Discovery Education Science Techbook for Texas Grade 3

Discovery Education Science Techbook for Texas Grade 3 Executive Summary

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

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

Section 2. Instructional Anchor

- The materials are 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.

Discovery Education Science Techbook for Texas
Grade 3

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

Section 7. Supports for All Learners

- The materials provide 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.

Discovery Education Science Techbook for Texas Grade 3

Indicator 2.1

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

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

Meets | Score 4/4

The materials meet the criteria for this indicator. Materials are designed to strategically and systematically integrate scientific and engineering practices, recurring themes and concepts, and grade-level content as outlined in the TEKS.

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

Evidence includes but is not limited to:

Materials provide multiple opportunities for students to develop, practice, and demonstrate mastery of grade level appropriate scientific and engineering practices as outlined in the TEKS.

- Materials provide opportunities to demonstrate mastery through lessons on real-world phenomena, hands-on activities, interactive lessons, STEM activities, and assessments. For example, in Unit 2, Concept 1, Lesson 1, students look at a real-world example of force. The materials provide an opportunity to investigate the amount of force that can affect an object in motion by creating a Hopper Popper.
- The materials include a 5E instructional model integrating TEKS, including scientific and engineering practices, into every lesson authentically. Students have opportunities to improve their science and engineering skills and showcase their abilities throughout the year. For example, in Concept 1: Exploring Forces, Lesson 2: Forces All Around, the materials state,

"Students will demonstrate and describe forces acting on an object in contact or at a distance, including magnetism, gravity, and pushes and pulls. Students will plan and conduct a descriptive investigation to demonstrate how position and motion can be changed by pushes and pulls."

- Teachers can refer to the Standards Alignment charts in Unit Resources to locate the scientific and engineering practices corresponding to each concept. For example, In Unit 1, Matter and Changes, Lesson 9: Elaborate, students design a structure that can withstand wind and rain and justify the selection of materials based on their physical properties. To set the purpose, the teacher asks students to think about how to choose materials when making something and probes student answers about the properties of materials.

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

- Materials provide opportunities within lessons to connect between and within concepts. For example, in Concept 1: Exploring Forces, Lesson 4, students build on their knowledge of forces by observing whether forces act on contact or distance. Within Unit 3, in Lessons 3, 4, and 6, the students look back at soil formation and make connections.
- Materials provide opportunities to use recurring themes throughout the concept-based units. For example, materials allow students to use the recurring theme *patterns* to make connections in Concept 1.2: Heating and Cooling, Concept 3.3: Weather, Concept 4.1: Life Cycles, and Concept 4.4: Fossils.

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

- Materials include concepts strategically bundled in each unit to ensure students discover all core scientific information. Each unit has a 5E framework to engage, explore, explain, elaborate, and evaluate. Students will cover all concepts at the grade level.
- Materials systematically develop students' knowledge and skills across a unit. For example, in Unit 1, students begin with Concept 1 and explore the overall concepts of matter. Concept 2 has students specifically looking at Heating and Cooling through grade-appropriate activities. Furthermore, in the Earth and Space Unit planner, the lessons are outlined, beginning with the unit standards and then a summary followed by real-world phenomena with concept objectives. The lessons are in the order of Earth's Surface, Earth's resources, Weather and Planets, and Space.
- In grade 3, Concept 1: Exploring Forces, Lesson 3: Force, students explore the content with a hands-on lesson. The teacher sets the purpose with guiding questions along with a demonstration. Guiding questions and lesson closure stamp the learning goals.

Materials include sufficient opportunities, as outlined in the TEKS, for students to ask questions and plan and conduct classroom, laboratory, and field investigations and to engage in problem solving to make connections across disciplines and develop an understanding of science concepts.

- Materials provide teachers with lesson opportunities where students can plan and conduct investigations. For example, in Concept 1: Matter, Lesson 2: Measuring Properties, the hands-on lesson, students make predictions, collect data, and ask questions of their groups as well as the teacher guides them through the activity.

Discovery Education Science Techbook for Texas
Grade 3

- In grade 3, Unit 3, Lesson 6, How Does the Earth's Surface Change Rapidly? Students are asked to work in groups to develop claims that best explain the real-world phenomenon. They are encouraged to identify specific evidence to support their thinking. They can do this through presentations of illustrations or photos and in writing or oral presentations.

Discovery Education Science Techbook for Texas
Grade 3

Indicator 2.2

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

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

Meets | Score 4/4

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

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

Evidence includes but is not limited to:

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

- Materials provide multiple opportunities for students to explore phenomena in each unit. For example, in Unit 1, Lesson 1, students explore real-world phenomena through the Properties of Matter. The materials provide teachers with a lesson where students will create evidence to support a claim through the scientific process.
- For example, in Unit 2, Lesson 7, students give evidence regarding Force and Motion. Furthermore, real-world phenomena are present such as in Unit 3: Earth and Space Concept 3: Weather, Lesson 1: Engage How Can Weather Be Described? This phenomenon is repeated in the Explore Phenomena Check-In portion. Phenomena drive student learning across the grade-level content. For example, in Concept 2: Heating and Cooling, Lesson 1: What Is Matter and How Does It Change, and again in Concept 4: Fossils, Lesson 1: How Would You Describe a Fossil?
- Materials provide opportunities for students to develop, evaluate, and revise their thinking as they engage in phenomena and define/solve problems. The following is an excerpt from Concept 4, Lesson 1: How Would You Describe a Fossil, "Guide students to capture their initial

thoughts of the real-world phenomenon by making a claim. As they progress through the concept, they will continuously gather evidence to help explain the real-world phenomenon.

- Other examples can be seen in Concept 1: Exploring Forces, Lesson 4, where students explore a mini tug of war to demonstrate forces on an object. Students are provided with materials and guidelines to complete the activity. The teacher guides the students through a phenomena check-in at the end of the lesson to allow students to reflect and change any of their initial thinking.

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

- The materials provide an opportunity to leverage students' prior knowledge in Concept 1: Earth's Surface, Lesson 1: Engage; the students are learning about the changes in the earth's surface. Students begin the lesson by solving a problem to prevent damage to a home during a landslide. Students were previously taught a lesson about rapid changes. The teacher references the lesson as it is discussed in the activity. In the Unit Resources, the Background Knowledge section helps the teacher to understand what the student's prior knowledge should be and how to relate to the unit.
- The Educator Notes and the Real-World Phenomena portion of each Engage lesson contains instructions for teachers to elicit students' prior knowledge and experiences relating to the phenomena presented. In the Making Connections phase of the lecture, students are asked to share any prior knowledge about the phenomenon and engineering problem. Furthermore, the materials accommodate different entry points to learning through hands-on activities, text, images, and videos. For example, in Unit 2, Lesson 2, students play an interactive game identifying the different forms of energy in a classroom.

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

- Materials in each lesson provide teachers with a slide deck for class presentation. The deck includes but is not limited to questions, materials, activities, and lesson vocabulary. For example, in Unit 1, Lesson 2, to measure properties of matter, the Engage portion of each lesson allows students to make a real-world phenomenon connection. For example, in Unit 2, students explore forces while creating a hopper popper ahead of the lesson.
- Materials clearly outline goals in the unit planner, including a description of the phenomenon in real life and the learning objectives and key terminology for each subject in the unit. Furthermore, the materials include Instructions on how to concentrate on scientific topics, and objectives are offered to teachers. Concept 1: Life Cycles, Lesson 1: How Do Life Cycles Compare provides evidence of the learning objectives behind the occurrence in the actual world.

Discovery Education Science Techbook for Texas
Grade 3

Indicator 3.1

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

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

Meets | Score 6/6

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

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

Evidence includes but is not limited to:

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

- Materials provide vertical alignment to allow students to connect their knowledge across grade levels. Teachers activate students' prior knowledge and continue to teach the concept of matter in third grade and scaffold the content through fourth and fifth grades allowing students to learn the concepts systematically.
- Materials in the Unit Structures and Pacing guide for Earth and Space identify the skills that will be learned in the unit for each strand. The Comprehensive Pathways outlines the lessons, types, and time. Student "I can" statements are listed under student learning objectives for grade 3 alongside the teacher learning objectives under the Earth's Surface, Earth's Resources, Weather, and Plants and Space. This design allows students to build their knowledge within the unit by tracking their own progress with the "I can" statements.
- Materials provide a Unit Planner at the beginning of each unit, there is a Unit Summary that shows how each concept within the unit connects to other concepts within the unit. At the beginning of each new unit, there is a structure and pacing guide that shows how concepts build complexity throughout the unit. The program guide states, "Each concept contains a series of 5E lessons broken into learning activities that follow a logical progression and are designed to build student understanding of the scientific concepts."

- Materials utilize the 5E learning model where students progress through stages of learning (Engage, Explore, Explain, Elaborate, and Evaluation). For example, at the beginning of Unit 1, Concept 2 students are expected to describe and classify samples of matter as solids, liquids, and gasses. By the end of Unit 1, Concept 2, students are expected to describe the changes in the state of matter caused by heating or cooling using terms such as melting, freezing, boiling, evaporation, and condensation and make a claim about how matter changes.
- Materials do provide opportunities on the product website to access a Vertical Alignment Guide that outlines the vertical alignment of concepts from Kindergarten to Grade 5. In Unit 4, Concept 1, Lesson 7, materials provide a teacher prompt for students, “Can you connect any of the images to something you already learned about life cycles?”

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

- Materials provide a pacing calendar within the unit resource. Each unit has multiple concepts and the pacing calendar guides a teacher through the sequencing of Concept 1, *Exploring Forces*, and then on to the next concept which is *Everyday Forces*. The lessons within each concept of the unit build off of each other. Furthermore, materials allow students to predict how force acts on an object, plan an investigation, perform, and then record results. In Unit 2, Lesson 2 *Forces All Around*, students predict how a toy car will be affected by force. Students then perform an investigation and record the results.
- Materials provide opportunities to scaffold students' learning, and teachers are provided with the necessary tools, such as model sentences to activate students' prior knowledge, prepared question scaffolds as students move into a hands-on activity, and challenging questions as students move into the evaluation component of the lessons. For example, in Concept 2, *Earth’s Resources*, Lesson 2, *Construction Resources*, students model how humans can use natural resources. The students engage in the lesson with a video along with guiding questions before moving to the Explore part of the lesson. The teacher asks the students about the materials used, and natural resources, and then provides materials to build a house. Students devise a plan and create T-Chart to classify the materials. The teacher wraps up the lesson by connecting the activity with real-world phenomena at the beginning of the lesson.
- Materials in each unit start with a basic concept, such as in Unit 4, which begins by discussing energy flow in the food web. This then leads to exploring lessons that move into more in-depth interactive lessons about food chains and food webs. In these lessons, there are hands-on activities to support the learning. Engage lessons are then able to summarize these concepts into one lesson. All the concepts can then be applied to the STEM lesson and assessment.

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

- Each unit provides a unit resource and unit planner link that gives an overview that includes grade-level concepts that follow the Scope and Sequence. The materials follow a specific scope and sequence that include the grade-level core concepts, recurring themes, and science engineering practices. The Unit Planner feature provides an overview while each lesson provides specific teacher instructions on how to execute such lessons. Additionally, in Unit 1, Concept 2, the teacher is given guidance such as, “ This is an excellent opportunity to help students think

about patterns. As students work through the concept, encourage them to notice the following…"

- Materials provide teachers with units using all of the components of the 5E model. For example, in Unit 2, Concept 2 provides teachers with lessons to support force. Furthermore, in Unit 2, Concept 2, Lesson 6, *Mechanical Energy on the Playground,* students are reminded of an activity with a toy car in a previous lesson. Students will predict how speed is related to energy, conduct an investigation, and then collect and record all data. In addition, Concept 2: *Earth's Resources,* Lesson 2 the hands-on lesson provides students with the opportunity to explore construction resources. The students make predictions about the materials in the activity. The groups then observe the materials and explain upgrades to make them more functional.

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

- Materials provide essential questions, student-friendly learning targets, and defined learning objectives that are provided in each lesson to give parameters for student learning within the grade level. For example, Unit 1, Concept 1, Lesson 1 provides students with the, "I can claim how we compare properties of matter." statement to help facilitate the boundaries of the lesson.
- Materials provide an assessment at the end of each unit. Teachers are provided with student objectives. For example, after Unit 2, the student objective states, "In this lesson, students will choose different methods to share what they have learned about types of forces and describe how forces acting on an object in contact or at a distance, including magnetism, gravity, and pushes and pulls can affect that object." Furthermore, the Concept 1, *Earth's Surface*, Lesson 1, the students explore how the Earth's surface changes rapidly. The students would have previously learned in grade 2 that wind and water move soil. Materials include student tasks that require them to make real-world connections to the content by making a survival plan.

Discovery Education Science Techbook for Texas
Grade 3

Indicator 3.2

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

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

Meets | Score 6/6

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

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

Evidence includes but is not limited to:

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

- Materials support teachers in understanding the scope and sequencing that covers the key ideas, recurring themes and concepts, and science and engineering practices for each unit and grade. The Unit Planner feature, which provides an overview and detailed teacher instructions for each lesson, is accessible through the Unit Resources tab. The learning objectives contain the verbs in the TEKS and key vocabulary terms. In addition, within the Unit Resources, Unit Structure, and Pacing, each page identifies the unit, the 5E structure, lesson title, type, and time. Teachers have support for understanding the alignment and can use the planner to sequence lessons and plan materials.
- In support for teachers to understand the vertical alignment, materials provide teachers with the different scientific concepts across K–5 grade levels. Using this document, teachers can see how each science concept will be expanded in the upcoming grade or how it was addressed in previous grades. In addition, the materials provide teachers with an additional support document. For example, in the horizontal and alignment document, the teacher can access science and engineering practices and recurring themes and concepts by clicking on the tab

labeled "SEP & RTC." The teacher can view their grade level horizontally and view recurring themes and concept alignments vertically.

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

- Materials provide teachers with guidelines for clarifying misconceptions and adding clarification to the topic. For example, in Unit 1, Concept 1, the materials state, "Students may believe that objects that have more volume always have more mass." Instructions for a proper reteach and demonstration to solidify the learning piece are cited. In addition, in Unit 4, Concept 3, Lesson 2, *Needs of Living Things,* student misconceptions are listed to guide the teacher in recognizing and resolving the misconceptions. For example, in *Misconceptions, "*Students may believe that plants store energy in a form that is separate from the matter that makes up their bodies (which might be consumed as food). Tell students that animals are consumers because they eat, or consume, food. The food can be plants or other animals."
- In grade 3, materials contain explanations and examples of science. In Concept 1, *Earth's Surface*, materials provide teachers with a lesson to explore rapid and slow changes on Earth due to volcanic eruptions. Teachers access background knowledge on rapid and slow changes in the Unit Resources tab under Earth's Surface. This information has photographs and detailed information about specific examples of volcanoes and why they erupt. For example, Mount St. Helens is an example of a volcano that erupted in 1980, destroying 200 square miles of forest.

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

- Materials include a *Science Techbook Program Guide,* which describes the intentional research-based instructional design behind the program, developed exclusively for the Texas Essential Knowledge and Skills and English Language Proficiency Standards. Furthermore, the Program Guide states, "To ensure our content and pedagogical approach is research-based and up to date, we rely on experts from universities, national organizations in science education, and independent consultants for content review and accuracy. Discovery Education employs a multi-step process to review and select content, ensuring that only the best, standards-aligned content winds up in the classroom."
- In the materials, the lessons are ordered in a specific sequence following the intent and purpose of the program. Every unit has an Engage, Explore (interactive, hands-on activity, literacy, video, video, literacy), Explain, Elaborate, and Evaluate section with a summative assessment. For example, in Concept 1, *Earth's Surface*, Lesson 1, the teacher sets the purpose by assigning the students to use their knowledge about landslides and devise a plan to prevent future landslides. Targeted questions guide students to think about ideas that will assist their problem-solving, such as why the rocks spill and objects in the roadway after the landslide. Students do the interactive lesson following the Engage section. The teacher sets the purpose by showing a picture of the Hawaiian Islands and accessing their prior knowledge about volcanoes. In the educator notes, there is a bulleted list of topics that the students will use in the activity.

Discovery Education Science Techbook for Texas Grade 3

Indicator 4.1

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

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

Meets| Score 4/4

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

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

Evidence includes but is not limited to:

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

- Materials provide opportunities for students to investigate how structures are constructed through an engineer's eyes in Concept 1, Lesson 8. The students watch a video about constructing a structure and its materials, paying attention to their mass, size, shape, and other properties. As a result of thinking time and a verbal, small group problem-solving activity, students create written results and present their scientific explanations to their peers. In addition, in Unit 2, Concept 1, Lesson 2, *Forces All Around*, students complete an activity and then can turn and talk to a partner. The teacher takes the lesson further by having students use their knowledge of forces to then discuss building a go-kart. Materials include real-world experiences that students can relate to. In Unit 2, Concept 2, Lesson 6, *Mechanical Energy on The Playground*, students explore a hands-on investigation on the playground. In this investigation, students look at how mechanical energy can be changed along with speed.

Materials include various balls, flying discs, and toy hoops. Students write while collecting observations and data.

- Materials provide students the time to construct and present their scientific explanations in the format that works best for the classroom (oral presentations, writing, or drawing). For example, in Unit 4, Concept 2, Lesson 8, *How Do Animals Survive in Environments?, s*tudents are encouraged to discuss their claims with each other. They are then asked to write about their reasoning with supporting evidence. In addition, in Unit 4, Concept 2, Lesson 9, *Careers and Short-Term Changes in Environment* students read 3 texts. They can do this by using the immersive reader to play the audio.

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

- Materials provide ways for students to ask and gather grade-level appropriate evidence from the scientific text. For example, in Lesson 9, students read a text about designing a structure that survives wind and rain based on its physical properties. Using graphic organizers, students document their learning throughout the lesson. Furthermore, students read scientific texts in Concept 2, Lesson 6, to describe and classify the differences between solids, liquids, and gasses. Throughout the instructional process, students will be supported with images and tables, as well as literacy strategies.
- Within the learning materials, students receive assistance in cultivating their comprehension of scientific concepts through the utilization of visual modes of communication and written resources. For example, in Unit 4, Concept 1, Lesson 7, *Getting to Know: Plant Life Cycles,* they will be required to compare the life cycles of flowering plants, conifers, and spore-producing plants. They will use summary frames and graphic organizers to help them summarize the main ideas of the text.
- In addition, materials provide grade-appropriate texts such as, in Unit 2, Concept 1, Lesson 5, *Force and Its Effects on Objects*, students are encouraged to draw or illustrate what force looks like. During reading, students will turn and talk to peers about ideas. After reading, students will share what they learned about forces that surprised them.

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 suggest ways for students to engage in various written and graphic modes of communication in Concept 2, Lesson 1, *Earth's Resources*, the teacher sets the purpose by collecting items from around the classroom that will be easy for students to identify and describe. The activity goes for several rounds while the teacher explains that the lesson will be about natural resources. The teacher organizes a question board to post inquiring questions about specific materials as they progress through the lesson. In the Explore segment of Concept 2, Lesson 1 in *Earth's Resources*, the teacher continues to gather materials around the room to discuss the properties of the materials. The students conduct an interactive lesson that allows them to match the items to the correct category. When the interactive lesson is complete, the teacher continues the discussion with sentence frames such as, "Plants are a_____'', "Fossil fuels are a___"

Discovery Education Science Techbook for Texas
Grade 3

- Materials include the opportunity to develop and display an understanding of scientific concepts, such as in Concept 1, Lesson 2, students investigate the properties of objects through a hands-on activity. Temperature, volume, magnetism, mass, and ability to sink or float are recorded in a table. In a later stage of the activity, students create a line graph comparing the volume of each object to the volume of other objects. Furthermore, students demonstrate their cognitive processes by crafting their models, documenting their understanding through graphic organizers, and articulating their thoughts in written responses about each concept.
- In addition, in Unit 4, Concept 3, *Food Chains*, students are given string and put in groups to demonstrate the flow of energy in a food chain. They also use a click-and-drag interactive while reading the text on food chains. They use a graphic organizer to record their food chains. Each of these different styles of communication is used to demonstrate understanding.

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.

- Materials allow students to investigate how different forces act on objects. In Unit 2, Concept 1, Lesson 2, *Forces All Around*, students make predictions while also being reminded that scientists regularly make and revise predictions. Students work in small groups to decide which materials to use for push and pull. Students design their investigation, test, and record data.
- In addition, in Unit 4, Concept 1, *Life Cycles*, Lesson 3 *Life Cycles of Plants and Animals,* students act like scientists as they describe the life cycles of plants and animals, sequence the life cycle stages of various organisms, and explore and compare the life cycles in organisms such as dragonflies, alligators, or beans.
- Materials provide students with real-world experiences in the incorporated materials. This is seen in Unit 4, Concept 2, Lesson 9 when the teacher has the students share their experiences of visiting national parks, arboretums, and nature reserves. Other examples can be seen in Concept 2, Lesson 3, where students can investigate what happens when heat is added to or removed from the water. When making predictions about the next state of matter based on the incorporation and removal of heat, students often struggle with the concept of evaporation and condensation.

Discovery Education Science Techbook for Texas
Grade 3

Indicator 5.1

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

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

Meets | Score 4/4

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

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

Evidence includes but is not limited to:

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

- Materials provide suggestions for students to support their hypotheses and claims, for example, in Unit 1, Concept 1, Lesson 8, students claim the properties of matter using evidence that they collected in their Explorer activity. Using sentence frames such as, "In the _____ we found evidence that _____," students will work together to answer the driving question, "How can we compare the properties of matter?" Following a discussion with a partner, students will explain why the evidence supports the claim using optional sentences. Furthermore, in Unit 2, Concept 2, Lesson 7, *How Do You Use Energy Every Day?* the students create a claim regarding energy. Within this lesson, the students are then encouraged to use evidence from previous lessons. During this time, they are recording evidence in a graphic organizer as well as discussing it with peers.
- In Unit 3, Concept 1, Lesson 6, students are introduced to a recurring theme to consider before claiming phenomena. Students work together in groups to develop a claim that best explains real-world phenomena and answers the questions on how the Earth changes rapidly. The teacher scaffolds to assist students in developing the claim as a class. In addition, in Unit 4, Concept 1, *Life Cycles*, students are guided to capture their initial thoughts of the real-world

phenomenon by making a claim. As they progress through the lesson, they will continuously gather evidence to help explain the real-world phenomenon. Students will be allowed to quietly think about their answers before they communicate their initial ideas. Then students can share their ideas with their small group.

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

- Materials consistently emphasize the importance of science vocabulary across multiple units and lessons. In Unit 1, Concept 1, Lesson 2, instructions are provided on incorporating science vocabulary into class discussions. Students measure, test, and record the physical properties of matter, using vocabulary words such as temperature, mass, volume, magnetism, and the ability to sink or float. The teacher demonstrates measuring temperature, mass, and volume of liquids and promotes a vocabulary-rich discussion. In Unit 2, Concept 1, Lesson 1, *How Do Forces Affect Objects?* materials include a vocabulary activity where teachers and students create an anchor chart with an image for each word. Throughout the lesson, students add to the chart as they discover more about each vocabulary word during their investigations.
- Materials provide opportunities to make claims such as in Concept 1, Lesson 1, *How Does the Earth's Surface Change Rapidly?* students make claims about the rapid changes in the Earth's surface. In addition, in Concept 4, Lesson 2, *Planets and Space*, students create a model of the sun, Earth, and moon. They make predictions about their models and revise them as they ask each other questions. Vocabulary knowledge of terms like "moon" and "relation" is built, and the teacher checks to understand as students engage with the content. Photos are used, and the teacher probes with guiding questions, discussing vocabulary words related to the objects in the photos.
- Materials include opportunities to develop scientific vocabulary. in Unit 4, Concept 1, Lesson 2, *Life Cycles*, vocabulary is reviewed to set the purpose for the interactive lesson. Examples are provided, such as an animal in an egg being in the fetal stage, and for mammals, the stages happening inside the mother. Vocabulary support is offered for beginning English language learners, clarifying terms like "infant" and "juvenile," and students engage in a drawing activity to reinforce the vocabulary.

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

- Materials include opportunities to integrate argumentation and discourse such as in Unit 1, Concept 1, Lesson 4. Students evaluate materials' properties and engage in teacher-facilitated questions and discussion prompts such as describing suitable properties for a roof or foundation material, fostering discussion and the presentation of claims and evidence. In addition, in Unit 2, Concept 2, Lesson 7, *How Do We Use Energy Every Day?* students make claims with evidence and are encouraged to explore the supporting science theme, fostering collaboration and the connection of ideas.
- Materials provide opportunities for students to make claims. In Unit 3, Lesson 1, Concept 3, students make claims about whether descriptions and engage in turn-and-talk activities to share their collected data sets. Students are encouraged to consider others' responses and expand upon their ideas, with the teacher guiding the process and facilitating the use of terms in writing their claims. In addition, in Unit 4, Concept 1, *Life Cycles*, students sketch a puppy and exchange their drawings with a partner for evaluation. They later watch a video on life cycles, engaging in

turn-and-talk activities to discuss their observations and questions. As the lesson progresses, the teacher guides students in making claims and gathering evidence to support their explanations of real-world phenomena. This process is repeated to explore other patterns in nature throughout the lesson.

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

- Materials provide opportunities for students to construct appropriate written and verbal arguments such as in Unit 1, Concept 1, Lesson 8, where students develop a claim that explains the real-world phenomenon related to comparing properties of matter. They record evidence from the lesson and engage in turn-and-talk discussions with their group, explaining how the evidence supports their claim. Students use provided sentence frames to communicate their scientific explanations through writing or drawing. Similarly, in Unit 2, Concept 2, Lesson 4, teachers provide an opportunity for students to gain conceptual knowledge of the term "Mechanical Energy" and then encourage its application throughout the lesson.
- Materials suggest ways for students to use a hands-on activity such as in Unit 3, Concept 2, Lesson 2, where students engage in a hands-on activity using natural resources to build a model. They discuss the materials and tools, test their potential solution, collect data, and modify their design. Further examples can be seen in Unit 4, Concept 4, *Fossils*, in which students revisit questions generated in the previous lesson. They engage in class discussions, exchange information, and raise further inquiries. The teacher facilitates the process, allowing groups to explain their findings and contribute new questions about fossils. Throughout the classroom, students have opportunities to communicate verbally. They participate in whole-class discussions, engage in turn-and-talk conversations with partners, collaborate in group activities, and express their thoughts in written form during assessments.

Discovery Education Science Techbook for Texas
Grade 3

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 students' 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.

- Materials provide teacher guidance with student responses. In Unit 1, Concept 1, Lesson 2 involves students with a hands-on activity in which they measure, test, and record the physical properties of matter. A physical property that students will be testing is their ability to sink or float in water. The teacher is provided with questions to help access students' prior knowledge, such as, "What types of objects should be made out of materials that sink in water?" Materials provide sample student responses such as "Objects that need to settle to the bottom of the ocean, such as an anchor or the base of a bridge." Students then participate in a hands-on activity where they physically test the properties of the objects. Teachers then use additional questioning to summarize the activity, such as, "Compare the testable properties of the objects, such as magnetism and the ability to sink or float." Sample student responses are included, such as, "Most of the metal objects were magnetic and would sink. Most of the wood and plastic objects were not magnetic and would float."
- Materials provide teachers with possible student responses. For example, in Unit 2, Concept 1, Lesson 1, *How Do Forces Affect Objects?* materials provide teachers with a question, 'What will happen when you push on the door marked "push"? and then give a possible student response of, "The door will move out if I push hard enough."

- Materials provide opportunities for student responses for example in Concept 3, Lesson 2, *Weather*, the materials highlight the teacher's response with the word, "Say." For example, after the teacher gives the students background knowledge on the concept, the materials prompt the teacher, "Say: Now you will predict how we can compare weather."
- Materials include guidance for the teacher to use questioning to deepen students thinking as well as possible student responses. In Unit 4, Concept 1, Lesson 1, *Life Cycles*, the teacher is instructed to promote collaborative thinking among students by posing the question: "Who can contribute further to the idea being developed by the student named?" Additional inquiries and potential responses from the students should follow this. For instance, an illustrative query could be: "Have you ever encountered a caterpillar or a butterfly? If yes, what distinctions did you observe?" A sample reply could be: "During the past summer, I came across a caterpillar that resembled a legged worm, and I also spotted a yellow butterfly perched on a flower with its wings spread out."

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

- Materials provide a teacher with how to scaffold student development. For example, the students will observe and explain the properties of matter in Unit 1, Concept 1, Lesson 1, and describe how the properties of matter can be compared. The teacher scaffolds key vocabulary with students before the lesson, such as matter, material, and property. The teacher and students create an anchor chart with images illustrating each term by demonstrating or pointing them out in the classroom. As the lesson progresses, the teacher uses these vocabulary words in pre-planned questioning/prompts such as, "Compare the properties of concrete and brick to the properties of sand and water, and the individual materials that were combined to make new materials" and expects to see student responses utilizing the same words (matter, material, and property) in a Venn diagram and a turn and talk discussion.
- Materials in Unit 2, Concept 2, Lesson 5, *Types of Energy*, provide the teachers with a vocabulary check-in. This allows the teacher to look at the terms chemical energy, electrical energy, light energy, sound energy, and thermal energy. They will continue to use them within the lesson.
- Materials guide teachers to ask and support student learning. In Unit 3, Lesson 1, *Earth's Resources*, students have a vocabulary check-in after building their conceptual knowledge of the term resource. Students continue the lesson by making connections to the video and discussing what natural resources are used to make products. The teacher explains how natural resources are used to make products, and students extract examples from the video.
- Materials provide opportunities to scaffold student development at the start of each lesson, for example, the teacher initiates a discussion to tap into students' existing knowledge, which involves exploring the scientific vocabulary relevant to the unit. To aid students in comprehending the vocabulary, the teacher utilizes the Vocabulary Check-In section. For example, in Unit 4, Concept 1, Life Cycles, Lesson 1, students have already developed a conceptual understanding of the term "life cycle." The Vocabulary Check-In serves to assess their grasp of this key vocabulary term and encourages them to employ it while engaging with the lesson's content consistently.

Discovery Education Science Techbook for Texas
Grade 3

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

- Teacher guidance on preparing students for discourse and supporting evidence use can be seen during Unit 1, Concept 1, Lesson 8. Students will make a claim regarding the properties of matter, collect evidence supporting their claim, and explain how the properties of matter are alike and different. Teachers prepare students to use evidence to support their verbal and written claims. In groups, students share evidence that assists them in answering the driving question, “How can we compare the properties of matter?” As outlined in the student materials, students should explain why their claim is supported by the evidence they have provided. After students have documented their written evidence, they will discuss the reasons why or how the evidence supports their claim in small groups.
- In Unit 2, Concept 2, Lesson 7, *How Do We Use Energy Every Day?* materials provide teachers with further support for students when making claims. As students work in groups to develop a claim about real-world phenomena and the driving question of, "How do we use energy every day?" materials encourage the teacher to scaffold and create a claim together as a class if students are struggling. As students work to create evidence in Unit 2, Concept 1, Lesson 7, *How Do Forces Affect Objects?*" materials suggest that the teacher use a cause-and-effect table to help them organize the evidence. Materials even go on to give a sample of cause and effect evidence claims from students.
- Materials include opportunities for teacher guidance on student discourse and evidence, such as in Unit 3, Concept 1, Lesson 1, *Earth’s Surface*, where students claim how Earth’s surface changes rapidly. The teacher probes students about what they already know about the changing Earth’s surface. After completing the investigation, the teacher guides students to capture their initial thoughts of the real-world phenomenon by making a claim. For example, the teacher is guided not to correct the claims at this point in the lesson.
- In Lesson 6 of Unit 4, Concept 4, *Fossils*, the teacher is equipped with a set of questions and sentence starters intended to aid students in formulating their written and spoken assertions. These thought-provoking questions encourage students to substantiate their claims by utilizing supporting evidence during discussions, both written and verbal. Among the queries posed, one involves students collaborating with a partner to present evidence that contributes to answering the pivotal question: "How would you describe a fossil?" The teacher actively motivates students to identify specific evidence from the lessons that reinforce their perspectives and guides them to employ a cause-and-effect table for organizing their gathered evidence.

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

- Materials direct teachers to help students facilitate their thinking, as in, Unit 1, Concept 1, Lesson 9, students design a structure that can withstand wind and rain and justify the choice of materials based on their physical properties. Students engage in a Think-Pair-Share activity to tap into their prior knowledge about how the properties of materials alone or combined make them suitable for building a structure. They discuss with a partner or small group examples of problems construction engineers work to solve and innovative solutions to those problems. After explaining the material in just six words, the students share their conclusions.
- In Unit 2, Concept 2, Lesson 4, *Mechanical Energy and Speed*, the lesson materials have students create a plan to find a way to make a toy car move a block without pushing it. During this time,

the teacher will walk around and ask questions to guide students' plans. A sample question includes, "How can you measure the mechanical energy of the car?" After students have explored a video in Unit 2, Concept 1, Lesson 3, *Force*, the materials provide guiding questions during the "What Did You Figure Out" portion of the lesson. The teacher prompts students with, "Describe two ways to change the motion of the car," as they complete the assessment independently.

- Materials guide students in collecting data in the graphic organizer on volcanic eruptions. For example, in Lesson 2, *Volcanoes*, students learned about how magma pushes upward out of a volcano and describes what happens during a volcanic eruption. Materials provide possible answers and will use the content knowledge to fill in the student graphic organizer.
- Materials in Unit 4, Lesson 9, Concept 1, *Life Cycles,* aim to help students acknowledge the valuable work of scientists and understand the significance of scientific research and innovation in our society. Once students have read the material, they are prompted to recognize instances of scientific breakthroughs within the subject area. The teacher will then encourage students to discuss the societal impact of these discoveries and proceed to explore the problems that engineers strive to solve in that particular field. Lastly, students will be challenged to propose innovative solutions to those problems and present their ideas to a partner or small group.

Discovery Education Science Techbook for Texas
Grade 3

Indicator 6.1

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

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

Meets | Score 2/2

The materials meet the requirements 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 with recurring themes and concepts. Materials include assessments that require students to apply knowledge and skills to novel contexts.

Evidence includes but is not limited to:

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

- Materials provide opportunities for students to describe and classify samples of matter as solids, liquids, and gasses as part of Unit 1, Concept 2, Lesson 7. By participating in multiple turn-and-talk conversations, students can demonstrate their understanding, answering teachers' direct questions, such as, "What is matter and how does it change?" and presenting their scientific explanations either orally, in writing, or through drawing. In addition, Unit 1, Concept 1, Lesson 10 provides students with an opportunity to share their key ideas. Students respond to questions individually or in groups based on their understanding of matter. To demonstrate their learning, students may choose from various methods such as recording a presentation or giving a performance. Students will take the Concept Summative assessment after completing the Evaluate page in their student materials. In the Concept Summative assessment, students will be asked to answer questions about the properties of matter.
- Materials include a variety of assessments such as, at the end of each lesson, students complete an assessment called, "What Did You Figure Out?" In Unit 2, Concept 1, Lesson 3, *Force*, students are completing an assessment regarding a toy car that is pushed across the floor. Students are using their knowledge from the lesson to describe two different ways to change the car's motion. Under Concept 1, Lesson 6, *Earth's Surface*, materials utilize formative

assessments in four formats. For example, on slide 4, students explain what they have learned by writing words and sentences, drawing a picture or diagram that illustrates the answer, and creating a model or poster that depicts the answer.

- Materials in Unit 4, Concept 1, Lesson 2, *Life Cycles*, provide several chances to informally assess the student's understanding. It starts with the teacher observing the students during partner work as they discuss various animals, allowing for firsthand evaluation. Later, the teacher employs whole-group questioning to gauge their comprehension of animal life cycles. Lastly, there is a formal assessment called Concept Check-In, which allows the students to individually demonstrate their understanding.

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

- Materials assess student expectations such as in the Unit Resources tab within the unit, the Standards Alignment PDF document indicates which Texas Essential Knowledge and Skills are included. In the materials, it is indicated which student expectations are assessed. The scientific and engineering practices skills are assessed either formally or informally in the lessons. For example, in Unit 1, Concept 1, Lesson 1, a Venn diagram assesses 3.1A (ask questions based on observations or information from text, phenomena, models, or investigations). The concept summatives and the lessons assess the concept standards. For example, the concept summative for Concept 1, Matter, assesses the standards, 3.6AD.
- Materials in Unit 2 provide a Standards Alignment that lists each TEKS for the grade level and what concept the TEKS will be taught. For example, 3.1C is taught in the *Exploring Forces* and *Everyday Energy* concepts. In addition, in the Unit Resource Assessment Guide, materials explain how the assessments are used in each unit. For example, these assessments require students to apply knowledge and skills to novel contexts, thus demonstrating knowledge transfer. The Table of Contents lists all of the TEKS that are taught in the unit. The Concept Assessment addresses the TEKS in the lesson. For example, in the Concept Summative: Earth's Surface, the Standards tab expands to list the standards that align with the question. Materials list a Table of Contents that outlines the structure of the lessons and assessment alignment. The TEKS are listed before the lesson content. For example in Unit 3, two of the listed TEKS are assessed. The TEKS assessed in the summative assessment are 3.10B and 3.10C.
- Materials in Unit 4, Concept 2 have the students participate in the Survival in Environments: Summative Assessment, which entails completing a series of questions. Each question is accompanied by the corresponding standards, as well as the correct answer choice. In the Unit Resources tab within the unit, the Standards Alignment PDF document indicates which TEKS are included.

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

- Materials include opportunities for assessment for example, the integration of science and engineering concepts and practices can be demonstrated by students through hands-on activities. To monitor the performance of students, performance assessment artifacts are used. During Phenomenon Check-Ins, students reflect on their sensemaking after a hands-on activity. The teachers can monitor their students' progress by analyzing and generating data generated by their students. Assessment materials integrate science concepts and science and engineering

practices with recurring themes and concepts. To provide scientific explanations, students analyze images, videos, complex texts, and authentic data. A student-generated claim is supported by this analysis across concept lessons. Students demonstrate proficiency in analyzing evidence for accuracy and reliability by using a Claim-Evidence-Reasoning framework. This lesson model is demonstrated in Unit 1, Concept 2, Lesson 7. In this lesson, students describe and classify matter samples as solids, liquids, and gasses through a Claim-Evidence-Reasoning assessment.

- Materials in this indicator provide science concepts and engineering practices throughout the units. In Unit 2, Concept 2, Lesson 4, *Mechanical Energy and Speed,* students complete a Phenomenon Check-In at the end of the lesson indicating how energy is used every day. Throughout Unit 2, Concept 2, students are exploring energy and how it is used every day. In Lesson 8, How Do We Use Energy Every Day? students make a claim and support it with evidence and examples of how energy is used every day.
- The lessons include engineering practices in the formative assessments. For example, in Unit 3, Lesson 2, students have a hands-on lesson where they create a model using Earth's resources. Students are assessed at the end of the activity reviewing the process of creating and building the model. The materials provide lesson assessment that includes the design process at the end of the lesson. For example, in Lesson 10, *Weather*, students design family preparedness plans for natural disasters such as severe weather.
- Materials in Unit 4, Concept 1, *Life Cycles*, students establish connections by utilizing their prior knowledge and real-world experiences regarding the phenomenon. The teacher initiates a discussion, asking students to share their understanding of life cycles. Examples may include the transformation of a caterpillar into a butterfly or the growth of humans from infancy. In Lesson 3, students apply this knowledge through a hands-on activity where they classify animals and plants based on their respective life cycle types. This recurring theme persists in Lesson 5, where students watch videos showcasing the life cycles of plants.

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

- In the materials, students apply knowledge and skills to novel contexts within assessments. Students will observe and explain the properties of matter in Unit 1, Concept 1, Lesson 1. Sand and water are compared in this real-world example. As a class, students construct a Venn diagram and discuss the effects of mixing sand and water. Students discuss real-world experiences such as building a sandcastle. They recognize that if they are going to build a structure, they should consider the properties of the materials. Following the video, students analyze how materials are alike and different as well as how they interact. After a small group discussion, students share what they learned and are informally assessed.
- In Unit 2, Concept 1, students explore force with concepts that are familiar to them before teacher assessment. For example, in Lesson 4, *Mini Tug-of-War,* students experiment with force through a miniature tug-of-war. The teacher is provided with various questions to ask during the investigation to assess their knowledge. The lesson concludes with a What Did You Figure Out? in which students apply what they learned to a ball at a soccer game being kicked in the air. Students are assessed through a variety of different contexts. For example, in Unit 2, Concept 2, Lesson 1, How Do We Use Energy Every Day? students explore different types of balls before then applying that knowledge to the different ways energy is used in everyday life through a Turn-and-Talk assessment opportunity with their small group.

- Materials provide students with opportunities to apply their knowledge to problems presented in real-world contexts. For example, they must concentrate on volcanologists' interactions with local people and the assistance they provide following a volcanic eruption. The teacher facilitates questions to activate prior knowledge and spark curiosity. At the end of the lesson there is a formative assessment that students complete by finding and comparing the works of an igneous petrologist and a volcanologist.
- Materials include opportunities to assess student knowledge. For example, within Unit 4, specifically in Concept 2 on *Survival in Environments*, Lesson 4 *Drought*, students are presented with a Venn diagram. This diagram serves as a platform for students to collaboratively brainstorm and explore ideas regarding the causes and effects of natural changes on both people and animals. Unit 4, specifically within Concept 1 on *Life Cycles*, serves as a platform to cultivate students' appreciation for the valuable contributions of scientists and the significance of scientific research and innovation in society. Following a reading activity, students are encouraged to identify specific scientific discoveries related to the field discussed and reflect on their impact on society. Additionally, students are prompted to recognize the problems that engineers strive to solve in the same field. They are then challenged to collaborate with a partner or in small groups to generate innovative solutions to these problems, explaining their ideas in detail.

Discovery Education Science Techbook for Texas
Grade 3

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.

- Materials include information for guidance on evaluating student responses. Some of that evidence is evident in both formative and summative assessments, which include a key, rubric, or suggested student response for teachers to use when evaluating a student's response. For example, in Unit 1, Concept 1, Lesson 7, the teacher asks the question, "What does the property of temperature tell us about the matter?" and is given a sample student response of, "Temperature can tell us how hot, warm, cold, or cool matter is" to help evaluate the answer.
- Materials guide evaluating student responses. For example, in the summative assessment in Unit 2, Concept 2, students type a short constructed response for magnets, and materials provide the grading criteria for the question.
- The Assessment Administration document provides detailed instructions on how to administer assessments, beginning with how to assign assessments to a class or group of students. Also included are guidelines for administering summative assessments, as well as how to evaluate constructed response questions in both lessons and summative assessments. Furthermore, it explains when to accept all responses for constructed response items that are intended to be used as a pre-assessment or as opinion-based questions early in the lesson. A copy of this document will be placed in Course Materials.

- Scoring Guidance for the “What Did You Learn?” Assessment provides teachers with information on how to record student scores for the lesson which serves as one option for a summative assessment in grades 3–5. An assessment scoring template is provided to teachers for each “What Did You Learn?” Assessment. Through reflection questions, teachers are able to examine the data and reflect on how students performed holistically. As a result, they are asked a series of questions that guide them through a process of identifying students needing additional supports or accommodations in the next lesson, as well as students who may benefit from enrichment or extension activities.

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

- Materials suggest ways to support teacher analysis of data. For example, in the Assignment Manager, the teacher can see how each student did on each question of the assessment. Next to each question is the TEKS number. For example, the Concept Summative: Mixtures and Solutions, displays students that got both questions correct, missed one, or missed both. Their score is also listed.
- Materials provide assessment tools, such as a data analysis overview section that supports the teacher’s analysis of assessment data. For example, in Unit 3, Lesson 8, *Earth and Space*, students complete the assessment. Teachers can view the results and data in the reports tab. The reports allow teachers to filter student responses. In addition, materials guide teachers to use the reports tab to review assessment data. For example, the report shows student results of Concept Assessments. These questions appear at the end of each concept and aim to assess student understanding of the concept content and state standards. Use the filters for class and concept to see a more targeted view.
- Materials provide suggestions for guidance and direction of analysis of student data, such as the assignment manager allowing for the viewing and exporting of assessment-related data. For instance, the concept summative assessment for Fossil Evidence presents question numbers, associated standards, point allocations, student scores, and indications of correct or incorrect answers.
- An assessment guidance document series supports teachers with use, analysis, and data-driven instructional planning. The digital product contains these documents under course materials. Teachers can follow a step-by-step process as they receive results from lesson and concept assessments in each document. To help teachers gain a better understanding of student performance, teachers are provided with reflection questions throughout the process.
- The Lesson Data and Concept Data Reflection documents provide suggestions for analyzing data based on questions or by student, as well as grouping students according to their performance.
- Teachers are provided with suggestions on how to respond to the data and plan future core instruction for the whole class or for individual students. Teachers can use these suggestions to identify and utilize additional Discovery Education resources to supplement lessons for reteaching, remediation, and enrichment.
- Materials provide support for teachers for the analysis of assessment data. For example, data related to assessment can be viewed and exported from the assignment manager. The concept summative, Matter, for example, displays question numbers, standards, points, student scores, and whether the student was marked correct or incorrect.

Discovery Education Science Techbook for Texas
Grade 3

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

- Materials provide tools to yield relevant information for teachers to use when planning. For example, assessment tools provide student scores and can be used to plan instruction, intervention, and extension. The lessons provide information regarding expected student responses, misconceptions, and extension activities.
- Materials provide teachers with an Assessment Guide that shows the various ways students can be assessed in the different units. "Concept Summative Assessments: At the close of each concept in grades 3–5, teachers can check for understanding by assigning a Concept Summative Assessment. Each Concept Summative Assessment item aligns with the material taught throughout the concept."
- Materials include assessment tools that yield data teachers can easily analyze and interpret. For example, in Unit 3, the end of Lesson 8 provides a lesson assessment with a legend to assess student knowledge of the content and provide tools for planning.
- Materials provide tools within the Educator Support section such as the Hot Topics section, which offers a range of resources to assist in planning for all learners. For instance, following an assessment, a teacher can navigate to the Hot Topic: English Language Learners. One suggested strategy, among others, is to provide closed captioning when presenting video content.
- Teachers are provided with step-by-step instructions on how to analyze and interpret the results of the lesson and concept assessments in these documents. Teacher reflection questions are included throughout the process so that they can gain insight based on patterns or trends in the data. Additionally, guidance is provided on how to examine performance data by question or by student, as well as how to group students according to their performance. It includes information on how teachers can adjust instruction and plan future core instruction for both the whole class and individual students, along with guidelines on how to identify and use additional Discovery Education resources to supplement lessons for reteaching, remediation, and enrichment. In addition, Teachers are provided with guidance on how to access Lesson and Concept Reports, as well as the different views they are provided with.

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

- Materials provide various student resources for teachers to use for Tier 1 instruction, such as direct instruction of science concepts, followed by reviews that include flashcards, interactives according to concept categories, and skills practice activities for students.
- Materials under Educator Support allow teachers to leverage different activities based on student data. Teachers can click on the Hot Topics section to find resources to help plan for all learners. For example, after an assessment, a teacher could click on *Hot Topic: Special Education* for strategies and resources when working with this population of students.
- Materials support providing resources and guidance to teachers on how to leverage activities. For example, materials provide direct instruction of science concepts, followed by reviews that include flashcards, word sorts according to concept categories, and skills practice activities for students. For example, the flash cards and skills practiced in the previously taught lesson may be used for review of content.
- Data analysis and interpretation guidance is provided in the materials. In order to better understand student performance, teachers are given reflection questions throughout the

process. As well as guidance on how to group students based on performance and how to review data by question or by student. There are instructions on how teachers can adjust instruction and plan future core instruction for the whole class or for individual students, as well as instructions on identifying and using additional Discovery Education resources to supplement lessons for reteaching, remediation, and enrichment.

- CSV or Excel files can be exported from the Concept Assessment report. Using TEKs-targeted groups, teachers can manipulate the data according to their needs. Using a color-coded system, the teacher can group students whose scores on a particular standard exceed a particular threshold, for example.

Discovery Education Science Techbook for Texas
Grade 3

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 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 assessments contain items that are accurate and avoid bias. For example, the assessment materials provide diversity. For example, in Unit 2, Concept 2, Concept Summative: *Every Day Forces*, in question 9, two children are playing on the rug with a ball. The clipart is in color, and the children are of different races and sexes. In addition, the summative assessment for Unit 1 contains examples relevant to all demographics of students. Unit 1 summative exhibits areas of accurate text, such as the correct symbol for Celsius and Fahrenheit in question 1. In question 2, measurements are displayed in grams. Images shown in question 6 are depicted with a picture and a label to ensure students understand what they are, such as a spoon, paper clip, nail, and copper wire.
- Materials provide assessments that exhibit developmentally appropriate and clear visuals. The Unit 4 summative evaluation encompasses a diverse range of animals and ecosystems. It showcases sections of precise information, like an accurate depiction of the butterfly's life cycle in question 2. The diagram is presented with images and labels to aid student comprehension, highlighting stages such as egg, larva, pupa, and adult. Within the unit, students have numerous chances to engage in concept checks known as "What Did You Figure Out?" In Unit 4, specifically in Concept 1, Lesson 5, which focuses on the Life Cycle of Flowering Plants, a designated section provides a scripted guide for teachers regarding what questions to ask students. Instructional materials prompt the following query: "Inquire: What changes occur in a plant when it undergoes pollination?"

Discovery Education Science Techbook for Texas Grade 3

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

- Materials provide assessments that exhibit developmentally appropriate and clear visuals. For example, in the concept summative for Unit 1, a photograph of a scale is used to illustrate 350 grams of flour. The text also references 350 grams of flour. This picture is clear and developmentally appropriate for a third grader. There is a colorful, clear, and age-appropriate graphic of a floating apple in question 15.
- The assessment tools include clear visuals with graphics, such as in Unit 3, *Moon Phases and Season Concept Summative,* question 4 asks students to view the image and place each season in the correct spot on the table. Materials provide clear pictures that are developmentally appropriate. For example, in the concept summative for Unit 1, a photograph of a scale is used to illustrate 350 grams of flour. The text also references 350 grams of flour. This picture is clear and developmentally appropriate for a third grader. There is a colorful, clear, and age-appropriate graphic of a floating apple in question 15. Furthermore, in Unit 3, *Planets and Space Concept Summative*, the materials show diagrams representing models and digital graphics for planets. Assessments contain pictures and graphics that are developmentally appropriate for the lesson.
- Materials provide assessment tools that include clear and concise pictures and graphics. For example, in the summative assessment for Unit 4, a simplified ecological pyramid diagram is employed to depict a food chain energy pyramid. The illustration is visually comprehensible and suitable for students in the third grade. The accompanying text is lucid, legible, and effectively complements the visual elements. The assessments utilize pictures and graphics suitable for the developmental stage in the Concept Summative on Inherited and Acquired Traits. For example, question 1 displays a photograph of a pilot whale and its offspring, while question 4 features an image of a dog with a visible scar.

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

- Materials provide accurate guidance to ensure consistent and accurate administration of assessment tools, such as for the unit summatives, the Table of Contents suggests a time allocation of 20 minutes. Drop-down menus and selections are provided within the materials for digitally assigning or printing the assessments. Materials include a two-page Assessment Guide that overviews the different built-in assessment opportunities, such as “What Did You Figure Out?” and Concept and Summative Assessments. Furthermore, the Assessment Administration Guide furnishes comprehensive support on the process of test assignments, provides a scripted guideline for communicating with students, offers insights for digital administration, and presents guidance for grading the constructed responses.
- The assessment tools provide guidance to the educator. For example, materials include a Table of Contents in the Teacher’s Guide that supports the teacher in understanding the types of assessment tools included in the curriculum, such as the Phenomenon Check-in and “What Did You Figure Out?” These sections provide sample questions and possible student answers. The formal assessment tool is supported by a User Guide, which gives an assessment overview. In Concept Summative, Earth’s Resources, the pull-down tab allows the teacher to set assessment and materials settings for display and language.

Discovery Education Science Techbook for Texas Grade 3

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

- Materials include accurate guidance and offer accommodations for assessment tools. For example, the Assessment Administration Guide furnishes comprehensive support on the process of test assignment, providing a scripted guideline for communicating with students, offers insights for digital administration, and also presents guidance for grading the constructed responses.
- Materials provide guidance and offer accommodations for assessments; for example, the digital platform for lessons includes accessibility tools like text-to-speech. Materials offer audio support for vocabulary words embedded within texts. By clicking on a blue underlined word, students can listen to its definition and examples being read aloud. Furthermore, materials offer machine-scored software features. For example, the answer key includes a rubric and scoring guide.

Discovery Education Science Techbook for Texas Grade 3

Indicator 7.1

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

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

Meets | Score 2/2

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

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

Evidence includes but is not limited to:

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

- Materials provide recommendations for targeting instruction as in Concept 1, Lesson 9, students design a structure to withstand wind and rain, with differentiation opportunities provided. Teachers support approaching learners by guiding them to think about materials used in real structures and their suitability for different purposes. Furthermore, the program guide provides scaffolding support through visual supports, sentence structures, and graphic organizers. Learning is organized and mapped out visually using Venn diagrams, Frayer models, and 3-2-1 pyramids. Scaffolded strategies are used at the point of use to reinforce key concepts and connect them to prior knowledge. In addition, materials provide opportunities to scaffold learning; for example, in Unit 3, Lesson 1, in the Engage portion of the lesson, the teacher uses a photo to access prior learning and engage students in thinking about concepts. Students discuss with partners, and a question board is used to gauge understanding.
- Materials in Unit 2, Concept 2, Lesson 5, *Types of Energy,* allow the students to engage in a literacy activity with support available for those who have not achieved mastery. An immersive reader is provided, allowing students to listen to the audio reading of the text. In addition, materials provide opportunities for English Language Learners at different proficiency levels. For example, in Unit 4, Concept 3, *Food Chains*, beginning-level learners are guided to write/draw a simple energy chain, while advanced learners work in pairs to create their own food chain. Glossary definitions and a word bank are provided to assist early-stage learners with vocabulary challenges.

Discovery Education Science Techbook for Texas
Grade 3

Materials provide enrichment activities for all levels of learners.

- Materials provide opportunities for enrichment activities throughout each concept; for example, in the Elaborate lesson, materials offer students the opportunity to extend their learning by investigating STEM careers. In Concept 1, Lesson 9, students are asked to act as engineers and design a structure that can resist rain and wind. Furthermore, a Caregiver Course Overview provides opportunities for families and students to extend learning at home, such as involving children in cooking and measuring, setting oven temperature, and observing floatation in the bathtub. Conversation starters are included to facilitate productive dialogue.
- Materials provide lesson suggestions for students who have already mastered skills. For example, in Unit 2, Concept 2, Lesson 4, *Mechanical Energy and Speed,* advanced learners are encouraged to think of additional investigations related to speed and mechanical energy, including other variables. In addition, in Unit 2, Concept 2, Lesson 5, *Types of Energy,* materials provide teachers with a "Spotlight on Strategies." To support learning, a video is provided to prepare teachers and explain why the strategy works along with the main idea. In addition, students have a variety of texts to connect to their learning. In Concept 2, Lesson 7, *Using GPS to Improve Soil*, students read about how Earth's resources are used in STEM careers and share their understanding with a partner.
- Materials provide opportunities for fostering exploration and comprehension. For example, in Unit 4, Concept 1, Lesson 9, *Saving Endangered Species,* students are encouraged to extend their learning by recognizing the contributions of scientists and the importance of scientific research and innovation. They identify scientific discoveries and examples of endangered species, exploring their life cycles and strategies for saving them.

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

- Materials provide a scaffold and guidance as, in Concept 1, Lesson 5, students are using a literacy activity to compare matter based on its physical properties. Just-in-time scaffolding is provided to learners to help students explain how they can determine if an object serves its purpose based on its physical properties; for example, a surfboard supports a person surfing in the ocean. In Concept 2, Lesson 2, students describe and classify samples of matter through a hands-on activity. Just-in-time scaffolding is provided by analyzing how particles behave during a state change. Students construct models to illustrate changes of state and previously generated questions are reviewed.
- Materials provide questions for teachers to ask in order to support students' learning. For example, in Unit 2, Concept 2, Lesson 3, *Energy in Motion,* questions about energy guide discussion and understanding. Teachers are encouraged to guide students by having them write or draw during the video and replay the video as needed. In addition, in Unit 4, Concept 1, Lesson 2, *Animals,* different examples are provided for teachers to assist English Language Learners and learners at different levels. Approaching learners can work together on interactive activities and scaffold understanding through class exploration and discussion. Advanced learners are encouraged to discuss and defend their positions.

Discovery Education Science Techbook for Texas
Grade 3

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. Materials consistently support multiple types of practices and provide guidance and structures to achieve effective implementation. Materials consistently support multiple types of practices 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.

- Materials include a variety of instructional approaches as, in Unit 1, Concept 1, students learn about the properties of matter through a video followed by hands-on activities in which they measure, test, and record the properties of matter using authentic tools. Furthermore, students are given multiple opportunities to demonstrate their understanding of matter through multimodal activities such as finding a similar object in the classroom that can represent the concept or writing and performing a song that supports their learning.
- Materials in grade 3, Unit 4, Concept 1, *Life Cycles*, allow the students to read together as a group, use graphic organizers, and fill out Venn Diagrams to compare their findings. Materials provide ways for students to engage in turn and talks to discuss what they have learned, utilizing different strategies to support their mastery of the content. In addition, throughout each lesson, students actively participate through evidence-based strategies that promote critical analysis, peer interaction, and idea development.

- Materials provide a variety of ways for teachers to engage students and establish the purpose of the lesson. For example, in Unit 2, Concept 2, Lesson 1, *How Do We Use Energy Every Day?* the teacher holds up a ball and encourages students to discuss their experiences playing a game with a similar ball. Furthermore, materials incorporate multimodal texts across the units. In Unit 2, Concept 1, Lesson 3, *Force*, students watch a video after a class discussion about moving a ball. Throughout the video, the teacher pauses to allow students to answer questions independently and then engage in turn-and-talk activities to strengthen their ideas.

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

- Materials in Concept 1, Lesson 4, provide the students with opportunities to examine the properties of various materials and design towers based on those properties. The students work in small groups, discussing the advantages and disadvantages of each design. Afterward, each student conducts a gallery walk to view solutions offered by other groups, promoting collaborative learning. Similarly, in Concept 2, Lesson 2, small groups are utilized to maximize learning. The groups are created based on students' understanding levels, such as approaching learners and advanced learners. Approaching learners are provided with models of particle arrangement to clarify the state of matter, while advanced learners extend their learning by building models of matter changing states simultaneously.
- Materials consistently support flexible grouping. For example, in Unit 4, Concept 2, *Survival in the Environment*, students share prior knowledge in a whole group setting, followed by an independent picture walk. Materials allow students to discuss their observations in partners or small groups, concluding with an independent assessment. Throughout various lesson types, such as Engage, Explore, Explain, and Elaborate, students engage in teacher-guided, independent, and collaborative work. In Unit 4, Concept 3, *Food Chains,* students read aloud as a group and answer questions posed by the teacher. Students also participate in turn-and-talk activities with their partners, discussing questions related to the energy from sunlight and growth in animals.
- Materials in Unit 2, Concept 1, Lesson 2, *Forces All Around,* allow the students to work in groups to investigate how different forces act on objects. Following the investigation, they engage in turn-and-talk discussions with their partners to share observations. Furthermore, in Unit 2, Concept 1, Lesson 7, *How Do Forces Affect Objects*, students work in groups to develop a claim about forces affecting objects. Students discuss examples that support their claim and record evidence in a cause-and-effect graphic organizer.

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

- Materials support multiple types of practice as in Unit 1, structured teaching practices are utilized to compare the properties of matter. In Lesson 1, the teacher models constructing a Venn Diagram to compare sand and water, enhancing the student's learning through connections of real-life phenomena. The teacher asks probing questions, such as "What other words could be used to describe concrete and brick properties?" to assist students in making claims. Vocabulary checks are provided, science themes are supported, and differentiation is implemented for English language learners. In addition, in Unit 2, Concept 2, Lesson 6, *Mechanical Energy on the Playground,* students work together in small group settings to reflect on their initial understanding of energy. Students make claims about how energy is used daily

and support those claims by writing or drawing evidence. Furthermore, materials provide opportunities for students to work in small groups in various lessons such as, in Unit 2, Concept 1, Lesson 8, *How Can Patterns of Forces Be Explored?* students work in small groups to reflect on how their understanding of patterns of motion has changed.

- Materials in Unit 4, Concept 4, Lesson 3, *Earth History,* provide the teacher with opportunities to engage the entire class by asking questions and conducting vocabulary checks to ensure student understanding. Students then complete an interactive activity independently and conclude with a turn and talk. Furthermore, throughout every lesson, the teacher offers continuous guidance by monitoring the classroom, addressing misunderstandings, and providing assistance during group discussions.

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

- Materials in Unit 1, *Concept Summative*, provide a focus on examining the physical properties of matter. The assessment includes names of individuals representing diverse backgrounds, races, ethnicities, and national origins. For example, question 3 mentions Kai, who is cleaning up the supply table in art class and uses a magnet to pick up objects. In Concept 1, Lesson 1, a video is provided that reflects the diversity of school communities, showcasing various characteristics such as race, ethnicity, skin tone, gender identity and expression, age, body size, and hair texture. The materials also incorporate diverse images across different landscapes, in Unit 2, Concept 1, Lesson 5, *Forces and Its Effects on Objects*, the slide deck includes images of a large rock on a hill in a dry environment.
- Materials in the Explore lessons of Unit 4 provide an opportunity for diversity to be represented through images that showcase both boys and girls from multiple ethnicities. Materials also describe different places, including rural and urban areas. The materials also emphasize the diversity of students themselves by featuring a broad spectrum of characteristics, such as race, skin color, and gender.

Discovery Education Science Techbook for Texas Grade 3

Indicator 7.3

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

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

Meets | Score 2/2

The materials meet the criteria for this indicator. Materials include listening, speaking, reading, and writing supports to assist emergent bilingual students in meeting grade-level science content expectations.

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

Evidence includes but is not limited to:

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

- Materials include guidance for linguistic accommodations; for example, scaffolding support for beginning, intermediate, and advanced levels of English language proficiency for emerging bilinguals. Examples can be seen in Unit 1, Concept 1, Lesson 2, where teachers are given scaffolding support for the emerging bilingual. Intermediate learners are given assistance by generating a list of adjectives that refer to the properties discussed in the lesson and by adding one adjective to each column on the properties chart. In addition, materials provide teachers with support for students who may be struggling to develop a claim. For example, in Unit 2, Concept 2, Lesson 7, *How Do We Use Energy Every Day?* materials suggest that the teacher encourages students to find evidence and then connect to a claim the class has created from scaffolding back to "How do we use energy every day?"
- Materials include opportunities for various levels of English language proficiency, such as in Concept 1, Earth's Surface, where students learn about the changes to Earth's surface. Differentiation for ELPS is specifically referenced at the end of the lesson. For example, "Help students understand the word landslide by breaking it into parts. Write it on the board and underline the word, land. Ask students what the word means if necessary." In addition, in the Unit Planner, the necessary English Language Proficiency Standards are listed for the teachers' review. In the Life Cycles lessons, standards 1.A, 1.E, 3.B, 3.D, 4.D, 4.F are listed. On the

Standards Alignment page, these are explained. 1.A – “Use prior knowledge and experiences to understand meanings in English.” The lesson provides differentiation for English Language Proficiency Standards (ELPS), with an example of breaking down the word "landslide" to aid understanding. The Unit Planner lists the necessary English Language Proficiency Standards for teacher review, and in the Life Cycles lessons, specific standards are listed and explained, emphasizing the use of prior knowledge and experiences to understand meanings in English.

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

- Materials encourage strategic use of students’ first language as a means to linguistic, affective, cognitive, and academic development in English. For example, in every unit, under Unit Resources, there is a tab labeled “Flashcards” where the teacher can find printable flashcards of the vocabulary studied throughout the whole unit with the pictures and words on one side and definitions in English and Spanish on the other side. Some of the words included are cognates. For example, in Unit 1, *Matter,* the flashcards and glossary include words such as *magnetism/magnetismo* and *heating/calefacción*. Additionally, in every concept with an interactive activity, students can choose whether to do the interactive activity in English or Spanish to best meet their needs to complete the activity independently. In the Spanish version, the instructions, the information, the buttons, and the immersive reader are all in Spanish. Materials contain specific strategies for ELPS and vocabulary support.
- Materials include textbooks or audio/video clips that explain concepts in languages other than English. For example, materials include links to translate content into the student’s first language. Across the materials, there is an immersive reader, within the vocabulary pop-up feature, that offers reading support in 122 different languages. When in “present to class” mode, there is an emergent reader tool option that will translate the presentation into multiple languages. Materials also include video clips that explain concepts in languages other than English. All videos included in the materials can be closed captioned in multiple languages. When changing languages, it may be difficult for some users to understand how to change the language.

Discovery Education Science Techbook for Texas
Grade 3

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 communication with caregivers.

Evidence includes but is not limited to:

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

- Materials provide information for students and caregivers; for example, in The Caregiver Course Overview located within the Course Materials. The overview states, “Your child’s teacher is using Discovery Education in their classroom to engage students in their everyday learning through a variety of resources—video, image, audio, interactives, and more. Your child can sign in anytime to engage with exciting digital activities and resources across a variety of subjects, grades, and topics of interest.”
- Materials provide a Parent/Guardian Letter that can be found in all units under course materials. The letter includes the following statement, "This year, your student will use Science Techbook for Texas, a comprehensive science program developed by the educators and designers at Discovery Education and written to the Texas Essential Knowledge and Skills and English Language Proficiency Standards." Materials provide vocabulary flashcards for each unit. The flashcards provide the words in both English and Spanish. For example, in Unit 2, the flashcard contains "chemical energy" and "energia quimica." The flashcard then provides the definition in both English and Spanish.
- Materials provide the students and caregivers with information, such as in the at-home practice activities for caregivers, in which they help reinforce student learning and development. For example, the overview has the *Home Connections: Phenomenon in the Home* section, which describes how caregivers can take students to parks or other areas where you can find different sizes of rocks and gravel. Discuss how a big rock might eventually become a smaller and smaller rock.

- Materials provide suggestions under the Course Materials, where the following information is provided to caregivers: “Your child’s teacher is using Discovery Education in their classroom to engage students in their everyday learning through a variety of resources—video, image, audio, interactives, and more. Your child can sign in anytime to engage with exciting digital activities and resources across a variety of subjects, grades, and topics of interest….More details on what we are exploring, along with some suggested ways you can support student curiosity at home, are provided for each unit. Allowing students to make observations of the world around them encourages them to continue to ask questions about the real-world phenomenon we are uncovering in each unit.”

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

- Materials provide opportunities for caregivers to help reinforce student development; for example, information is provided in the Caregiver Course Overview to assist caregivers in reinforcing learning at home. The unit key ideas for Matter and Changes in Matter include: I can observe, measure, test, and record physical properties of matter and explain how these properties are alike and different. This overview provides key vocabulary, examples of everyday phenomena, and conversation starters, such as "What examples of solids, liquids, and gasses can you see and describe around the house?”
- Materials provide information on how information can be shared under the Course Materials, a Caregiver Guide. This provides a home connection with Phenomenon in the Home and conversation starters. For example, one conversation starter for Unit 2 is, "Ask your child, Do you have any toys that need a force to move? When you add a force, how does the toy move? Talk about other items in your house that require pushes and pulls, gravity, or magnetism."
- Materials provide information to share with caregivers that helps them reinforce student learning. The Caregiver Overview provides examples of conversation starters. For example, “Look for a natural event like a volcano erupting or a landslide on the news or internet. When watching together, ask, How do you think this event will change Earth’s surface? At dinner ask: What natural resources were used to make the food we are eating? Are there any other natural resources used to cook the food?” Materials provide a free puzzle-maker link to practice vocabulary and provide a list of keywords. For example, Vocabulary Practice: Discovery Education provides a free puzzle-maker tool to reinforce vocabulary with students at home.
- Teacher guidance materials provide the teacher with access to a parent letter that provides an explanation of the textbook, program, Texas Essential Knowledge and Skills (TEKS), and instructions on how students can access the textbook online. Additionally, the letter outlines the engaging elements such as dynamic content, videos, digital tools, hands-on activities, labs, and game-like activities in which the students will actively engage.

Materials include information to guide teacher communications with caregivers.

- Materials provide information on guiding teachers to communicate with caregivers, such as the Parent Letter and Caregiver Course Overview. The caregiver document proves to be useful and precise. It includes visual aids in the form of screenshots to assist educators in locating support and offers Family Resources within the Help Center. These resources will be advantageous for parents in aiding students at home while utilizing Discovery Education. The Discovery Education Guide for Families encompasses step-by-step screenshots illustrating the process of family

members logging in, navigating the homepage, locating assignments, searching for resources, and engaging with studio activities. The provided resources are designed to be intuitive and tailored to the needs of the users.

- Materials provide a parent/guardian letter to inform parents about the engineering process. For example, “The new standards expect students to act and think like scientists and engineers—and this brand-new curriculum will nurture this behavior. Science Techbook for Texas encourages students to continue to ask questions about the world around them and solve real-world problems.” The course materials provide parents/ guardians with an explanation of the content. For example, “Students experience dynamic content, videos, digital tools, hands-on activities and labs, and game-like activities that inspire and motivate scientific learning and curiosity.“

Discovery Education Science Techbook for Texas
Grade 3

Indicator 8.1

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

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

Meets | Score 2/2

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

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

Evidence includes but is not limited to:

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

- Materials provide access to the TEKS-aligned scope and sequence information through the main menu. Each TEKS expands to display the accompanying unit and lessons. Hyperlinked student expectations give a link to the related course materials.
- Materials include daily lessons to view, print, save, post, and add to a digital playlist for teachers and students through the unit and pacing page within the teacher resources. For example, in Unit 2: Force and Energy, at the top of the page, there is a pull-down menu that identifies unit resources that include pacing, planner, background knowledge, hands-on lessons, knowledge, and standards.

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

- Grade 3 materials provide the teacher with lessons that follow the 5E instructional model. Each lesson contains 5E model lessons, which include interactive activities incorporating vocabulary and scientific background knowledge. Each activity provides teachers with inquiry questions, possible misconceptions, and materials lists to complete the activity. Under the teacher resources, materials also suggest ways for the teacher to facilitate student discussion by reading specific questions.
- Students make connections through different learning activities. For example, in Concept 1: Life Cycles, Lesson 1: How Do Life Cycles Compare, the materials suggest ways for students to make

connections in learning through an activity that elicits students' prior knowledge and experience with the real-world phenomenon by asking students what they know about life cycles. Research and innovation opportunities support scientific and engineering practices throughout the materials.

- The phenomenon check-in includes recurring themes. In the student materials, Concept 1: Exploring Forces, Lesson 3: Force, connection videos help students apply prior knowledge and current content. Within the same location of the lesson, scientific and engineering practices, recurring themes, and concepts are represented within a What Did You Figure Out? activity. Furthermore, the teacher guide provides multiple opportunities for teachers to revisit specific scientific and engineering practices.

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

- Materials provide suggestions for concept check-in opportunities for content spiraled back and reviewed by students while practicing the new STAAR-aligned question types. For example, In Lesson 6, students can participate in an interactive lesson. Lesson 4 also provides a hands-on activity of tug of war. Both activities provide a review of the overall knowledge of force and motion. Within Unit 2, an additional unit, Everyday Forces, supports mastery and retention. Assessment items completed at the end of each unit independently support skills retention.
- Materials guide teachers to ask questions that spiral a skill. For example, in the Earth's Surface lesson, the students make connections about the prior learning in second grade on the Earth's changing surface. The teacher asks, "What do you already know about how Earth's surface changes rapidly?" The lesson then goes on to teach the students about specific rapid changes. The materials provide different abilities to spiral a review under the student materials section. For example, the concept summative accesses prior knowledge and experiences to make claims and demonstrates understanding.

Discovery Education Science Techbook for Texas Grade 3

Indicator 8.2

Materials include classroom implementation support for teachers and administrators.

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

Meets | Score 2/2

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

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

Evidence includes but is not limited to:

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

- Materials provide a program guide under course materials. The program guide is an overview for teachers to follow within the unit. The guide explains the materials needed and the set for the activities. The preview landing page also identifies whether the lesson will be video, literacy, hands-on, or Science, Technology, Engineering, and Mathematics (STEM). The guide provides the same 5E components within each unit and lesson in the grade level. For example, Unit 3 and Concepts 1–4 include the 5E model with specific lesson details, TEKS, and time suggestions. Furthermore, the unit resources have a guide for preparation and materials for the Explore part of the 5E lesson.
- Materials include lessons that involve interactive technology. For example, Earth's Surface, Lesson 2: Volcanoes, has a gaming icon on the instructional slide deck. The teacher's directions explain the rationale and a timestamp for the activity. The interactive lesson closes with the teacher asking probing questions about the activity. The materials that require a video include information about what students should do before, during, and after the video.

Discovery Education Science Techbook for Texas
Grade 3

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

- The materials contained in the section introduction and objectives unpack the TEKS and set the purpose with guiding questions that support the student objective. The unit planner gives the teacher a summary and overview of each lesson.
- Each unit includes strategically bundled concepts, ensuring students uncover all core scientific content. Concepts within each unit are structured with lessons that follow the 5E Framework: Engage, Explore, Explain, Elaborate, and Evaluate. For example, in Let's Read Together, opportunities provide students with connections to English and Language Arts (ELA). The lessons found in the elaboration opportunities focus on STEM. Many areas include Social Studies connections, including the Explore activities. Another example can be found within Matter, Lesson 4: Designing Towers. A picture and label of the Leaning Tower of Pisa are included to engage the students.

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

- Materials provide detailed lists of materials for lab investigations within the lessons, such as in Unit 2: Forces and Energy, Lesson 2: Forces All Around. The Unit Resources section has the material list. Each lesson provides preparation and materials lists. The materials are available in print and digital formats to support teachers and students.
- Materials provide safety procedures, a material list, and directions that are displayed for the teacher to follow. Furthermore, the Educator Notes section contains a comprehensive list of supplies. The educator notes also explain the preparation for the stations, followed by a video of the activity to support the delivery of the instructional activities.

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

- The Hands-On Lesson Preparation and Materials instructs the teacher to "post the materials list and safety precautions on the board for students to refer to during the lesson." Materials suggest ways to provide safety practices under educator notes.
- Materials provide detailed instructions on how teachers and students should follow safety guidelines during investigations under the course materials document labeled "Safety in the Classroom." The document includes specific information such as, "Eating and drinking are not allowed during an investigation. If asked to observe the odor of a substance, do so using the correct procedure known as wafting, in which you cup your hand over the container holding the substance and gently wave enough air toward your face to make sense of the smell." The course materials include a Science Safety poster. This document contains general safety guidelines that the teacher can display in the classroom, such as "Tie back long hair" and "Clean up and wash your hands."
- Materials provide a K-5 Safety Letter to follow standard safety practices for classroom investigations. The letter provides guidelines for appropriate dress, essential steps for accidents, and safe investigation behaviors. For example, "During the Investigation, be sure to follow the procedure steps exactly. Use only directions and materials that your teacher has approved."

Discovery Education Science Techbook for Texas
Grade 3

- Materials in grade 3, Unit 4, Concept 4: Fossils, provide opportunities for safety hands-on activities. In this section, students are advised to follow all safety guidelines and “Do not touch any insects or other animals.” Furthermore, the Safety in Classroom PDF outlines the safety guidelines under course material.
- Materials in Unit 1, grade 3, Concept 1, Lesson 2, provide the students with a test of the properties of the sinking and floating activity using materials such as foil, beads, and wood. The material provides the teacher with educator notes, including the following precautions, “Remind students to follow all lab safety guidelines and clean up any spills immediately on slide nine before the students engage in the activity.”

Discovery Education Science Techbook for Texas Grade 3

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.

- Materials support guidance and recommendations on time for lessons and activities by providing teachers with a pacing guide. The guide presents a comprehensive pathway and an express guide. Furthermore, within each unit, the guide provides teachers with a suggested time for each lesson component. Each unit is structured using the 5E Model of Instruction with an Engage activity. In each section, the teacher can see the parts of the lesson, how long each section will take to teach, and what activities are in each section.
- The Teacher's Edition presents a concept structure and pacing at the beginning of each unit. Teachers can select from two pathways for each concept to meet their scheduling needs. An outline of the structure and pacing demonstrates the connection between instructional days, 5E phases, lesson title, lesson type, and time frame. Each lesson has a projected completion date posted, but teachers may assign work digitally for asynchronous learning. For example, in Unit 4 Lesson 3, Life Cycles of Plants and Animals, Lesson 3, the hands-on activity is allotted for 40 minutes.

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

- Materials provide teachers with a K-5 Program Guide. This guide gives the progression of the scientific concepts and how they progress at each grade level. The guide offers a vertical alignment document that outlines the TEKS for each unit and how they align across the different grade spans. The pacing guide is there to assist teachers in seeing how many days and during each day how many minutes will be allotted to a concept.

Discovery Education Science Techbook for Texas
Grade 3

- In the program guide, the rationale and sequence of the content are explained and demonstrated for all of the lesson components. Furthermore, in the PDF vertical alignment document, each grade level is aligned with each concept and unit.
- The materials have a visual scope and sequence for each unit to ensure the material is taught strategically. No matter which concept pathway a teacher chooses (the Comprehensive Concept Pathway or the Express Concept Pathway), the sequence of the material remains the same. A concept structure and pacing are also presented at the beginning of each unit in the Teacher's Edition. Multiple lesson pathways provide connections between the instructional days, 5E phases, the lesson title, lesson type, and the timeframe for each lesson on the outline of the structure and pacing.

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

- In grade 3, units allow enough time to complete all lessons within a school year. The units will enable the teacher to assign lessons virtually through the assign button or print out lessons for students to work on. The lessons are completed at a teacher's discretion or, if needed, at a student's pace.
- Teacher guidance materials include a pacing guide and the suggested time for each lesson within the unit. The pacing of the entire grade level is intended to be completed in one academic school year.

Discovery Education Science Techbook for Texas
Grade 3

Indicator 9.1

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

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

Not Scored

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

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

Evidence includes but is not limited to:

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

- Materials include an appropriate level of white space and a design that does not distract students from learning. For example, in Unit 1, *Matter and Changes in Matter*, each lesson is separated by white space. The material design ensures that students learn from the materials in an easy-to-use and informative manner. White space, color, and neatness are balanced well.
- Materials do provide an appropriate amount of white space for example, in Unit 2, Concept 3, all of the headings are clear and easy to read. They do not distract the teacher when looking for specific lessons. In addition, in Unit 2, Concept 2. Pictures within the lesson tiles are colorful and crisp with an easy-to-read font for each lesson title.
- Materials are designed to incorporate an optimal level of empty space while promoting student learning without causing any distractions; for example, the content is organized logically. Furthermore, the Unit Planner provides guidance in lesson sequence and time stamps. Materials are designed carefully, considering appropriate spacing and layout, ensuring that the lessons are easy to read and comprehend. The design of the materials facilitates a user-friendly and informative learning experience for students. The effective use of white space, color, and neatness strikes a well-balanced visual appeal. Importantly, these design elements do not distract teachers when searching for specific lessons. The content follows a logical progression, ensuring a coherent flow throughout the materials. The lesson tiles feature colorful and clear pictures, accompanied by easily readable font for each lesson title.

Discovery Education Science Techbook for Texas
Grade 3

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

- Materials incorporate images and graphics that are suitable for the age group, aiding student learning and involvement while avoiding visual disturbances; for example, student learning is supported by age-appropriate pictures and graphics in grade 3. There are robot characters that host the presentations that are accompanied by real-life images that illustrate the concepts presented. As an example, in Unit 1, Concept 1, Lesson 1, there is a picture of a bulldozer digging up the ground. This supports the turn-and-talk notice and wonder activity.
- Materials provide opportunities for age-appropriate visuals, such as in Unit 2, the image for Lesson 6, *Electric Transformations*, is a picture of a school-aged girl playfully sitting in front of a fan while it is turned on. In addition, the slide deck includes images that are colorful and age-appropriate. For example, in Unit 2, Concept 2, Lesson 4, *Mechanical Energy and Speed*, images include school-aged children playing a game, a bumper car, and a roller coaster.
- Materials incorporate suitable images and visuals that enhance student learning and involvement without causing visual distractions. Materials use color-coded tabbed pages to easily identify important information. For example, Unit 3 has the main topics of *Earth Science* tabbed at the top of the page and each of the lessons linked under the tabs.
- Materials in Grade 3 embed age-appropriate visuals such as the robot characters. They are utilized as hosts in the presentations, accompanied by real-life images that effectively illustrate the presented concepts. In Unit 4, every vocabulary word is accompanied by a visually captivating graphic that enhances the student's learning journey. A remarkable illustration of this can be seen with the term *seed*, which is represented by an image capturing the initial stages of seed growth. Additionally, a video showcasing the progression of a plant from a seed further enriches the learning experience for students.

Materials include digital components that are free of technical errors.

- Materials in Unit 1, Concept 1, Lesson 9 are free of technical errors. For instance, the following statement appears in the teacher guide's introduction and objectives section: “Ask students to think about how to choose materials to use when making something. Share with students, who may not have prior knowledge, the story of the three little pigs where each pig built a home structure out of a different set of materials (sticks, straw, and bricks).”
- Materials consist of digital elements that are devoid of any technical glitches or errors. In Unit 2, Concept 3, Lesson 4, *Electricity,* students explore electrical circuits through an interactive game that is colorful, user-friendly, and without errors. Furthermore, in Unit 3, *Earth, Weather, and Land*, materials show multiple photos of landforms around the world with maps for students to understand the content.
- Materials provide opportunities in Unit 4 to incorporate digital elements in each concept, ensuring they are devoid of any technical flaws. The lessons feature age-appropriate visuals and graphics, promoting student learning and active participation. In Concept 3, Lesson 1, you can discover instances of graphics, such as a genuine photograph of a caterpillar on a leaf, within the slideshow.

Discovery Education Science Techbook for Texas
Grade 3

Indicator 9.2

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

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

Not Scored

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

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

Evidence includes but is not limited to:

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

- Materials do integrate digital technology and tools. The materials include embedded devices, such as note-taking, an immersive reader, glossaries with animations and videos, and editable forms. For example, students have a digital notebook for each unit where they are allowed to add and save annotations. A virtual whiteboard is included with the materials, with functions such as adding grids, backgrounds, images, shapes, colors, etc. In addition, digital technology and tools are available within the materials to enhance student learning, including videos, interactives, simulations, and online assessments. For example, in Unit 1, Concept 1, Lesson 3, students watch a video that describes mass and volume and how they are measured. The students participate in a digital literacy activity in Lesson 7 that incorporates an interactive graphic organizer.
- Materials provide opportunities to integrate technology and tools, such as in Unit 2, Concept 1, Lesson 3, *Force*, where students view a ten-minute video. Materials provide the teacher with strategies to use before, during, and after the video to keep students engaged. Throughout the unit, materials provide various interactive games and activities. In Unit 2, Concept 2, Lesson 2, *Forms of Energy,* students click on a different form of energy before locating it within the classroom.

- Materials provide opportunities with digital technology and tools by enhancing student learning through such features as learning games and interactives. For example, Unit 3, Concept 1, Lesson 2, *Earth's Surface*, has an interactive Explore lesson on volcanoes. Students drag objects to interact with the content. Materials explain details about the parts of a volcano. Student digital components include embedded tools, text-to-speech, a dictionary, a glossary, and annotations. For example, in Unit 3, Concept 1, *Earth's Surface*, in the interactive lesson, the students can click on the icon to listen to the text as they analyze the diagram.
- Various embedded tools are available within the materials to support student engagement and learning. These tools include features like note-taking, an immersive reader, glossaries enriched with animations and videos, as well as editable forms. For instance, students are provided with a digital notebook for each unit, allowing them to add and save annotations. Additionally, materials incorporate a digital whiteboard with a wide range of functions, including the ability to add grids, backgrounds, images, shapes, colors, and more.

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

- Materials integrate digital technology in ways that support students. In Unit 1, Concept 2, Lesson 2, students will describe and classify samples of matter as solids, liquids, and gasses to support the science and engineering standards and concept standards. Digital materials include representations of solids, liquids, and gasses as well as instructions and examples of how to construct a model. Following the creation of the three-dimensional model, students complete a digital graphic organizer in which they document their learning. To check their understanding of the content, students complete a digital interactive assessment at the end of the activity.
- Materials integrate digital technology that supports science and engineering practices. In Unit 2, Concept 1, Lesson 6, Changing Direction, the interactive activity supports the TEKS while students manipulate soccer players kicking a ball. In Unit 2, Concept 2, Lesson 1, *How Do We Use Energy Every Day?* students use prior knowledge of energy. Students will access a video about bowling, view it, and then have time to turn and talk with a partner.
- Materials provide opportunities for students to obtain, evaluate, and communicate information using digital tools. For example in Concept 1, Lesson 2, *Earth's Surface*, students complete the digital graphic organizer after interacting with the lesson. Materials provide opportunities for students to obtain, evaluate, and communicate information using digital tools. For example, in the Tools link, students can access the digital notebook to record responses. However, there are limited resources for students to create and present content.
- Materials provide student learning enrichment opportunities by integrating digital technology and tools, offering various features such as learning games and interactive elements. In Unit 4, Concept 2, Lesson 2, *Parts of Ecosystems*, materials provide an interactive Explore lesson focused on understanding the different components of ecosystems. Within this lesson, students can actively participate by adding or removing items from the food web. The game then demonstrates the cause-and-effect relationship, illustrating why and how these actions occur.

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

- Materials integrate digital technology; for example, the Discovery Education Help Center states, "Discovery Education Studio provides several pathways for teachers and students to collaborate

with Studio projects. Students and teachers can share a board or slideshow via different learning management systems to collaborate on the same project. A chat feature is also available in the Studio application, facilitating communication between users.

- Materials provide a virtual whiteboard for both students and teachers that serves as a valuable tool for fostering creativity and collaboration. This virtual whiteboard encourages brainstorming sessions, facilitates the sharing of videos and images, and supports various projects and experiments. Teachers can leverage the virtual whiteboard to actively engage students in the learning process, thereby deepening their understanding of the subject matter. Materials advocate for the use of established platforms to enrich student engagement during group projects and discussions. By harnessing the power of these platforms, collaboration transcends the boundaries of the physical classroom and allocated class time. Notably, platforms such as Classlink, NCEdCloud, Clever, Schoology, and Canvas seamlessly integrate with the Techbook, ensuring effortless accessibility for students.

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

- Materials provide a variety of devices with internet access that can access Discovery Education grade 3 materials online, including Chromebooks, iPads, PCs, Apple computers, and/or smartphones. There are also download and print buttons on materials, allowing teachers to provide students with a hard copy of the text, organizer, and activities in the form of an offline document. PDFs can be stored on a device when the internet is unavailable. Images and videos can be downloaded for offline use, but interactives, virtual labs, boards, and other web-based interfaces can only be accessed online. Discovery Education's Help Center provides information on compatible learning management systems such as Class Link, Clever, Google, Canvas, Schoology, and NCEdCloud. Getting Started Communication Kits provide best practices and additional resources to assist schools or districts in launching Discovery Education successfully. Using the materials, you can customize flyers for administrators, educators, and students to share in Spanish, Mandarin, Haitian Creole, and French Canadian with your school or district.
- Materials provide suggestions on integrating digital technology with a learning management system. For example, teachers can embed resources into Canvas assignments once a district has set up an account with the materials. The Help Center gives step-by-step directions to teachers on how to implement this. Once published, students will have access to materials. Materials allow teachers to assign an assessment through the platform. The Help Center states that "students would log into Discovery Education to complete the assessment."
- Materials are accessible online through any device with internet access. Discovery Education works on desktop and laptop computers with a wide range of browsers. We recommend you use the most recent version of the following browsers to ensure the best experience. For example, Google Chrome, Mozilla Firefox, Safari, and Microsoft Edge. Materials are accessible online through any device with internet access. For example, Discovery Education promotes the use of the download and print buttons from either your browser or within Techbooks.
- Materials enable students and teachers to utilize a video conferencing platform or existing platforms to elevate student engagement in group projects and discussions. A noteworthy illustration is the Discovery Education Studio, which equips students and teachers with a comprehensive toolkit for synthesizing their learning experience. This includes the creation of interactive boards, where students can effortlessly incorporate multimedia content from diverse sources, such as Discovery Education materials, personal resources, and a range of artifacts like videos, images, illustrations, and original text.

Discovery Education Science Techbook for Texas
Grade 3

Indicator 9.3

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

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

Not Scored

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

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

Evidence includes but is not limited to:

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

- The program's digital technology and online components align with the grade-level scope and approach for the progression of scientific knowledge and skills. A digital interactive activity is used in Unit 1, Concept 2, Lesson 3, to allow students to describe and categorize samples of matter as solids, liquids, and gasses. Students drag beakers to the appropriate location on the screen. They simulate adding water and removing heat to classify samples as solid, liquid, or gas. The students will complete a digital graphic organizer with their evidence.
- Materials provide various components that align with the Scope and Sequence. For example, the pacing calendar outlines the different lessons. Within each lesson, the specific TEKS are listed and a student objective is given. For example, In Unit 2, Concept 1, Lesson 1, *How Can Patterns of Force Be Explored?*, the student objective states, "In this lesson, students will observe different types of forces and make a claim about how patterns of force can be explored."
- Grade 3 materials explain the suitability of interactive activity. Materials provide differentiation for approaching learners. For example, “approaching learners may have difficulty with the length of the interactive. Give them more time to go through each part of the activity. If the student is still having problems, consider having them complete one of the two parts of the interactive.”
- Grade 3 Unit Resources offer both student and teacher learning objectives. These objectives provide clear goals for both students and teachers to work towards. For instance, an example of

a student learning objective in Unit 4, Concept 2, *Survival in Environments*, could be "By the end of this concept, I can claim how animals survive in environments." These objectives serve as guideposts for student progress and learning throughout the unit.

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

- Materials provide opportunities to use best practices for using embedded technology to differentiate instruction, encourage collaboration, and integrate multimedia resources into the classroom. An interactive help center is available in Unit 1, where teachers can submit questions or topics for assistance. Upon adding the topic of collaboration, the boy responded with the option to collaborate with *Studio,* where you can share a slideshow to collaborate with others. Both teachers and students have access to this feature.
- Materials provide a step-by-step guide for teachers titled “Getting Started with Science Techbook.” For example, Assigning Content with Science Techbook provides the teachers with step-by-step directions and screenshots. The Help Center provides teachers with an interactive course on utilizing the Science Techbook. For example, for grades K–5, there is a course for teachers to take that includes ways to integrate planning and teaching.
- Materials include professional development videos and training for teachers to continue to develop their skills and knowledge in using the embedded technology to support and enhance student learning. For example, there are links after each unit for teachers to have a professional development check-in at the end of each unit. Materials provide instructions and tutorials within the teacher platform on using the embedded technology. For example, the support button at the bottom of each unit provides links for logins and LMS setup.

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

- Materials provide opportunities for parents and caregivers to support student engagement. In the Help section, teachers can share the following information with parents and caregivers to encourage student engagement at home. “Discovery Education provides our partners with several communication templates to support implementation in your school or district. The flyers, designed to announce your partnership with Discovery Education, meet the needs of any audience - whether it's sharing with the administrators in your district, teachers in your school(s), or your parents. The parent flier has also been translated into several languages."
- Parents and caregivers have access to resources that help promote student involvement with digital technology and online elements. For example, the Help Center provides a professional learning titled “Student Guides for Science Techbook.” Materials allow teachers to assign this to students so that parents and caregivers can access it from the student's dashboard. In addition, the Caregiver Guide gives an overview of each unit in grade 3. It also guides caregivers with the following, "Vocabulary Practice: Discovery Education provides a free puzzle-maker tool to reinforce vocabulary with students at home. Feel free to access the puzzle-maker at https://puzzlemaker.discoveryeducation.com/."
- Materials provide sample letters and information for parents to navigate the platform anywhere. For example, in the Help Center, the guide to exploring Discovery Education Science lists ten steps to navigate the program with screen grabs and bold print for actions. Materials offer a Parent/Caregiver overview that details vocabulary, activities, and unit phenomena.