes section that features a Texas Standards Snapshot. This snapshot correlates to which TEKS are covered in each scope. The landing page for each scope also incorporates a Standards Planning section, further listing the TEKS that are assessed within that particular scope. Notably, the materials showcase a thorough scope and sequence that displays the TEKS alignment for all lessons. For instance, the Photoelectric Effect scope corresponds with TEKS P.8(F) and P.9(A).
- The Evaluate tab within each scope is identified as another important resource for understanding which standards are assessed. When hovered over, the Scope Assessment activity in this section shows the standards covered in that scope.
- Moreover, teacher materials also include a Standards Planning tab that offers a Scope Matrix. This matrix allows educators to visualize the correlation between TEKS and the assessing items within a scope, exemplified in the Electromagnetic Spectrum scope and TEKS P.8(E).

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

- The instructional materials include assessments that effectively integrate scientific concepts and science and engineering practices. Each scope in the materials, for instance, Newton's Three Laws and Coulomb's Law, features an Evaluate section with a Scope Assessment activity. The corresponding answer keys help correlate each question to the TEKS it covers, often double-coded as both a scientific concept and a science and engineering practice. Similarly, the Work, Power, and Energy of a System scopes present a range of assessment questions, including science and engineering-based queries. This integration can be viewed in the student view of the Scope Assessment section, and it is often manifested through diverse formats such as pictures, graphs, and lab data.
- In the Characteristics of Waves and Malus's Law scopes, students are required to design and build models or create commercials that align with the corresponding science and engineering practices. These activities focus on various steps of the engineering design process, such as defining the problem, brainstorming, planning, building, and testing. The correlation between the activities and the Science and Engineering Practices (SEP) is distinctly presented, further enhancing the integration of scientific knowledge and practices in the assessments.

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

- The instructional materials consistently include assessments that require students to apply their knowledge and skills to novel contexts and phenomena, as echoed by all reviewers.
- In the Projectile Motion and Universal Gravitation scopes, students are prompted to construct and support arguments, such as explaining which of two objects would have greater

acceleration when dropped in the air or predicting the effect of gravitational force between the Earth and the Moon if their distance were to double. These tasks necessitate the application of acquired knowledge in new and unfamiliar scenarios, underlining the materials' focus on practical learning.

- Similarly, the Impulse and Momentum and Electric Circuits scopes call for students to write scientific explanations based on hypothetical situations. For instance, students may have to predict the velocity of a small car after a collision or identify non-closed circuits in a given scenario. These assessments also demand students to apply their learned skills to novel contexts.
- Further, the Application of Quantum Physics and Image Formation scopes require students to engage with new phenomena or problems. For example, students analyze a scenario comparing polarized light waves and unpolarized light particles passing through the same polarizer or observe two selfie images that show reflection and refraction phenomena and apply previous knowledge to answer related questions. These activities underscore the materials' emphasis on connecting theoretical understanding to practical applications.

Indicator 6.2

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

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

Meets | Score 2/2

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

Materials include information and/or resources that provide guidance for evaluating student responses. Materials support teachers' analysis of assessment data with guidance and direction to respond to individual students' needs, in all areas of science, based on measures of student progress appropriate for the developmental level. Assessment tools yield relevant information for teachers to use when planning instruction, intervention, and extension. Materials provide a variety of resources and teacher guidance on how to leverage different activities to respond to student data.
Evidence includes but is not limited to:

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

- The instructional materials consistently offer information and resources that provide detailed guidance for evaluating student responses, a point agreed upon by all reviewers.
- For instance, in the Motion Equations scope, there is an Evaluate section that contains a Claim-Evidence-Reasoning activity. This activity comes with a comprehensive rubric and answer key to assess student responses, thereby making it easier for teachers to evaluate performance. Similarly, in the Elaborate section, the Writing Science activity offers a key with sample responses for each section of the rubric, further simplifying the evaluation process.
- The Electric Circuits scope provides an answer key in the Explore tab's Electric Circuits virtual activity, which gives valuable information and possible answers. This assists teachers in assessing student responses effectively. Likewise, in the Work and Power scope, the Elaborate tab provides the key to an activity where students explore connections and applications of work and power, offering support for teachers when assessing student work.
- The Behavior of Waves scope's Evaluate section provides a specific rubric for the prompt, "Write a scientific explanation that uses wave refraction to explain why the phone is not where it appears to be in the water." Here, students answer using a Claim-Evidence-Reasoning format. This rubric specifies the number of points to award based on various indicators, such as the accuracy of connecting evidence to wave refraction. Similarly, the Scope Assessment of the Electromagnetic Spectrum scope includes a constructed response question with a rubric

showing descriptors for different score tiers, ensuring that teachers have clear criteria for evaluation.

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 instructional materials provide comprehensive support for teachers' analysis of student assessment data, offering a variety of guidance resources based on student needs. For instance, the materials suggest adjusting the follow-up activities based on students' performances on the Claim-Evidence-Reasoning formative assessment in the Evaluate sections. It advises that students needing more support should engage in small group work with teachers using elements from the Intervention section. Students demonstrating mastery should proceed to Elaborate or Acceleration elements.
- Moreover, teachers are further supported with a Tiered Intervention Strategies document in the Instructional Supports section. This resource provides guidance on tailoring activities to different student needs, following a Response to Intervention system of tiers.
- In every scope, the Explain tab contains a Progress Monitoring and Reflection section. Here, students rate their understanding of the scope's core concepts before and after formal introductions, giving teachers valuable feedback about students' perceived mastery. For instance, in the Energy of a System scope, the Pulse Check under the Explain tab allows students and teachers to gauge knowledge levels, assisting in the appropriate assignment of interventions or accelerations.
- Furthermore, guidance documents such as the Tiered Intervention Strategies offer teachers a visual organizer to better understand student performance after administering the Scope Assessment. These tools indicate how teachers can proceed, advising, for example, that students who fall into "Tier 3: Intensive individualized interventions and supports" should engage in small group interventions.
- Finally, the Engage section of the Malus's Law scope offers a Progress Monitoring and Reflection chart for students. This allows them to track their understanding at various checkpoints throughout the lesson and provides teachers with interpretative support for the data gathered.

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

- The instructional materials offer a range of assessment tools that provide relevant information for planning instruction and supporting differentiated learning. For instance, the pre-assessment activity in the Engage section offers an insight into students' prior knowledge before a scope begins. Students record their results on a Progress Monitoring and Assessment data sheet, effectively tracking their mastery levels. The provided Pulse Check quiz is another valuable tool that gauges how well students are mastering a concept. The resulting data is then used to decide whether a student requires intervention activities or can proceed to acceleration activities.
- As students progress through the scope activities, their understanding of the materials is further enhanced through specifically assigned Intervention or Acceleration activities. In the Energy of a System scope, for example, students requiring additional assistance may be assigned an intervention in the form of the classic card game Go Fish! for practicing scope concepts and

vocabulary. Those ready for more advanced work might be assigned an acceleration activity such as a student choice board, where they can opt for activities like Scientist Spotlight: Dr. Elizabeth Donley or a Virtual Field Trip.

- Similar assistance is provided in the Impulse and Momentum scope, where students needing additional practice after a pre-Assessment or Pulse Check can engage in a small group intervention to play the Name That Term! game for vocabulary practice.
- These assessment tools significantly aid teachers in planning differentiated instruction. The Progress Monitoring and Reflection chart, for example, enables students to track their understanding at different checkpoints throughout the lesson. Teachers can then use this data to plan for differentiated instruction by assigning either accelerated instruction or intervention activities based on students' performance. The data from Pulse Checks is recorded on the Progress Monitoring Check, allowing teachers to observe student self-reflection and performance and use this information when assigning appropriate intervention or acceleration activities.

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

- The instructional materials offer a wide array of resources and activities that allow teachers to effectively respond to student performance data.
- For example, in the Graphing Motion Scope, should students perform poorly on the Pulse Check assessment, they can be assigned to the "Small Group Intervention" activity, which includes a Concentration game designed to help them practice scope concepts and vocabulary. Students showing mastery in this scope, on the other hand, can be assigned activities from the Accelerate section. This section includes a choice board that allows students to choose their preferred research topic and a Science Art activity, inviting students to create a comic strip based on the scope's content.
- These targeted responses to student data can be seen in other scopes as well. Teachers can select activities from either the Intervention or Accelerate tabs in all scopes, tailoring their instructional approach based on the student's success in the various Progress Monitoring Checks. For instance, in the Real-World Electromagnetism scope, students successfully navigating the progress checks may be assigned a Science Art project from the acceleration tab. This project challenges students to create labeled sketches illustrating real-world electromagnetism, particularly how a gas generator produces electricity.
- The Image Formation scope similarly offers resources to address students still mastering key concepts. The Intervention section of this scope includes a Domino-based game designed to reinforce understanding of the focal point's role in light redirection by a mirror or lens. In the Application of Quantum Physics scope, the materials provide guidance for teachers to assign post-Scope Assessment activities based on student performance. Students who struggled to master key concepts can be assigned Intervention activities like the Concept Attainment Quiz, while those who have demonstrated mastery can be assigned Acceleration activities like Science Art.

Accelerate Learning STEMscopes Science Texas Physics

Indicator 6.3

Assessments are clear and easy to understand.

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

Meets| Score 2/2

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

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

Evidence includes but is not limited to:

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

- The materials' assessments are scientifically accurate and error-free, contributing to the accuracy and effectiveness of student evaluation. For instance, the materials correctly differentiate key scientific terms like speed and velocity, with speed defined as distance over time and velocity understood as speed coupled with direction. Similarly, terms like distance and displacement are accurately applied in the context of object motion assessments, ensuring clarity and precision in the learning content.
- Examples of the assessments' scientific accuracy extend to the Scope Assessment for Real-World Electromagnetism, where questions about the behavior of electromagnets are posed, and in the Electric Circuits scope, where mathematical and reasoning questions are based on Ohm's Law.
- Assessment accuracy is further reinforced in the Behavior of Waves scope, where a pre-assessment question correctly identifies 'wavelengths' as the answer to a question about the color variance in a rainbow. The error-free nature of the materials is evident in the Malus's Law scope, where the assessment provides accurate solutions for calculations of light intensity.

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

- The materials employ clear, developmentally appropriate pictures and graphics within their assessment tools, reinforcing student comprehension and engagement. One example is the Projectile Motion scope's Claim-Evidence-Reasoning assessment. It effectively incorporates an organized data table to provide students with mock data for analysis. Moreover, the Motion

Equations scope effectively uses images in the Picture Vocabulary Interactive Word Wall activity to match with the vocabulary, bolstering students' understanding of key definitions.

- In the Electric Circuits scope, schematic drawings accurately depict series and parallel circuits using correct symbols, further demonstrating the effective use of developmentally appropriate graphics in the assessment tools. Similarly, the Energy of a System scope makes good use of clear data tables and graphs within the Scope Assessments, facilitating effective comprehension of the material.
- The Electromagnetic Spectrum scope's Explain section also uses clear and developmentally appropriate images, like the Picture Vocabulary activity, which illustrates a wave's wavelength as the distance between two adjacent crests. Furthermore, the Image Formation scope's Evaluate section includes a Claim-Evidence-Reasoning assessment with an instructive diagram showing how a convex lens yields an inverted image.

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

- The materials provide clear, explicit guidance for teachers to administer assessment tools accurately and consistently. The Scope Assessment activities, for instance, furnish a detailed protocol for teachers, including guidelines on progress monitoring, student self-assessment, assessment distribution, and subsequent discussion to dispel any lingering misconceptions. An illustrative case comes from the Energy of a System Scope Assessment, where either digital administration or traditional print-outs are recommended, complete with step-by-step instructions and the suggestion to review each question for clarity post-assessment.
- The Application of Quantum Physics scope's Engage section similarly offers a comprehensive guide for conducting the Pre-Assessment, and the Electromagnetic Spectrum scope's Evaluate section outlines the Scope Assessment setup process.
- Additionally, these materials include detailed information to support the teacher's understanding of assessment tools and their scoring procedures. Notably, every Scope Assessment features a key, providing an in-depth analysis of the correct answer and explaining why the other answers are incorrect. The key also reveals the question type, the depth of knowledge required, whether a stimulus is present in the question, and whether the question is auto-graded by the embedded testing program. Furthermore, these answer keys are designed to aid teachers in evaluating student progress while mitigating any potential bias.

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 guidance for implementing accommodations in assessment tools, facilitating student demonstration of knowledge and skills mastery in alignment with learning objectives.
- Several scopes, including Newton's Laws and Universal Gravitation, provide a three-tiered intervention approach to assist learners in understanding the content. A similar tiered intervention system is applied in the Impulse and Momentum Scope Assessment, ensuring students of varying abilities can successfully participate in the exam.
- Moreover, the scope assessments are linked with specific standards, enabling teachers to effectively evaluate student understanding within the content area. Differentiation strategies, such as pre-test keyword review, are also offered to aid Tier 1 students in mastering the Malus's Law content.

Accelerate Learning STEMscopes Science Texas Physics

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 consistently include guidance for scaffolding instruction and differentiating activities based on areas where students have not yet achieved mastery. This is exemplified in the Universal Gravitation Scope, where teachers can find tiered intervention strategies, English Language Support strategies, and advanced strategies for proficient students during the Gravity Rules activity in the Explore section. Similarly, the Behavior of Waves Scope includes an Active Practice activity in the Intervention section, enabling students to match visual examples of waves to written definitions.
- Additionally, the materials provide targeted instruction and activities that scaffold learning for different student needs. Notably, in the Real-World Electromagnetism scope and the Electric Circuits scope, there are various activities, including small group interventions, virtual intervention games, and a concept attainment quiz, along with rubrics to assist students in attaining mastery. In the Universal Gravitation Scope, differentiated instructional approaches are featured in additional lessons, such as the vocabulary dominoes activity in the Intervention section.
- Lastly, the materials accommodate students with varying proficiency levels. For instance, the Applications of Quantum Physics Scope offers a "Beginner/Intermediate/Advanced/Advanced High" scheme for all sections to allow differentiation based on student needs. Furthermore, the Electric Circuits scope's Intervention tab suggests tiered strategies and offers a concept attainment quiz to assess students' mastery level following the intervention.

Accelerate Learning STEMscopes Science Texas Physics

Materials provide enrichment activities for all levels of learners.

- The materials consistently provide enrichment activities that account for learner variability, accommodating all levels of learners. For instance, the Accelerate section of each scope presents students with opportunities to research areas of interest in a choice board activity, such as the option to research a scientist or a field like ballistics in the Projectile Motion Scope. Similarly, in the Electric Circuits and Work and Power scopes, a STEM choice board and Science Art activities offer creative outlets for students to express their understanding, such as writing a song that illustrates circuit components or performing a play about work dynamics.
- Beyond these choice activities, the materials also provide specific enrichment tasks. For example, in the Graphing Motion Scope, students are tasked with creating a cartoon strip that illustrates graphing motion. Likewise, in the Malus's Law Scope, an Engage section prepares students for future activities by leveraging prior knowledge through discussion questions and a pre-assessment.
- Furthermore, these resources encourage the exploration and application of course-level science knowledge and skills in various ways. This is exemplified in the Electromagnetic Spectrum Scope, where the Acceleration activity invites students to select one or more activities from a STEM Choice Board, including researching an Astronomy career, finding information about a currently active scientist, or analyzing a scientific article on electromagnetism.

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

- The materials consistently offer support and resources for students eager to accelerate their learning, providing just-in-time scaffolds and guidance to develop productive perseverance and assist learners who might encounter challenges. For instance, in the Graphing Motion Scope, the Explore Section features an Advanced Strategies Activity in which students are encouraged to create a stop-motion video, incorporating at least two vocabulary words to explain a significant aspect of the topic. Similarly, in the Electric Circuits and Conservation of Charge scopes, advanced strategies sections provide unique tasks like completing an activity without using essential vocabulary or tools and drawing a comic to explain the transfer of charge, fostering an environment of creative learning.
- Embedded within the materials are also prompts and cues for teachers to utilize when students are stuck or unsure of how to proceed. An example of this can be seen in the Characteristics of Waves Scope, where guiding questions are provided to assist students in an activity involving the construction of a model comparing sound and light waves.
- Moreover, the lessons offer recommendations for real-time scaffolds. This is exemplified in the Graphing Motion: That's How We Move Lab, where descriptions and corrections for graph designs are provided to assist students in interpreting their data accurately.
- Lastly, differentiated instructional approaches and additional activities for targeted instruction are available for accelerated learning. An illustration of this is the Electromagnetic Spectrum Scope, which includes an Acceleration activity where students create collages that depict different applications of an electromagnetic wave type, allowing for a review of the skills learned in the lesson.

Indicator 7.2

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

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

Meets | Score 2/2

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

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

Evidence includes but is not limited to:

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

- The materials consistently engage students in content mastery using a variety of instructional approaches, embracing activities from traditional learning tasks to creative and game-based learning experiences. For instance, in the Graphing Motion Scope, the Explore section involves students in an activity where they utilize vectors to plot a treasure's location, encouraging the practical application of theoretical knowledge. This is further extended when students engage in a virtual simulation, analyzing and drawing conclusions from the graphs produced.
- Further embracing creativity and innovation, instructional approaches within these materials invite students to express their learning in unique ways. In the Motion Equations Scope, students create commercials to inform the community about how motion awareness can increase safety. Additionally, within the Conservation of Charge scope, students create skits demonstrating the transfer of charge, providing a theatrical context to their understanding. Furthermore, the Coulomb's Law scope guides students to design and build a physical model using magnets to visualize Coulomb's law, thereby melding theoretical knowledge with practical application.

- Moreover, these materials provide a blend of multimedia resources to support learning. For example, in the Engage section of the Electromagnetic Spectrum Scope, a short video about radio wave telescopes introduces students to real-world applications of the electromagnetic spectrum. Lastly, integrating a play-to-learn approach, an activity based on the classic Go Fish! card game in the Malus's Law Scope allows students to review concepts and vocabulary in an engaging manner.

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

- The reviewed materials actively support a range of instructional groupings, such as whole groups, small groups, partnerships, and one-on-one instruction. For instance, in the Projectile Motion Scope's Engage section, the whole group undertakes a Match Around the Room activity designed to identify common misconceptions. The Explore section incorporates smaller team dynamics in the Flinging Boxes activity, where students collaboratively construct an apparatus for launching a projectile. The Intervention Section encourages a more intimate pair-work setting in a Go Fish! vocabulary matching game.
- Further demonstrating flexibility in grouping, the Coulomb's Law scope under the Explore tab gives students electrostatic devices, allowing for individual work or group work of 3-4 students, contingent on class size and available resources. Similarly, in the Electric Circuits scope's Harnessing Electricity activity, the grouping may be comprised of 2-4 students, depending on supplies.
- Critical to these materials is their guidance on optimal grouping structures to address students' needs effectively. Lessons are incorporated for teachers to support concept acquisition for students who may require extra one-on-one support. This concept is mirrored in the Image Formation Scope's Explore section, which instructs teachers to divide students into groups of three or four before engaging with plane mirrors and convex lenses. The Application of Quantum Physics Scope in the Evaluate section provides additional guidance by tailoring activity suggestions to proficiency levels, including Beginner, Intermediate, Advanced, and Advanced High.

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

- The materials under review consistently provide an array of practice types to foster effective learning. For instance, within the Universal Gravitation Scope, students engage in various activities ranging from video-assisted Think-Pair-Share activities to exploratory tasks where they calculate gravitational forces between celestial objects. They also read and comprehend grade-appropriate complex text in the STEMscopedia activity and focus on the initial stages of the Engineering Design Process during the Engineering Connection activity. Additionally, these materials facilitate both independent and guided practice, as seen in the Interactive Notebook Section, where students independently process information learned in the Explore and STEMscopedia activities.
- This concept of utilizing multiple types of practices is confirmed through examples drawn from the Work and Power and Real-World Electromagnetism scopes. These encompass lab activities, writing and reading tasks, discussions, research, group designing, and data analysis, offering students various avenues for effective concept implementation.
- Materials also emphasize the role of teacher modeling and provide clear guidelines for this. For instance, in the Malus's Law Scope's Explore section, teachers are shown how to help students

visualize polarization using tangible props. Moreover, these materials state clear goals within the lessons, providing teachers with a structured framework to implement the diverse types of practices effectively. This is illustrated in the Image Formation Scope where distinct Student Learning Objectives are stated.

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

- The materials under review demonstrate a commitment to inclusivity and respectful representation of diverse communities. Teacher guidance documents, student materials, scientific texts, and assessments positively showcase a variety of scientists and engineers, spanning across genders, races, ethnicities, abilities, religions, and national origins. This commitment is evidenced, for instance, in the Universal Gravitation Scope's STEMscopedia text, where there is a spotlight on Katherine Johnson, a Black female mathematician who made significant contributions to space flight calculations.
- The materials embody diversity in the images and information about people and places. For instance, the Real-World Electromagnetism Scope includes a video featuring a person of color, images of females with a Van de Graaff generator, and references to global elements such as maglev trains in China, England, and West Berlin.
- The Application of Quantum Physics Scope's STEMscopedia handout includes images of female scientists and a brief biography of male scientist Werner Heisenberg. Furthermore, the Scientist in the Spotlight section in the STEMscopedia handouts highlights other diverse figures, such as Dr. Anneila Sargent and Pierre-Gilles de Gennes.

Accelerate Learning STEMscopes Science Texas Physics

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 instructional materials incorporate linguistic accommodations aligning with varying English language proficiency levels as outlined by the ELPS. Specifically, in the Newton's Three Laws Scope, the Explore section's Inertia Investigations activity houses an English Language Support Strategies section, which guides teachers to use a Think-Pair-Share activity tailored for English Language Learners. For different proficiency levels – beginners, intermediate, and advanced – it provides appropriate recommendations to aid the learning process.
- Moreover, the Electric Circuits' Elaborate tab presents a Science Today section that offers further linguistic support stratified by proficiency levels, including beginner, intermediate, and advanced. It elucidates strategies based on learners' dependency on visual cues, topic familiarity, prior knowledge, and previously taught vocabulary for text comprehension. The Real-World Electromagnetism materials also provide guidelines for color-coding techniques tailored to beginner/intermediate and advanced/advanced high learners, assisting in their understanding of the subject matter.
- In the Application of Quantum Physics scope, there's a vocabulary-building activity wherein teachers can apply proficiency-based strategies, from beginners to advanced high, to accommodate English language support. Similarly, the Image Formation scope's Elaborate section recommends Reading Science activities such as a graphic organizer about image formation and an improv read-aloud activity, where students act out their assigned reading passage about image formation to support students in need of linguistic accomodations. This

enables the creation of comprehensible input for emergent bilingual students, particularly at the beginner level.

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

- The Motion Equations scope's Explain section, in the STEMscopedia activity guides teachers to employ a Novice/Expert strategy, allowing students to write their queries in their native language before translating them into English. The Universal Gravitation scope takes a similar approach in its Elaborate section's Writing Science activity, urging beginning students to write in any manner they find comfortable, including their native language.
- In the Real-World Electromagnetism scope, the Elaborate tab's Science Today section suggests enabling students to engage in their own instructional conversations, replacing general vocabulary with academic language to enhance expression. Also, in the Work and Power scope, teachers are guided to group students in a manner that provides a safe environment for reading and speaking, with the recommendation to pair beginners with supportive peers.
- The Behavior of Waves Explain section houses a vocabulary activity that encourages intermediate-level students to respond to reading questions in their native language and then translate them. Similarly, the Applications of Quantum Physics scope's Elaborate section provides suggestions to teachers on allowing emergent bilingual students to express their understanding in their first language, aiming to encourage them to write consistently.

Indicator 7.4

Materials provide guidance on fostering connections between home and school.

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

Meets | Score 2/2

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

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

Evidence includes but is not limited to:

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

- The instructional materials feature comprehensive information about the design of the program, available for sharing with students and caregivers. Contained within the Resources tab under Texas Resources, teachers can access a parent letter that articulates the STEMscopes curriculum philosophy along with various features of the program. This letter is designed for easy modification and distribution to parents and guardians of STEMscopes students, promoting a better understanding of the course design.
- Moreover, the materials also extend a unit-specific component, available on the landing page of each scope. For instance, in the Motion Equations scope, the Science Outside the Classroom section provides specific information related to the unit being taught, which includes background knowledge, vocabulary words and their definitions, and a brief activity designed for home completion. Similarly, the Malus's Law scope incorporates a similar Science Outside the Classroom tab, facilitating access to an activity that can be sent home. This section includes a page filled with background knowledge and key terms, enabling parents to engage in the learning process.

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

- The materials provide an array of resources and strategies designed for caregivers to reinforce student learning and development. As an integral part of every scope, a section called Science Outside the Classroom is incorporated, providing caregivers with information specific to the unit being taught. This information includes background knowledge, key vocabulary words, their definitions, and short activities designed for home completion, making it an effective tool to foster learning outside the school environment.

- In scopes such as Newton's Three Laws and Universal Gravitation, these home-based activities are outlined clearly for easy comprehension and execution by caregivers. The same approach is followed in other scopes like Real-World Electromagnetism and Conservation of Charge, allowing caregivers to reinforce student learning and development actively.
- Furthermore, certain scopes, such as the Behavior of Waves and Electromagnetic Spectrum, not only provide at-home activities but also encourage active caregiver participation. These scopes invite parents to share experiences with their children and learn from them, thus turning learning into a shared, enriching experience. For instance, in the Electromagnetic Spectrum scope, caregivers receive explicit explanations of the assignments, further enabling them to support learning outside the classroom.

Materials include information to guide teacher communications with caregivers.

- The materials provide guidance for teacher communications with caregivers. A notable inclusion is a parent letter available within the Resources and Texas Resources sections. This letter outlines the materials and gives parents an overview of the content that will be covered in each unit. Similarly, Science Outside the Classroom provides information to be sent home about the specific content being taught in each scope, serving as another resource to facilitate communication between teachers and caregivers.
- There are materials available for teachers that provide guidance about communication with caregivers. There are two opportunities, one relating to progress monitoring and the other relating to science outside the classroom. This includes best practices for sharing details about differentiation, student progress, or addressing caregiver concerns and insights regarding a student's level of understanding. Consequently, while the existing resources provide a basic framework for communication between teachers and caregivers, they fall short of providing comprehensive guidance on a wider range of essential communicative aspects.

Accelerate Learning STEMscopes Science Texas Physics

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 into 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 Resources and Teacher Resources tabs contain planning documents and a scope and sequence that depict the order of units in alignment with the TEKS and the TEKS to be taught in each lesson.
- The materials also provide suggested pacing via the "Suggested Scope and Sequence" that estimates the number of days each unit and TEK should take. For example, Impulse and Momentum references TEKS P.7(D), P.7(E) and gives a suggested pacing of 8 days.
- Further, the materials dashboard features Correlation Documents demonstrating the alignment between course materials, TEKS, and English Language Proficiency Standards (ELPS) while displaying the link between content standards, engineering practices, and language supports.

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

- The Resources section contains scientific and engineering practice cards, which align standards with student activities, as well as instructional supports that provide outlines for classroom practices for scientists and engineers. A segment named "Engaging Students in Scientific and Engineering Practices" is included in the "Instructional Support" tab, with comprehensive resources outlining the engineering process and the scientific method.
- Additionally, under Teacher Resources, there is an Instructional Supports tab offering science and engineering practices for each TEKS. To support interdisciplinary learning, there are

connections to other courses, including mathematics and reading, within the Scopes tab under Standards Planning.
- These materials facilitate students in engineering practices by providing engaging resources and activities such as designing a "wave machine" where students can develop models to explain natural phenomena by making predictions on what happens when a wave undergoes reflection.

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

- Each unit of the material contains various assessments serving as practice and review tools, with units such as “Newton's Laws'' providing assessments that make cross-curricular connections. Further, each individual Scope displays spiral opportunities for the teacher to view and utilize. For instance, the unit on Newton's Laws illustrates how the concepts of force and motion will recur throughout the unit, as well as other units such as Universal Gravitation, Coulomb's Law, Impulse and Momentum, and others.
- 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 Motion Equations scope, there is a spiral opportunity titled “Graphing Motion,” the goal states, “How to calculate the motion of an object can be reviewed when students study how to describe the motion of an object.” This gives teachers an opportunity to spiral graphing skills back into the lesson and reinforce skills such as reading and interpreting graphical data, creating graphical representations of data, and utilizing graphical data to predict trends.
- Under Instructional Supports, a tab dedicated to recurring themes and concepts is available, offering teachers cards that allow for reviewing these concepts. Additionally, each Scope provides multiple instances for students to practice and review the TEKS. To aid teachers in guiding student activities, recurring themes and concepts are also displayed in the Instructional Supports, and each lesson's background materials in the Scopes describe how these recurring themes align in each lesson.

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.

- The materials provide overview documents and resources for teachers, assisting them in understanding how to utilize all components effectively. Specifically, under Planning with STEMscopes in the Resources section, there is a comprehensive Getting Started guide that offers support on the 5E lesson model, teacher preparation, planning instruction, and a differentiation guide. The materials are strategically organized, facilitating ease of implementation and use, including accessing materials needed for labs.
- Additionally, the guide outlines differentiation pathways with plans of action using Masters, Meets, and Approaches levels, showing that materials also cater to different levels of learning. For each unit, under the Scopes section, there is an overview containing a list of materials used, the standards and TEKS addressed, learning objectives, and suggested scope and sequence.
- An example of this can be seen in the lesson Energy of a System, which provides a suggested time investment of eight days, along with a materials list that includes marbles, balance, paper cups, and foam tubing.

- The materials include efficacy research that supports the strategies in STEMscopes, showing an evidence-based approach in the instructional design.

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

- The materials present detailed standards correlations for the lessons, units, or activities within the context of the grade level or course. These are found within the Scopes tab, under each unit tile, where a unit homepage delineates the standards covered in the lesson, ensuring the objectives align with the relevant standards. Alongside this, a Standards Planning section is available within each Scope or lesson, providing a clear mapping between TEKS and Scientific and Engineering Practices (SEPs). A specific instance of this can be seen in the Impulse and Momentum lesson, aligning TEKS P.7(D) and P.7(E) with SEPs P.4(B), P.4(C), and others.
- The materials also notably incorporate cross-curricular connections to math, English/Language Arts, and technology and engineering. This cross-curricular integration is situated under the Elaborate sub-tab in each unit, featuring sections like Math Connection, Writing Science, and Reading Science. The Newton's Laws unit provides a prime example of this, as the Elaborate tab proposes technology, engineering, math, and reading cross-connection subsections, thereby suggesting diverse activities for cross-curriculum learning. Similarly, in the Simple Harmonic Motion lesson, the materials highlight the use of diagrams and citation of evidence as skills required for Math and Reading, respectively.
- The materials include a standards planning section within each scope, demonstrating the targeted TEKS and the corresponding math and reading/language arts standards. An added layer of complexity is the inclusion of the College and Career Readiness Standards (CCRS) when suitable. For example, understanding the concepts of gravitational force and weight in the Universal Gravitation scope aligns with these targeted standards, indicating the commitment to preparing students for future academic and professional pursuits.

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

- The materials include a comprehensive list of all equipment and supplies necessary for student activities and teacher demonstrations. This list is accessible under the Resources tab in the Planning with STEMscopes section. A specific instance is the Scopes Kit List which provides a detailed correlation of the materials required for each activity.
- In addition to this central resource, each lesson hosts an individualized materials list in the Explore activity, characterized by Files, Reusable, and Consumable tabs, ensuring teachers have ready access to resource requirements for the specific activities. For instance, in the Universal Gravitation unit within the Scopes tab, the Explore subsection houses a detailed reusable and consumable materials list for the specific activity Gravity Rules.
- The material lists are detailed, noting whether the equipment is reusable or consumable and even specifying if it is for the entire class, small groups, or individual students. For instance, the lesson on the Characteristics of Waves provides a comprehensive list of required materials, such as coiled spring toys, which it denoted as reusable, to complete the task.
- The resources include a Scope Kit Lists section in Planning with STEMscopes, featuring a comprehensive document named "STEMscopes High School Texas Science Material List-School Supplies." This list itemizes the equipment needed for each scope, as exemplified by the Electric Circuits scope, which details the requirement of items like voltmeters and ammeters.

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

- The materials include a general resource for lab safety. For example, under the Lab Safety tab in Resources, the materials present posters and a lab safety contract for students. This safety resource is also located under Instructional Supports in Resources. This safety contract features a list of best practices, safety rules, and information about contact lenses that students and parents can review.
- Specific safety precautions for individual lab activities are included in the materials. Each lab and the safety precautions needed for each lab are listed for the teacher. For example, in the experiment "Wave Behavior Stations," there is teacher guidance that states, "Station III, step 4: Remind students a laser should never be pointed at a person and should never be directed into an eye. Station VII Step 3: Tell students to maintain a safe distance between themselves and others. Students need to tightly grip the string while spinning the buzzer." The safety guidance is specific for each activity.
- Teacher guidance about safety measures is provided for particular activities. For instance, in the Explore: Harnessing Electricity activity under the Electric Circuits scope, the teacher is instructed to "demonstrate how to safely handle the components to avoid glass breakage," and explain "the safe use of electric wire wrapping using electric tape."

Accelerate Learning STEMscopes Science Texas Physics

Indicator 8.3

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

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

Meets | Score 2/2

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

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

Evidence includes but is not limited to:

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

- The instructional materials incorporate extensive guidance and recommendations on scheduling, detailing the required time for lessons and activities. Specifically, the Scope and Sequence under Resources offers a suggested number of days for each unit, assisting in planning instruction. Each lesson includes a Suggest Scope Order and Pacing Guide that features the suggested number of days for each lesson. For example, the lesson on the Behavior of Waves recommends seven days of instruction. There is a note that says days are based on a 45-minute period and encourages teachers to plan accordingly.
- Explicit instances of guidance are presented in lessons like Behavior of Waves and Impulse and Momentum, which respectively suggest seven and eight days of instruction. The materials permit flexibility in the sequence of activities in certain Scopes, catering to possible adjustments in class schedules.

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

- The instructional materials strategically guide the implementation of content, maintaining an order consistent with the developmental progression of science. This is achieved through grouping related standards together in the Standards Planning section for each scope. For instance, TEKS P.6(D) and P.6(E) are taught concurrently in the Electric Circuits scope, emphasizing thematic connections. In Newton's Three Laws unit, TEKS P.5(E), P.5(F), and P.5(G) are grouped together, interweaving all of Newton's Laws into a cohesive unit.

- This guidance is further illustrated in the High School Scope and Sequence, where units like Characteristics of Waves and Photoelectric Effect display developmental progression by sequencing related TEKS together. The lesson on Simple Harmonic Motion illustrates this through the link between TEKS 6.8(C) and P.8(A), symbolizing a progression from conceptual understanding to skill development. Materials delineate the order of units to ensure students learn about precursor concepts first. For example, the unit on the Energy of a System precedes Impulse and Momentum so that students learn about the conservation of energy before applying it to collisions.

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

- The instructional materials designed for the course provide flexibility while ensuring completion within a single school year. The suggested scope order and pacing guide are included in the materials and provide a structured timeline, allotting 149 days for the course. This guidance is adaptable and can be adjusted to fit the needs of individual campuses and districts.
- The High School Suggested Scope and Sequence further recommends a total of 149 days of instructional time to cover all content, outlining enough content for a full year's worth of instruction. Teachers have the option to reference a Suggested Scope Calendar for each lesson that gives a breakdown of the suggested days of instruction. The unit on the Behavior of Waves provides a clear structure for the activities for each day and offers different assessment options to accommodate time constraints.
- Under Resources, the Scope and Sequence suggests sufficient material for a full 36-week school calendar. Teachers can tailor activities based on their school's or district's needs, with the choice to select from low-complexity or high-complexity activities depending on time. Each unit within a Scope under the Home link includes a suggested scope calendar with lesson choices for each day within the unit.
- The materials encompass units, lessons, and activities designed for a full year of instruction, as showcased in the Scope and Sequence. The materials offer guidance to adapt lessons, identifying activities as low-complexity or high-complexity, evident in Newton's Three Laws Unit on the Suggested Scope Calendar.

Accelerate Learning STEMscopes Science Texas Physics

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 instructional materials demonstrate a design that effectively supports student learning and does not serve as a distraction.
- For instance, in Newton's Three Laws scope, the Explore section's Balloon Cars activity student handout exemplifies a well-organized design, featuring headings for each section of the activity, abundant space for answering questions, and an orderly data table for recording data. Similarly, in the Universal Gravitation scope, the Elaborate section's Math Connections student handout provides ample white space for graph creation and response to analysis questions, ensuring clarity and focus.
- This supportive design extends across other scopes. In the Real-World Electromagnetism scope, the Elaborate tab's Math Connection also offers plenty of white space for both graph drawing and question answering. Moreover, the Energy of a System scope's Explore tab contains a Design Your Own Rollercoaster activity that presents sufficient white space around the background information and between the procedures, ensuring the layout doesn't distract students.
- The digital materials further incorporate a design that maintains student focus on learning. An example is the Application of Quantum Mechanics scope's Explore section, which includes a clearly labeled Superposition Slits student handout explaining the activity's purpose. The Photoelectric Effect scope's Evaluate section also demonstrates this, featuring a Claim-Evidence-Reasoning activity and its answer key with appropriate white space between the title, the written scenario, and the external graphical data.

Accelerate Learning STEMscopes Science Texas Physics

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

- The instructional materials include age-appropriate pictures and graphics that aid student learning and engagement without causing visual distraction.
- In the Projectile Motion Scope's Explain section, for example, Picture Vocabulary cards present relevant and engaging images for each vocabulary term, effectively supporting students' understanding. This incorporation of images permeates the materials; the Explain sections of each scope contain a STEMscopedia document with images emphasizing essential concepts for each unit, while the Explore activities' Interactive Student Notebook pages feature graphics that help students draw connections and organize data.
- Similar visual aids are present in the Energy of a System scope's Explain tab, where the Picture Vocabulary provides age-appropriate pictures enhancing student learning. Furthermore, in the Electric Circuits scope's Evaluate tab, the Scope Assessment includes graphics and pictures that are both age-appropriate and non-distracting, focusing students on the questions.
- This supportive use of imagery extends to the Electromagnetic Spectrum scope's Explain section, which comprises a Picture Vocabulary activity, enabling students to visualize key concepts like "Gamma ray." Likewise, the Malus's Law scope's Explain section hosts a STEMscopedia student handout, illustrating pictures and diagrams adjacent to explanations and historical facts, thereby promoting learning.

Materials include digital components that are free of technical errors.

- The instructional materials provided, including both student and teacher resources, are consistently free of technical errors. This error-free condition applies not only to spelling and grammar but also extends to content accuracy and the correctness of answers provided in student answer keys.
- Moreover, the digital components embedded in the materials are devoid of technical issues. For instance, in the Electric Circuits scope, the Explain tab houses a virtual lab linking to an external source; these links function without technical problems. Similarly, the Impulse and Momentum scope's Explain tab presents a virtual lab activity involving an interactive billiards activity and a player collision activity, both of which are active and free from technical errors.
- This standard of technical precision extends to the digital components within the Application of Quantum Physics scope's Scope Assessment, which accurately depicts a quantum computer unit for students to identify, with the answer key correctly identifying "qubit" as the correct answer. Additionally, the Scope Assessment answer key in the Behavior of Waves scope's Evaluate section is free from technical errors.

Accelerate Learning STEMscopes Science Texas Physics

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

Not Scored

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

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

Evidence includes but is not limited to:

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

- The materials integrate digital technology and tools that bolster student learning and engagement. For instance, in the Universal Gravitation scope, students are provided with an opportunity to interact with a Virtual Lab activity that uses the PHET Universal Gravitation Simulation. Here, they can manipulate the masses and distances of objects and subsequently record and analyze the collected data. Comparable instances of technology integration exist in other scopes, such as the Work and Power scope, where a link is provided for a Virtual lab on the subject. The Malus's Law scope is where students can access an online-based Scope Assessment.
- The materials also provide valuable guidance on how to implement these digital resources. For example, in the Projectile Motion scope, the materials specify that the Projectile Motion Virtual activity should ideally be completed individually but may also be accomplished in groups or as a whole class activity if devices are limited. In the Real-World Electromagnetism scope, students are directed to reputable digital sources for research, such as government websites, university sites, and academic journals. Teachers are also guided on how to use simulations and interactive activities in the Electromagnetic Spectrum scope, including suggestions for group division based on the number of available internet devices.

Accelerate Learning STEMscopes Science Texas Physics

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

- The materials effectively integrate digital technology to support student engagement with science and engineering practices and course-specific content. For example, in the Graphing Motion scope, the Explore Virtual: Graphing Motion activity enables students to gather data on the motion of a car and interpret graphs constructed from this data. Similarly, in the Conservation of Charge scope, a digital lab aligns with science and engineering practices, aiding students as they study Charge Transfer. Moreover, the Behavior of Waves scope features a Virtual Explore activity that engages students with the course-specific content, utilizing a simulation to elucidate standing waves, the Doppler effect, polarization, and wave superposition.
- In addition to this, each scope incorporates at least one virtual lab adaptable for online synchronous or asynchronous learning by providing online virtual simulations through the Learning Management System used. In the Work and Power scope, the Elaborate tab hosts a Virtual Experience that employs a digital lab to facilitate student engagement on Hooke's Law. Also, the Application of Quantum Physics scope guides students through a virtual exploration where they can develop models about the wave-particle duality of light and Heisenberg's uncertainty principle using a simulation.

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

- The materials incorporate digital technology, which allows for collaborative opportunities for both students and teachers. For instance, in the Projectile Motion scope, the Virtual Explore: Projectile Motion lab can be executed either individually or in groups, thereby encouraging collaboration. In the Work and Power scope, the Explore tab's Virtual Explore also provides an option for students to work together or alone, further promoting the spirit of cooperation.
- Additionally, Newton's Laws Scope features an Explore Virtual Activity that can be accomplished as a collaborative endeavor. In the Impulse and Momentum scope, an activity under the Technology Connection in the Elaborate tab allows students to work collaboratively on researching collision avoidance systems.
- In the Photoelectric Effect scope, guidance for the Virtual Explore activity indicates that the activity can be conducted in groups or individually, thus fostering collaboration. Similarly, the Image Formation scope's Virtual Experience activity incorporates a simulation with instructions stating that students should be divided into groups of between two and four, allowing for equitable distribution of classroom resources.

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

- The materials incorporate digital technology that is compatible with a multitude of devices and operating systems. According to the official website, the materials are adaptable with different browsers such as Chrome, Microsoft Edge, and Firefox, affirming their broad compatibility. Further, digital resources can be accessed on a variety of devices, such as tablets, iPads, Chromebooks, and phones, which extends their accessibility across multiple hardware platforms.

Accelerate Learning STEMscopes Science Texas Physics

- The Accelerated Learning Website states that STEMscopes is not only compatible with browsers like Chrome, Safari, and Microsoft Edge, but it can also be utilized on various devices, including iPad/iPhone/iPod, tablets, and mobile devices.
- Reinforcing this point, the digital materials are described as being accessible and compatible with PCs that use modern web browsers such as Google Chrome and Safari. Additionally, STEMscopes is compatible with iPads and tablets that can access resources like Google Drive and Google Docs, thereby enhancing its usability across numerous platforms.

Accelerate Learning STEMscopes Science Texas Physics

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 well-aligned with the course scope and approach to science knowledge and skills progression.
- The materials provide ways to identify how online and digital components align with science knowledge and skills, as exemplified in the Coulomb's Law scope, where standards covered by the activity can be viewed by hovering over the "Standards" icon. Additionally, the digital resources are in sync with the course content, such as in the Universal Gravitation scope, where the virtual lab tasks students with exploring the correlation between gravity, mass, and distance.
- In the Conservation of Charge scope, the digital activity encourages students to observe animations to understand the movement of positive and negative charges, facilitating their alignment with the course's standards. Similarly, the Electric Circuits scope provides an activity that enables students to create circuits, a task that aligns with the course standards.
- The online components not only align with the course scope but also provide supportive guidance. For instance, the Behavior of Waves scope includes a Virtual Experience activity that engages students in a guided inquiry. Also, the Electromagnetic Spectrum scope's Standards Planning section helps teachers to understand the relation between standards and activities, exemplified by the Scope Matrix that maps standards to specific activities such as the Virtual Explore activity.

Accelerate Learning STEMscopes Science Texas Physics

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

- The consensus among reviewers is that the instructional materials effectively provide guidance for the use of embedded technology in the educational process.
- In each scope containing a Virtual Explore Activity, guidance is offered in the form of a Preparation section. For instance, within Newton's Law scope, guidance details that the activity is designed for a virtual classroom setting, requiring no alterations for either synchronous or asynchronous engagement, and it accommodates both group and individual work.
- Teacher guidance is provided for the use of embedded technology, enhancing student learning. This guidance is evident in the Electric Circuits and Energy of System scopes, where teachers are instructed that students should ideally access simulations on a device and that activities can be done either individually or in groups.
- Moreover, the instructional materials give clear step-by-step guides for activities, as seen in the Malus's Law and Application of Quantum Physics scopes. These guides include instructions on how to use embedded technology effectively within the teacher platform.

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

- The materials under examination offer resources to parents and caregivers to assist with student engagement in digital technology. For instance, the Resources tab contains a Parent Letter detailing how to access online materials. Furthermore, in Newton's Three Laws scope, the Science Outside the Classroom tab provides additional resources that guide parents and caregivers in facilitating students' understanding of the scope content.
- This theme of caregiver involvement continues in the Texas Resources section, where another parent letter outlines the course's online usage and how to interact with the digital components.
- In addition to this, the materials encompass a Parent Letter in the Resources section that gives parents and caregivers information about accessing digital materials from home. Notably, this letter offers advice to families on encouraging appropriate student engagement with digital and online components, such as the Glossary and STEMscopedia resources.