# HMH Into Science Texas Grade 4

## HMH Into Science Texas Grade 4 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.
- 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.

# HMH Into Science Texas Grade 4

## 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 the 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.

- The scope and sequence shows how the SEP TEKS are integrated into each unit. For example, SEPS TEKS 1-4 is integrated throughout the "Energy 4.8" unit. The materials provide multiple opportunities to develop these. For example, materials prompt students to engage in hands-on activities that provide opportunities to practice and demonstrate scientific and engineering practices. For example, the lesson "Energy Transfer," on Days 2, 3, 4 and 5, includes hands-on activities: "Investigate Energy Transfer Part 1, Investigate Energy Transfer Part 2, Engineer It: Design an Energy Game Part 1, and Engineer It: Design an Energy Game Part 2."

- The materials provide multiple opportunities to develop grade-level appropriate scientific and engineering practices, as outlined in the TEKS. For example, materials include opportunities for students to conduct grade-appropriate experiments, collect and analyze data, and develop and test hypotheses. For example, in the lesson "Energy Use Scavenger Hunt," Day 4 "Explore/Explain," students complete the experiment and complete the "Interactive Student Lesson," then "compare the data they recorded in their School Energy Table" and plan an investigation to find out which natural resources supply the energy used in their school. After this, students make a claim about the importance of energy resources to modern life. Another example is in the lesson "Looking for Solutions," "Explore/Explain" Day 2. The lesson has students ask questions, define problems, demonstrate safe practices, and use tools to observe, measure, test, and analyze information.
- There is evidence that the materials provide multiple opportunities to show mastery of grade-level appropriate scientific and engineering practices. For example, students develop evidence-based explanations and communicate findings, conclusions, and proposed solutions in the lesson "Producers and Sunlight," Day 2 "Explore/Explain." Students complete steps 1 through 8 of the lesson; they analyze information by examining the habitat they built and writing about the conditions they were able to control. Then, students make a claim and support it with evidence and reasoning based on their observations.
- The materials provide multiple opportunities to develop grade-level appropriate scientific and engineering practices, as outlined in the TEKS. The "Teacher Guide" at the beginning of each unit shows the SEP that students will practice throughout the unit. For example, for the "Mixtures" unit, materials list SEPs 4.1 A, C, and D and 4.3 C.

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

- The materials support teachers in developing student content concepts and skills through the recurring themes by providing resources and prompts in lessons and units throughout the grade level. For example, materials in the grade 4 Teacher's Guide support the teacher by helping make student connections between how forces cause change in the position and motion of an object. The materials state that "in prior grades, students learned about forces such as magnetism, gravity, and pushes and pulls."
- The materials identify overarching concepts using recurring themes and show how they connect within the materials. For example, materials use recurring themes, such as structure and function, systems, models, and patterns, to make connections within the overarching concepts in the lesson "Marvelous Magnetism," Day 3 "Explore/Explain." Students record patterns they observe and classify objects according to their physical properties.
- The materials provide multiple opportunities to use recurring themes in making connections between and within overarching concepts. For example, across lessons, materials include the recurring theme of cause-and-effect relationships—a relationship between two phenomena where one event causes another event to happen—in the lesson "Parents and Offspring," Part 2, Day 4. Students "explain how factors and conditions in the environment can impact plants."

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

- The materials are systematically designed to develop and build student skills and content knowledge using phenomena appropriate to the grade level, as outlined in the TEKS. For

example, the materials provide the section “What Do You Already Know?” to activate students’ prior knowledge in order to connect it to new grade-level concepts.

- There is evidence that the materials support teachers in developing student content knowledge and skills by giving them resources and cues at varying points in lessons and units throughout the grade level. The materials provide a Teacher’s Guide and/or lesson notes that explain, describe, and make connections between the SEP and the development of conceptual understanding. For example, in the lesson “Investigate Mixtures” in the Teacher’s Guide, the planning of Day 1 includes a section titled “Phenomenon Teacher Background,” which guides teachers to help students compare matter by its properties.
- The materials support teachers in developing student content concepts and skills by giving them resources and prompts in lessons and units throughout the grade level. For example, materials in the Teacher’s Guide support the teacher by helping make student connections between how forces cause change in the position and motion of an object. The guide then states that in prior grades, students learned about forces such as magnetism, gravity, and pushes and pulls.

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.

- The materials include opportunities for students to ask questions and plan and conduct investigations. For example, the Teacher’s Guide for the lesson “Looking for Solutions,” Day 2 “Explore/Explain,” provides the teacher with a set of possible student questions, including guiding questions for the teacher to support students’ analysis of the results of the investigation, such as “Of the solids you tried to mix into liquid water, which seemed to disappear? Which did not disappear? Which partly disappeared?” These support student thinking for planning and conducting their investigation. In a later lesson, students ask questions about how energy transfers in a collision, then plan their investigation.
- There is evidence that the materials provide repeated opportunities for students to use grade-level appropriate scientific and engineering practices across various contexts throughout the course. For example, in the lesson “Patterns of Force,” students complete a hands-on activity during Days 2, 3, and 4 and complete assignments that connect to the community, such as visiting the playground and observing and experiencing patterns of forces at work. Students then have discussions about a series of questions related to the forces. In another lesson on the transfer of energy, the students apply engineering practices by using the engineering design process to design a game based on the transfer of energy.
- The materials include sufficient opportunities for students to engage in problem-solving to make connections across disciplines and develop an understanding of science concepts. In grades 3–5, students ask questions, plan and conduct investigations to answer questions, and explain phenomena using appropriate tools and models. This is accomplished through questioning; scaffolding learning connected to previous learning; and using claims, evidence, and reasoning in activities that connect new and old learning concepts.

# HMH Into Science Texas Grade 4

## 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.

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

## Meets | Score 4/4

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

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

Evidence includes but is not limited to:

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

- The materials use phenomena as a central anchor that drives student learning across grade-level content in all disciplines. For example, the grade 4 "Teacher's Guide" demonstrates that the materials embed phenomena across lessons to investigate matter and energy through lessons about classifying matter by physical properties, mixtures, and conservation of mass. For example, students explore the phenomenon that devices that produce light are often powered by electrical energy. Students then model and build a circuit system and conclude that a circuit can convert electrical energy to light and heat.
- Materials provide opportunities for students to develop, evaluate, and revise their thinking as they engage in phenomena and define/solve problems. For example, in the lesson "Mass Matters," students consider the phenomenon of measuring, testing, and recording the physical property of mass. Students discuss classifying and describing matter using observable physical properties, including temperature, mass, magnetism, relative density, and physical state. Students also write descriptions of the physical properties of three objects.
- The materials embed thought-provoking phenomena and engineering problems that require nuanced and appropriate grade-level explanations. Materials provide opportunities for students

to develop, evaluate, and revise their thinking as they figure out phenomena and define/solve problems. For example, in the lesson "Hot and Cold," students engage in a hands-on activity to use a Celsius thermometer to observe, measure, and test the physical property of temperature and use it to classify matter. Students analyze results and answer prompts (e.g., "Now classify the cups of water you tested. Place the cups in order from warmest to coolest. Do this by observing the temperatures you recorded in degrees Celsius and degrees Fahrenheit.")

- Materials clearly outline for the teacher the scientific concepts and goals behind each phenomenon and engineering problem. For example, the "Teacher's Guide" includes a teacher background section that explains the phenomenon throughout multiple lessons and provides teacher guidance. In one lesson, students are introduced to how temperature and precipitation levels change from season to season. Students then begin to ask questions, measure temperature, collect weather data, and observe seasonal temperature patterns.

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

- The materials provide opportunities to leverage students' prior knowledge and experiences related to phenomena and engineering problems. For example, in the lesson "Mixtures," on Day 1, students work on activating prior knowledge by brainstorming a concept map with the word matter at its center. In another example, in a lesson on patterns in seasons, students discuss the current weather conditions outside to leverage prior knowledge for new learning.
- The materials elicit and leverage students' background knowledge and experience to adequately address potential areas of misunderstanding. For example, in the lesson "Break It Down," the materials instruct teachers to address misconceptions: "Provide feedback to students by identifying any misconceptions they have about the interaction between the mushroom and the tree. Discuss how each organism is affected by their interaction." The materials also provide performance indicators and support for student answers. In another lesson, "Classify Matter by Physical Properties," students learn about phenomena through five hands-on activities. Additionally, students explore things made of matter by clicking on images to activate prior knowledge, have class discussions to describe a phenomenon video, analyze information and identify patterns.
- The materials intentionally leverage students' prior knowledge and experiences related to phenomena and engineering problems. Evidence of this can be found in the grades 3–5 Teacher Guides at the beginning of each lesson. The "What Do You Already Know?" section activates students' prior knowledge of the phenomena being studied.
- The materials provide opportunities to leverage students' prior knowledge and experiences related to phenomena and engineering problems, ensuring that connections are made to previous science TEKS while allowing students to communicate their experiences outside of school.

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

- The materials clearly outline the scientific concepts and learning goals behind each phenomenon and engineering problem corresponding to content concepts across the grade level. Materials provide opportunities for students to build an understanding of grade-level content through unit-level or chapter-level phenomena or problems. In many cases, multiple lesson investigations work together to connect to a single phenomenon and/or problem to

develop an understanding of corresponding grade-level concepts. For example, in a grade 4 unit about the Sun and the water cycle, materials leverage the phenomenon of how water gets to the mountains and how streams form. Throughout the lesson, students explore evaporation and condensation in the water cycle to understand that water continuously cycles through a system.

- The materials clearly outline the scientific concepts and learning goals behind each phenomenon and engineering problem corresponding to content concepts across the grade level. For example, in the lesson “Patterns of Forces,” on Days 2 to 4, students explore and explain the concepts of gravity’s pull, friction, and magnetic force.
- The materials clearly outline the student learning goals behind each phenomenon or engineering problem. For example, in a lesson on “Energy Transfer,” Day 1, the materials include the sections “Activate Prior Knowledge” and “Phenomenon Teacher Background” to address the overarching science concepts explored in the learning activities.

# HMH Into Science Texas Grade 4

## Indicator 3.1

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

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| 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.

- The materials present content in a way that builds in complexity within and across units and grade levels. For example, in Day 1 “Engage” of the grade 4 lesson “Conductors and Insulators,” the materials include a section titled “What Do You Already Know?” which provides information for teachers about the prior knowledge students can use to connect to the new learning. Materials state: “Activate prior knowledge by having students identify the transfer of energy by objects in motion, waves in water, and sound. In prior grades, students learned about different types of energy and about the transfer of energy.”
- The materials are vertically aligned and designed for students to build and connect their knowledge and skills within and across grade levels. An example of this can be found in the Teacher's Guide in the What Do You Already Know? section. In the “4.8 Energy” unit, teacher background information states that in prior grades, students learned about different types of energy and about the transfer of energy. Another example can be found for TEKS 4.9A covering the patterns of seasons, where students watch a video about seasons. In previous grades, students learned how the seasons are affected by Earth’s orbit around the Sun.
- The materials present content in a way that builds in complexity within and across units and grade levels. Materials include a scope and sequence that outlines student knowledge and skills

learned in the previous grade levels, broken down into grade-level TEKS, and summarizes the progression from grades K through 3. Materials state that lessons within the unit will build in complexity, from teaching students requisite knowledge and skills to engaging them in using models to describe the cycling of matter and flow of energy through food webs, including the roles of the sun, producers, consumers, and decomposers. In grade 4, students must develop a model of a food web to describe the flow of energy. Over the course of the unit, students apply their knowledge and skills to then observe and describe the roles of decomposers and model the flow of energy in an ecosystem. The materials further explain how complexity builds as grade 4 students develop a food web model representing an ecosystem that can quantitatively describe the flow of energy through the system.

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

- The materials sequence instruction in a way that activates or builds prior knowledge before explicit teaching occurs, which allows for increasingly deeper conceptual understanding. Throughout the lessons, sensemaking prompts are given in the teacher's edition to build scaffolded understanding that relates back to the unit phenomenon. In the unit on fossils and past environments, during the "Fossils as Evidence" lab, students observe and classify fossils based on their structure and use fossils to describe past environments. As the unit continues, students describe the relationship between the structures and functions of organisms and past environments. Students then take that knowledge to explain how fossils inform us about the past environment in Texas. Another example can be found in the "Electrical Energy" lesson, where students share examples of how they use energy in their daily lives. The teacher guides students to identify the energy as electrical, light, or thermal. Students watch a phenomenon video and have a class discussion about "How does tightening the flashlight affect how electrical energy flows in the system?"
- There is evidence that the material allows for learning to be scaffolded to allow for deeper understanding and thinking. An example of deeper understanding can be found on Day 6, in the "Moon Patterns, TEKS 4.9B" interactive lesson. First, students learn about the different phases of the Moon and how often they occur. As students progress through the lesson, they learn that the Moon phases occur in predictable patterns, which leads to students learning about the Blue Moon phase. At the end of the lesson, students are given an example of a moon phase and date. Once students understand each of the phases and how often they occur, they determine when the Blue Moon phase will happen in the year.
- The materials are sequenced to scaffold the learning from concrete to abstract to allow for deeper conceptual understanding. An example of this is in the "Classify Matter by Physical Properties" unit. The lesson begins with teacher background information regarding what the students should know coming into grade 4. The teacher begins by activating prior knowledge, then models and explains whether light is matter, then introduces the phenomenon that different household items have different observable characteristics. Students are encouraged to ask questions about what they wonder and notice. The students complete hands-on investigations of using a balance to measure; test and analyze mass; use magnets to observe and test physical properties of magnetism; use a Celsius thermometer to observe, measure, and test temperature; observe, measure, and test properties of mass and relative density; and then observe, measure, and test the physical property of states of matter. By the end of the unit, students can choose a type of matter they saw in a meal, list properties, then trade with a

partner and apply what they have learned to guess what their partner's object is by its listed properties.

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

- There is evidence that the materials clearly present grade-specific core concepts, recurring themes and concepts, and science and engineering practices. For example, materials utilize the "5E" structure for each lesson. Students engage in the lesson, explore/explain, elaborate, and evaluate. For example, in the "Energy Transfer" lesson, on Day 1, students are activating prior knowledge, watching a phenomenon video, and having group discussions. On Days 2 to 6, students explore and explain by doing hands-on and engineering activities. On Day 7, students elaborate, explain, and apply their knowledge by using new vocabulary and having discussions about how a doctor engineered a hearing aid as if she were an engineer. In another lesson, on Day 3, "Modeling the Water Cycle Part 1," students build a model to show how the water cycle takes place. The model is covered with plastic wrap. The recurring theme for this activity is TEKS 4.5E which is to "investigate how...matter cycles through systems and how matter is conserved." In this activity, students discover that the plastic wrap is preserving the water in the model, which allows the water cycle to continue with all matter being conserved.
- There is evidence that the materials clearly and accurately present grade-level-specific core concepts, recurring themes and concepts, and science and engineering practices. An example of this is in the "That's Rough" activity, from the "4.7A Forces" lesson. When students complete the hands-on investigations, they use scientific practices to plan and conduct descriptive investigations (TEKS 4.1B).
- The materials clearly present grade-specific core concepts, recurring themes and concepts, and science and engineering practices. Materials include SEPs, RTCs, and content TEKS throughout each unit in each lesson. For example, in the grade 4 unit "Traits of Organisms," in a lesson about the structures of plants and their functions, a hands-on experience provides an opportunity for students to use engineering practices and scientific tools tied to the structure and function of organisms and systems theme while exploring and explaining how the structures and functions of plants allow them to survive in their environments.

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

- There is evidence that the materials include specific learning targets for each grade level. For example, the materials provide lesson objectives for each lesson and student learning objectives for each day within the lesson cycle. For example, the objective of the "Energy Transfer" lesson states, "Students will be able to investigate and identify the transfer of energy through systems by objects in motion, waves and water and sound." The lesson has a learning objective for Day 3, "Engineer It: Design an Energy Game, Part 1," which states: "Students will be able to apply engineering practices to define a problem, brainstorm, and model solutions to design a game that is based on energy transfer." In the "Organisms and Environments" unit, the learning objective for a lesson on the role of producers states students will be able to develop and use models to explain how producers get energy and cycle oxygen and carbon dioxide.
- There is evidence that the materials provide mastery requirements within the boundaries of the main concepts of the grade level. For example, in the grade 4 hands-on activity for "4.7 A, Mass

Matters," the learning objective is "Students will be able to use a balance to observe, measure, test, and analyze mass and use this physical property to classify matter."

- There is evidence that the materials' mastery requirements are within the boundaries of the main concepts of the grade level. For example, in the "Renewable and Nonrenewable Resources" lesson, the lesson objective states, "Students will be able to identify and explain advantages and disadvantages of using Earth's natural resources, such as wind, water, sunlight, coal, and oil."

# HMH Into Science Texas Grade 4

## Indicator 3.2

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

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|---|---|---|
| 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.

- There is evidence that the materials support teachers in understanding the horizontal and vertical alignment guiding the development of grade-level content. An example of this would be the scope and sequence document. The scope and sequence shows the vertical alignment of each grade level content standard and the progression of the units/lessons.
- The materials support teachers in understanding the recurring themes and concepts in each TEKS. These are mostly found in the "Student Interactive Lessons" of the Teacher Guide. For example, in the grade 4 Teacher Guide, the lesson titled "Modeling the Water Cycle, Part 1" for TEKS 4.10A has an RTC which states, "4.5E - investigate how...matter cycles through systems and how matter is conserved."
- There is evidence that the materials include guiding documents that support teachers in understanding how new learning connects to previous and future learning across grade levels. For example, the "Grade 4 Scope and Sequence" document charts which skills and standards per science strand students should have mastered in previous grades and which ones they will learn in the subsequent grades. The teacher edition contains a material titled "Learning Journey," which provides information for teachers to understand how the SEP, RTC, and science concepts

build over time across the grade levels. This resource can be invaluable to grade levels above and below to see what students should have learned and what their current learning will need to connect to in the next grade level.

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.

- The materials identify common grade-level misconceptions students may have about the science concepts. For example, in the grade 4 lesson “Phases of the Moon,” Day 2, for “Model and Explain,” materials state, “Discuss with students that a common misconception about moon phases is that Earth casts a shadow on the moon, darkening certain parts.”
- The 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. An example of this is in the lesson on “4.7A, Forces.” On Day 5 “Elaborate,” the “Can You Explain It?” section provides background for the teacher to interpret student thinking and suggests where students should be developmentally and what to do if students struggle with the content. For example, the Teacher Guide states: “Students should have grown in their depth of knowledge about unseen forces and how they affect the motion of objects. If students struggle to answer the question, ask what is holding the student to the ground on the water slide and why water makes the student slide farther than he would on a dry slide.” There is also another section to help the teacher support students’ answers.
- The material supports the teacher's subject knowledge and recognition of barriers to student conceptual development as outlined in the TEKS. An example of this can be found in the Teacher Guide for “TEKS 4.10C” in the “Can You Explain It?” section. The “Phenomenon Teacher Background” portion gives more details about teacher support. This teacher background section can be found for each TEKS.
- The materials identify common grade-level misconceptions students may have about the science concepts. In the teacher edition, the differentiation section and the exit ticket section include opportunities for teachers to address student misconceptions for each lesson. For example, in the unit on organisms and environments, materials emphasize where student thinking could be inaccurate about plant structures. Additionally, materials contain support for possible student answers for correcting misconceptions.

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

- The materials provide a purpose or rationale for the instructional design of the program; provide an explanation for why they are designed the way they are; and highlight key features of the instructional design. The Teacher Edition explains how to use the program and provides a purpose for key learning and the 5E structure for each lesson. Students have the opportunity to make their initial ideas and test them through hands-on labs while teachers assume the role of the facilitator.
- The materials explain the intent and purpose of the instructional design of the program. This evidence can be found in “How To Use This Program” in front of the teacher guide. This program guide explains that the materials are structured to support both teachers and students and that they cover a wide variety of instructional needs, such as TEKS, SEPs, RTCs, and their connection throughout each lesson; differentiation; guiding questions; teacher background support; the

flow and sequence of the lessons/TEKS; hands-on investigations; the structure of the 5E model, and much more.

- The materials provide a purpose or rationale for the instructional design of the program. Materials provide an explanation for why they are designed the way they are. For example, in the grade 4 Teacher's Guide, the section “Built for Texas” explains that the resources highlight student collaboration in activities and discourse with the intent that students learn cooperation skills while learning science.
- The materials explain the intent and purpose of the instructional design for the program. There is evidence of this in the grade 4 Teacher Guide. These pages focus on “The Engineering Design Process” and how to move between a problem, the exploring stage, make and test, improving and test, then finding a solution. These practices can be found in each of the lessons for the units.

# HMH Into Science Texas Grade 4

## 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.

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|---|---|---|
| 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 a definition of sensemaking and identify specific student sensemaking behaviors. For example, in the "Patterns of Forces" lesson, on Day 2, the materials include a section titled "Sense-Making," which provides information for teachers to guide students. The materials state, "Students will understand that gravity is a force that pulls on different objects from a distance."
- The materials consistently provide learning activities that support students' meaningful sensemaking through reading, writing, thinking, and acting as scientists and engineers. An example of this is found in the "Patterns in Seasons" lesson. On Day 5, students analyze a table to study temperature patterns to help them identify seasons. They then have the opportunity to research and collect temperature data where they live for six months to study seasonal patterns in their area.

- Materials guide students in a hands-on activity that involves them acting as scientists and taking them through a discovery experiment. For example, students are asked to use what they have learned to write as a scientist about the conservation of matter.
- The materials provide support to identify specific student sensemaking behaviors and give the definition of sensemaking. For example, materials in the Teacher Guide include a program overview section that states students' use of RTC and concepts of the TEKS are scaffolded to support sensemaking about phenomena within and across lessons. For example, for TEKS 4.13A, in the "Structure and Function of Plants" lesson, students read information on birds and fish structures that help them survive in their environment. Students work through adaptation labs to build sensemaking in order to explain the phenomena of how structures of plants help them survive in their specific environment. Students take this information and sensemaking to write evidence and reasoning on how different plant structures help the plant survive.

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

- The materials provide opportunities for students to engage in purposeful and targeted activities with grade-level-appropriate scientific texts. For example, in a grade 4 unit about traits of organisms, students differentiate between inherited and acquired physical traits of organisms. As students explain how factors or conditions impact stability and change in environments, students read leveled "FUNomenal Readers" and use a writing graphic organizer to explain the factors.
- The materials provide multiple opportunities regarding scientific texts. For example, every "Hands-On Activity" starts with a written review of what students have learned, what they will be exploring, and the materials needed. The text often includes diagrams with labels and thought-probing questions.
- The materials provide opportunities for students to engage with scientific texts and include activities, such as pre-reading and vocabulary, to help students understand concepts. An example of this is in the unit on "Mixtures." Students are encouraged to read an article by a female scientist who focuses on ways pollution affects the Navajo people. The goal of her program is to investigate harmful kinds of matter in the environment and their effects on people's health. After students read the article, questions about what they learned help them better understand how harmful matter affects the environment.
- Materials provide multiple opportunities for students to engage with scientific texts to gather evidence and develop an understanding of concepts. For example, in the ELPS minilesson about "Mixtures and Solutions," teachers read aloud a short informational text about mixtures and solutions. After the read-aloud, students use sentence stems from the minilesson to write responding to the text (e.g., "What is something you can say about a mixture? A mixture is….")

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

- The materials provide opportunities for students to communicate thinking on scientific concepts in written and graphic modes. In the "Energy" unit, students respond in writing to what they notice and wonder about energy in a bowling ball and bowling pins.

- The materials provide multiple opportunities for students to engage with various written and graphic modes. Most activities provide a section to write claims, evidence, and reasoning. The students display their understanding of scientific concepts in written form. For example, in the unit on "Traits of Organisms," "Inherited and Acquired Physical Traits," students identify inherited and acquired traits in plants. Students understand that inherited and acquired traits can be recognized in plants and in animals. Students then organize evidence to compare the traits of two parent flowers in a Venn diagram.
- Materials provide opportunities for students to communicate thinking on scientific concepts in written and graphic modes. For example, in the "Energy Transfers" lesson, on Day 4, students design a game based on energy transfer as part of their investigation. The materials state: "Draw a model of your game on a piece of paper. Write labels and explanations about how objects are used in the game."

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 support students as "practitioners" while they are figuring out (sensemaking) and productively struggling. For example, in the lesson "Patterns in Seasons," Day 4, after an investigation, students construct bar graphs, analyze data by identifying patterns, use calculations to compare patterns, and develop explanations supported by models.
- The materials create transfer opportunities for students to take what they have learned and use it flexibly in new situations. For example, students complete multiple hands-on investigations on classifying matter by physical properties. At the end of the hands-on investigations, the guide suggests the students apply what they have learned so far about properties by choosing a type of matter they saw in a meal, listing as many properties as they can to describe the matter without naming it, then trade the list with a partner and try to identify the matter their partner chose based on its properties. This is evidence of students transferring their learning in new situations.
- Materials support students in acting as scientists and engineers in the "Hands-On" sections found throughout the text. For example, in this section for TEKS 4.6.A, students are to ask a question about how to classify matter by temperature. They act as scientists by conducting experiments and recording the data. Once they have collected all the data, they analyze the results and write "Claims, Evidence, and Reasoning."
- The materials provide for authentic student engagement and perseverance when working with concepts; students productively struggle while acting as scientists and engineers. For example, the "Can You Explain It?" section of the lesson "Inherited and Acquired Physical Traits" has students use their hands-on activities and explorations to re-visit the phenomena and use the material learned through the unit to create claims, evidence, and reasoning. Students explain the phenomenon of kittens and their mothers having similar and different traits.

# HMH Into Science Texas Grade 4

## Indicator 5.1

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

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

## Meets | Score 4/4

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

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

Evidence includes but is not limited to:

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

- The materials provide opportunities for students to develop how to use evidence to support their hypotheses and claims. For example, in the lesson "Energy Transfer," Day 3, the section "Claims, Evidence, and Reasoning" includes a prompt: "Think about what you discovered from your investigations. Make a claim about how energy transfers. Support your claim with evidence from your investigations. Explain your reasoning to connect your claim to your evidence." The sample answer states: "Energy transfers from one thing to another. When the marbles collided, the energy transferred from one marble to make the other marble move…."
- Materials prompt students to use evidence to support their hypotheses and claims at the end of all of their "Hands-On" activities. For example, on Day 3 of TEKS 4.10.A, after the students investigate plant structures, they are asked: "Make a claim about how different plant structures help the plant survive. Support your claim with evidence from your exploration and explain your reasoning."
- The materials provide opportunities for students to develop how to use evidence to support their hypotheses and claims. For example, the teacher edition materials guide teachers to model and explain content through sentence prompts that allow students to build a claim, evidence,

and reasoning (CER). The teacher edition guides the teacher with a student sample answer to assist students in using evidence to support their hypotheses and claims.

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

- The materials include opportunities to develop and use vocabulary after having a concrete or firsthand experience within which they can contextualize new terms. For example, in the "Conductors and Insulators" lesson, on Day 1, students start reviewing images to identify the transfer of energy to different objects. After the card activity, students review vocabulary cards with visuals and short definitions.
- The materials include opportunities to develop and use vocabulary after having a concrete or firsthand experience within which they can contextualize new terms. For example, students are presented with structure and function vocabulary words during the "Engage" section of the lesson. Students observe plant structures (stem, roots, and seeds) and plant functions through a series of hands-on activities. In the "Explain" section of the learning sequence, teachers point out how plants would be affected if they didn't have these adaptations. Students write sentences about plant structures and functions from a new set of plants.
- There is evidence that the materials include embedded opportunities to develop and utilize scientific vocabulary in context. Throughout the student edition, students complete "Claims, Evidence, Reasoning (CER)" prompts. Each time they complete one, they are asked to state their claim based on the content they are investigating, then provide evidence based on their claim. They then need to explain their reasoning. Students are encouraged to use their scientific vocabulary based on the context of what they are learning when they complete a CER prompt.
- The materials consistently include embedded opportunities to develop and utilize scientific vocabulary in context. In "TEKS 4.10.A, The Sun and the Water Cycle," the students' "Vocabulary" page includes *evaporation, atmosphere, water cycle, condensation,* and *runoff*. On Day 4, the students are given the writing prompt: "Think about how the water has moved and changed in your model. You may have observed that the water in the cup looks lower and that there is no water in other parts of the shoebox. The total amount of water in your system did not change. What do you think happens when the water level in a lake or another body of water goes down?" This can only be answered by using the vocabulary introduced in this lesson.

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

- Materials provide opportunities for the students to engage in argumentation and discourse. For example, during "TEKS 4.6, Matter," on Day 2, after completing an investigation, the students are guided to "Engage in Scientific Discussion." The text reads: "Think about changing the quantity of the solid you would add to each container. Turn and talk to a partner about what might happen. How might using 2 teaspoons of a solid affect your results? How might using 1/2 teaspoon affect the results?" Although this is discourse and may lead to some argumentation, there is nothing to guide the students in the discussion part.
- The materials provide opportunities for students to develop the practice of argumentation and discourse. For example, in the lesson "Patterns of Forces," Day 3, the materials state: "Make a claim to explain how different surfaces affect friction. Support your claim with evidence from your investigation. Explain your reasoning to connect your claim to your evidence."
- The materials provide opportunities for students to develop the practice of argumentation and discourse. For example, in the "Sun and Water Cycle" lesson, students are presented with an

engineering task to design and build a prototype to prevent the evaporation of water from a reservoir. After designing, building, and testing their prototype, students discuss results with partners to improve their prototype, redesign, and retest. Teachers are prompted in the teacher edition to lead a group discussion to help students discuss and agree on the scale of their prototype.

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

- The materials provide opportunities for students to justify explanations of phenomena and solutions to problems using written and verbal arguments as well as evidence acquired from learning experiences. For example, in the lesson on “Structure and Functions of Plants,” the “Can You Explain It?” section has students use the knowledge they acquired through hands-on activity labs on how the structure and functions of plants help them survive. Students write a “CER,” referring back to the phenomenon presented at the beginning of the lesson—how the structures of a cacti help it survive in its environment.
- The materials provide criteria for developmentally appropriate arguments to explain a phenomenon or defend a solution to problems using evidence acquired from learning experiences. For example, in the “Patterns of Forces” lesson, Day 3, the materials guide the teacher: “Model and Explain Content by having students make a claim and support it with evidence and reasoning. Provide the following sentence stems to students who need extra support. “My claim is… I think that… I noticed that… My evidence is… I know because….”
- The materials consistently provide opportunities for students to construct and present developmentally appropriate written and/or verbal arguments that justify explanations of phenomena and solutions to problems using evidence acquired from learning experiences. For example, in “TEKS 4.10.B, Changes to Earth's Surface,” at the end of an activity exploring water effects on the Earth’s surface, the “Claim, Evidence, and Reasoning” section instructs students to write a conclusion: “Think about what you discovered using a model. Make a claim about how Earth’s surface is slowly changed by water. Support your claim with evidence from your investigation. Explain your reasoning to connect your claim to your evidence.”

# HMH Into Science Texas Grade 4

## Indicator 5.2

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

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

## Meets| Score 4/4

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

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

Evidence includes but is not limited to:

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

- The materials consistently provide support for teachers to deepen student thinking through questioning. For example, in the "Conductors and Insulators" lesson, on Day 5, "Can You Explain It?" provides guidance for teachers to prompt students: "Interpret Student Thinking by having students answer the Can You Explain It? question using evidence from hands-on activities and explorations. Students should have grown in their depth of knowledge about insulation and insulators. If students struggle to answer the question, pose a question such as: How do insulators keep drinks warm in a tumbler? GUIDING QUESTION: How does this cup keep a drink hot or cold all day long?"
- Materials provide support for teachers to deepen student thinking through questioning. An example of this can be found in the "Energy" lesson at the end of the "Identify Energy Transfers" section. In the "Support for Student Answers" section, the guide provides multiple example questions that the teacher can ask to help deepen student thinking and understanding through questioning. Questions include examples, such as "What examples of energy transfer did you identify in this table tennis video?" "How did energy transfer from the boat to the buoy?" "How is energy transferred between animals in both of the examples in the video?"

- The materials consistently provide the teacher with guidance on anticipating student responses and the use of questioning to deepen student thinking. For example, in the "Patterns of Forces" lesson, the "Lead a Group Discussion" section states: "By eliciting student questions, you are both tapping into their identity as scientists and eliciting, in an indirect way, their prior knowledge." The next section, "Student Questions," states: "By eliciting student questions, you are both tapping into their identity as scientists and eliciting, in an indirect way, their prior knowledge. Encourage students to ask questions about what interested them in the video. Remind students that they are being scientists when they ask questions and figure out ways to answer them through observations, experiments, and gathering evidence. Record the questions, and put a checkmark by a question that has more than one student who is interested in it. Let students know they will not answer the questions right now. It will be answered as students move through the lesson. They should use the evidence they gather through the hands-on activities and explorations to answer questions and generate new questions."
- The materials provide teachers with possible student responses to questions and tasks. For example, in the "Energy" unit, during the "Electrical Energy" lesson, students are asking questions and defining problems about how the flow of electrical energy in closed paths can produce light and thermal energy. The Teacher Guide provides questions to help students make observations to describe how electrical energy is moved through a circuit. Sample answers include the following: "Electrical energy flows continuously in a closed loop around the circuit through the battery and the light bulb. Energy flowing through the light bulb produces light energy." Later in the unit, materials provide questions for students to think about why a phone charger doesn't work. A sample answer: "The wire is damaged, so the circuit is not closed. The electrical energy cannot flow in a loop that is not closed."

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

- The materials provide embedded support for the teacher on how to introduce and scaffold students' development of scientific vocabulary. Across all grade levels, teacher edition materials provide "Planning for Differentiation" and "Language Support" sections, which direct teachers to reinforce vocabulary, including signal words and sentence frames, throughout the units. The teacher edition also provides vocabulary anchor charts and vocabulary writing graphic organizers. It prompts teachers to use these materials throughout the students' learning to support targeted concepts and to gauge their progress on the language development continuum.
- The materials provide guidance for the teacher on how to support students' use of scientific vocabulary in context. For example, in the "ELPS Minilessons," in the lesson "Condensation and Precipitation," the materials state: "Point out words that may be unfamiliar, such as *atmosphere, vapor, condensation, precipitation, hail, and sleet*. Discuss examples of precipitation that the students have experienced and describe what they say, how it felt, and where they were…."
- The materials provide embedded supports for the teacher on how to introduce and scaffold students' development of scientific vocabulary. For example, in the "Energy" unit, the guide suggests the teacher activate prior knowledge by having students discuss forms of energy they interact with on a daily basis; students then try to come up with other examples of energy systems they depend on in their school building and have a group discussion on which types of energy would be the hardest to come up with in a school day. The guide then gives support for the teacher to have the students write down the words and add examples and pictures to help

them remember the words. The guide also suggests students use the language development worksheet to record key vocabulary and other new terms they come across in the unit/lesson. The teacher can also record terms/definitions on a vocabulary anchor chart that students can then refer to throughout the lesson.

- The materials include teacher guidance on how to scaffold and support students' development and use of scientific vocabulary in context by providing language support minilessons. For example, for TEKS 4.9A, the minilesson "Language Objective" states to "listen to a text and take notes to clarify understanding." Teachers are provided with "Strategy" and "Scaffolding" sections. In the Strategy section, they are guided to "set a listening focus: have students listen for the differences in sunlight in the different parts of Earth and hold up a craft stick when they hear one." The teacher is then given questions for the students to respond to. The Scaffolding instructions are broken into "Beginning, Intermediate, Advanced, and Advanced High" to support the students in their reading and writing levels.

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

- The materials provide teacher questions for supporting student discourse and the use of evidence in constructing written and verbal claims. Questions push students to use evidence to support their claims in both written and spoken discourse. For example, in the "Conductors and Insulators" lesson, on Day 1, in the section "I Notice/I Wonder," the materials state: "Encourage students to ask questions about what interested them in the video. Remind students that they are being scientists when they ask questions and figure out ways to answer them through observations, experiments, and gathering evidence... They should use the evidence they gather through the hands-on activities and explorations to answer questions and generate new questions."
- The materials provide examples of teacher questions for supporting student discourse. For example, in the "Energy" "Elaborate" section, there is a guiding question: "How does energy transfer through the bowling game system?" There is another suggested question: "What evidence do you see of energy in different parts of the bowling game system?" The guide then provides sample student answers to help guide the teacher to make sure students are on the right track with their explanations.
- The materials consistently provide teacher guidance on preparing for student discourse and supporting students in using evidence to construct written and verbal claims. For example, for TEKS 4.8, the teachers are guided in the "Claims, Evidence, and Reasoning" section to support the students in writing their claims and supporting them. The text states: "Model and Explain Content by having students make a claim and support it with evidence and reasoning. Provide the following sentence stems to students who need extra support. "My claim is that energy transfers… My evidence is… My reasoning is…." The next section, "Support for Student Answers," provides instructions to give the students: "Think about what you discovered from your investigations. Make a claim about how energy transfers. Support your claim with evidence from your investigations. Explain your reasoning to connect your claim to your evidence."
- The materials provide teacher supports to prepare for student discourse. Teacher edition materials include "Students as Scientists," where teachers are prompted to connect how students are acting like scientists during their course of study. For example, in all materials for grades 3-5, the teacher guide prompts the teacher to remind students of questions they asked at the beginning of their hands-on activities in the unit and ask students how they worked like a scientist as they completed the activities, then turn to a partner to discuss their answers.

# HMH Into Science Texas Grade 4

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

- The materials provide teacher support for facilitating the sharing of students' finding solutions. The Teacher Guide provides feedback tips and examples teachers can use to support students throughout the learning cycle. In the "Renewable and Nonrenewable Resources" lesson, there is evidence of feedback tips for teachers along with student examples that teachers can use to help guide the learning. In the "Exit Ticket/Formative Assessment" section, the guide says, "Provide feedback to students by having them demonstrate the relationship between wind and electrical energy using their model." Then, in the "Support for Student Answers" section, it states: "Which of the following describes the relationships between wind and electrical energy in a wind turbine? Sample student answer: B. More wind causes the turbine to generate more electrical energy. D. Less wind causes the turbine to generate less electrical energy."
- The materials provide teacher support and guidance to engage students' thinking in various modes of communication throughout the year by providing exemplars of students' verbal responses for sharing their thinking. For example, in the lesson "Energy Transfer," on Day 7, in the section "Can You Explain It?" materials provide support for student answers and a sample answer: "Someone rolled the ball, transferring their energy of motion to the ball. The ball transfers its energy of motion to the pins when it hits them…."
- Materials provide teacher support for facilitating the sharing of students' finding solutions. The Teacher Guide provides feedback tips and examples teachers can use to support students throughout the learning cycle. For example, for grades 3-5, the "Teacher's Corner" section includes "Make Science Fun: Facilitating Collaboration," which covers embracing failure: "In engineering, failure is actually a good thing. Teach your students that not only is it okay, but it's also expected for them to fail along the way to their solution. Encourage them to modify their initial ideas as they learn what causes a failure." Materials included in this section are intended to be used as best practices across all units and lessons.
- The materials consistently support and guide teachers in facilitating the sharing of students' thinking and finding solutions. For example, in TEKS 4.10C, in a "Language SmArts" section, the teacher is guided to support the students in writing their understanding of weather and climate. Materials guide: "Check Student Understanding that when speaking to younger students, simpler language and less formal grammar might be used than when writing to someone far away who is not familiar with the place the writer is describing."

# HMH Into Science Texas Grade 4

## 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 criteria for this indicator. Materials include a variety of TEKS-aligned and developmentally appropriate assessment tools.

Materials include a range of diagnostic, formative, and summative assessments to assess student learning in a variety of formats. Materials assess all student expectations over the breadth of the course and indicate which student expectations are being assessed in each assessment. Materials include assessments that integrate scientific concepts and science and engineering practices 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.

- Formative assessments are presented in a variety of formats included in the materials to measure student learning and determine the next steps for instruction. For example, in the grade 4 Teacher's Guide, "Energy Transfer Day 2" lesson, the materials include an Exit Ticket/Formative Assessment. The materials state "Provide feedback by encouraging students to read their completed sentences aloud before checking their responses. Complete the sentences to identify how energy was transferred in the investigation."
- The materials include summative assessments in a variety of formats. In the grade 4 Reports section, there is evidence that there are summative assessments in two formats (Form A and B) that assess students on the concepts in the unit. An example of this is the "Traits of Organisms" unit test report. The Reports for this assessment provide data to help teachers determine progress by student, class, and grade. There is also information to help drive the instruction including item analysis data and students that are on, below, and above level by unit.
- The materials include a range of diagnostic, formative, and summative assessments, including formal and informal opportunities to assess student learning. Included is a *Formative Assessment* page that outlines the different ways the text supports formative assessments. These include *Classroom Discussions, Exit Tickets,* and *TEKS Quizzes.*

- Materials include formative assessments in a variety of formats to measure student learning and determine the next steps for instruction. For example, at the beginning of the grade 4 "Mixtures" lesson in the "Matter" unit, students activate prior knowledge by sharing what they already know on a concept map or bubble map with the word *matter* in the center. The teacher guide gives guidance for the teacher to guide students thinking around prior grade knowledge such as learning about classifying matter into solid, liquid, and gas and describing matter based on their physical properties. Materials then guide teachers to lead a group discussion so students can share their understanding of states of matter and invite other students to respond by agreeing or disagreeing to refine their ideas while using vocabulary words like mixture and solution.

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

- The materials indicate which student expectations are assessed. In the grade 4 Assessments section, there are Tests found for each TEKS taught in the curriculum. The teacher can also access the class/student report for each test in the Reports sections. Teachers can pull reports by item to see the progress of each student by item and note which TEKS are tested by item. An example of this is found in the grade 4 Assessment Guide, Table of Contents. The Table of Contents shows the TEKS covered by each test. Each test covers several student expectations that were taught within the entire unit.
- The materials assess all student expectations and indicate which student expectations are assessed. For example in grade 4, for each summative assessment, the teachers are provided an outline of the test questions. The spreadsheet includes the item type, reteaching support, and rationale for the students' selections whether correct or incorrect. In the summative assessment for multiple choice questions, the correct answers say, "This is correct because…" An incorrect answer states, "This is incorrect because…"
- The materials consistently indicate which student expectations are assessed. Materials provide both the TEKS correlation for each assessment item and the answer keys for every assessment. For example, in grades 3-5, the Teacher Guide assessment section after every unit includes an item analysis chart that shows the specific standards covered in each assessment question so teachers can monitor student progress.
- The materials assess all student expectations, as outlined in the TEKS, by grade level. For example, the grade 4 *Assessment Quiz and Tests* materials include TEKS-aligned assessments that align with the lessons. In 4.8, an energy transfer quiz corresponds to the TEKS included in the grade 4 lesson "Energy Transfer."

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

- The materials include assessments that integrate scientific concepts and science and engineering practices. For example, in grade 4, TEKS 4.6B, "Mixtures," the students are using a graduated cylinder and other tools to investigate solutions. The teacher is instructed to "Have students use the Scale, Proportion, and Quantity Science Theme Graphic Organizer to compare two systems described: the amount of water and amount of the solid they stir into the water."
- Materials include assessments that integrate scientific concepts and science and engineering practices with recurring themes and concepts. For example, the grade 4 TEKS assessment

materials ask students to analyze a food web and then describe how energy moves matter through the ecosystem and complete a data chart for different organisms.

- Assessments that require students to integrate scientific knowledge and science engineering practices with recurrent themes appropriate to the student expectation being assessed are provided by the materials. For example, in the grade 4 Teacher's Guide, "Conductors and Insulators" lesson, Day 2, the materials complete a performance task by making a claim to describe how heat energy is transferred differently through different materials after completing their investigation. The materials include a chart with performance indicators for the performance task.
- The materials include assessments that require students to integrate scientific knowledge and science and engineering practices with recurrent themes appropriate to the student expectation being assessed. Each lesson in the materials has a Claims, Evidence, and Reasoning (CER) prompt where students apply what they've learned by stating a claim, providing evidence for their claim, and explaining their reasoning. An example of this is in the grade 4 CER prompt for Energy. Students are asked to make a claim to explain how electrical energy travels in a closed path that can produce light energy. They then use evidence from their investigation to support their claim, then must explain their reasoning.

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

- Materials include assessments that require students to apply knowledge and skills to novel contexts. Materials include assessments where students apply knowledge and skills to a phenomenon that is presented at the end of each unit. For example, in the grade 4 unit on "Traits of Organisms," in the "Renewable and Nonrenewable Resources" lesson, students are given the phenomena that states, "How do people choose the natural resources they will use to meet their needs?" At the end of the unit, students are asked to create a claim, evidence, and reasoning using knowledge and vocabulary obtained from the unit.
- Materials include assessments that require students to apply knowledge and skills to a new phenomenon or problem. For example, in the grade 4 Teacher's Guide lesson, "Patterns of Forces," students conduct investigations to explore the patterns of forces such as gravity, friction, or magnetism. After the hands-on investigations, students connect their knowledge to daily life activities. The materials state, "Playground Forces: Take a field trip to the school or community playground to observe and experience patterns of forces at work. What happens when a swing is pulled back? What is different when it is pushed? Why can you travel so quickly down a slide? What would happen if you added water to that slide? What other pieces of playground equipment use force to create fun experiences?"
- Assessments that require students to apply knowledge and skills to a new phenomenon or problem are provided by the materials. In the grade 4, "Earth, Sun, Moon Systems" unit, students are studying weather and connecting what they learn about measuring temperature so that they understand that they can analyze temperature data from previous years to predict what the weather will be like in six months. Students are investigating things that can affect the temperature that a thermometer measures and will collect temperature readings for multiple places. Students will then observe how the temperature might look different when they take the temperature in different places. After the investigation, students will complete an exit ticket where they choose which is the best practice for measuring accurate air temperatures.
- The materials consistently include assessments that require students to apply knowledge and skills to novel contexts. For example, in grade 4, TEKS 4.12.B, "Matter and Energy Flow in Food Webs," the students apply their knowledge and skills to write about the difference between a

food chain and a food web. The text instructs, "Now that you have explored a model of a food web, check your learning with this question." They are then asked, "What is the difference between a food chain and a food web?"

# HMH Into Science Texas Grade 4

## 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 that guides teachers in evaluating student responses. For example, in the grade 4 Teacher's Guide lesson, "Energy Transfer Day 3," the materials include follow-up suggestions for formative assessments and provide examples of acceptable answers for evaluating student responses. For example, the materials state, "Exit Ticket/Formative Assessment. Support Student Answers: Choose the words to correctly complete the sentence. Sample answer: In the water wave investigation, water waves resulted from my hand's motion. Water waves transferred energy from my hand to the ball."
- The materials include information and/or resources that provide guidance for evaluating student responses. Teachers can access Assessment Reports that give them important information that they can for intervention and/or enrichment purposes. Information within each report includes student overall scores, class overall averages, and item analysis by student, class, or even by group so teachers have the ability to group students by item or standard and intervene or accelerate instruction. An example of an assessment report is found for grade 4 for all assessments given within a month's time.
- The materials consistently provide guidance for evaluating students' responses. At the end of the hands-on activities, the students are required to make a claim and support it with evidence

and reasoning. The Teacher's Guide provides *Support for Student Answers* that provides sample answers. For example, in grade 4, TEKS 4.10, "The Sun and the Water Cycle," the sample answer provided is, " My claim is that water evaporates into the air and moves with the air. Then it condenses into clouds. The clouds move above the surface of the Earth. My evidence for this is based on the models we made. Water moved from the cup to the clear wrap. My reasoning is that this happened because of evaporation and condensation."

- Materials consistently include information and/or resources that provide guidance for evaluating student responses. Materials include information that guides teachers in evaluating student responses. At the end of each lesson, students are asked to write a Claim, Evidence, and Reasoning (CER) response to their learning, and materials give teachers performance indicators for evaluating students' CER writing responses. For example in grade 4, "Traits of Organisms" unit, "Structure and functions of Plants" lesson, *Can You Explain It?* students are asked to respond to, "How do the structures of a cactus plant help the plant survive in its environment?" The performance indicators for teacher evaluation include student responses that use tools to observe plant parts, collect observations of plant structures to use as evidence of their functions and explain how structures and functions of plants enable them to survive in their environment.

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

- The materials support teachers' analysis of assessment data with guidance and direction to respond to individual students' needs. For example, the grade 4 *Standards Report for All Students* shows the class average along with individual students. A colored line is used to represent the students and where they are, red for below-level, orange for on-level, and green for above-level.
- Materials provide guidance and tools to support teachers in responding to data to inform instruction. Materials for grades 3-5 are included in the Teacher Edition, reports tab. The growth report includes data reports that inform instruction and facilitate tracking of student progress toward skill mastery by class or by individual student. This report is customizable by the teacher to guide their decisions on student instruction.
- Materials provide guidance and tools to support teachers in responding to data to inform instruction. For example, the grade 4 Teacher's Guide lesson, "Forces," includes an *Analysis Chart* that facilitates tracking of student progress toward skill mastery.

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

- The materials provide assessment tools that yield relevant information for teachers to use when planning instruction, intervention, and extensions. For example, in grade 4 the Assessment Report allows the teachers to pull the question that the students got incorrect to review as a whole class or small group.
- Assessment tool materials suggest ways to make instructional decisions. Materials include an Assessment Report which is color-coded by "Below-Level, On-Level, and Above-Level" which groups students based on their mastery and identifies objectives that need to be retaught by whole group or by student groups.

- The information gathered from the assessment tools helps teachers when planning core science instruction. For example, in the grade 4 Reports section of the landing page, the materials include the Assessment Report for assessment proficiency, which groups students by performance.
- The information gathered from assessment tools helps the teacher when planning small group, differentiated instruction for enrichment. Teachers have the ability to pull computer-generated assessment reports, then access a feature in the online program that puts together recommended groups based on students who were above level. Teachers can then create additional instruction for these groups based on their needs.

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

- Materials provide a variety of teacher guidance for responding to student data. An electronic data entry system provides data reports on how to group students according to assessment results and suggests lessons, materials, and/or activities to support the development of students' science knowledge and skills based on the data included in the teacher guide, reports tab, program activity report section.
- Materials provide a variety of student resources for teachers to use in responding to performance data. For example, the grade 4 Teacher's Guide, includes intervention activities to reteach concepts. For example, in the lesson "Patterns of Forces," materials include the section Differentiation/Reteaching Support with resources to reteach the concepts of the lesson.
- The materials provide a variety of student resources for teachers to use in responding to performance data. The materials provide ELPS Minilessons that include vocabulary support, clarifying ideas, instructional strategies, and scaffolding support. An example found in the grade 4 materials includes the 4.6A "States of Matter" minilesson where students describe and classify matter based on shape and properties.
- The materials provide a variety of resources and teacher guidance on how to leverage different activities to respond to student data. For example, in grade 4 ELPS minilessons materials provide scaffolding for beginning, intermediate, advanced, and advanced high supports for those students that require language support as the class explores what speed is.

# HMH Into Science Texas Grade 4

## Indicator 6.3

Assessments are clear and easy to understand.

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

## Meets | Score 2/2

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

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

Evidence includes but is not limited to:

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

- Materials include assessments that contain items for the grade level that avoid bias. For example, in grade 4 Student Interactive Lessons, the performance tasks for lesson "Patterns of Forces" Days 2, 3, and 4, present individuals of diverse backgrounds and ethnicities.
- The assessments contain items that are scientifically accurate, avoid bias, and are free from errors. In a grade 5 Exit Ticket on "Natural Resources," the items avoid bias by focusing on factual and accurate information about wind and electrical energy in a wind turbine.
- The assessments consistently contain items that are scientifically accurate, avoid bias, and are free from errors. For example, in the grade 4, "Traits of Organisms" (TEKS 4.13) Test, the students are provided an illustration of a pitcher plant with an inset that is labeled with its structure. The students have two questions to answer that go along with the illustrations.
- Assessments contain items for the grade level that are scientifically accurate. In a grade 4 formative assessment, a lab experiment on the water cycle accurately describes that the water on Earth we use today is the same water that has always existed on Earth rather than new water being created.

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

- The assessment tools use clear pictures and graphics that are developmentally appropriate. For example, a grade 4 Exit Ticket on 4.7, "Forces," uses a clear and developmentally appropriate graphic of an amusement park ride when discussing friction and gravity.

- In the grade 4, "Mixtures" (TEKS 4.6B) Quiz, illustrations are provided of two different mixtures. The students are also given a written description of the mixtures. They are given a word bank and required to drag and drop their answers into blanks in a paragraph explaining their process to determine if they are mixtures or solutions. The illustration provides a visual that is clear and easy to read to aid in the student's completion.
- Assessments contain pictures and graphics that are developmentally appropriate. In the grade 4 assessment on classifying matter, the assessment includes developmentally appropriate pan balance with an apple on one side and gram pieces on the other side.
- Materials include assessments containing pictures and graphics that are developmentally appropriate. For example, in the grade 4 "Energy" Test A, the materials present simple and clear graphics to show circuits. The graphics include pictures and arrows to show directionality.

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

- The materials provide guidance to ensure consistent and accurate administration of assessment tools. For example, in grade 4, they provide an *Assessment Frontmatter*. It includes a section for Summative Assessment. It includes how the students are to demonstrate proficiency with the TEKS. Materials guide the teachers that, "They are available in an editable, printable format, or they can be administered and graded online on ED. When administered online on Ed, reporting capabilities will be available to provide data by student or by class."
- The materials include detailed information that supports the teacher's understanding of assessment tools and their scoring procedures. An assessment guide, or a distinct section in the Teacher's Guide on assessment, includes an example of a scored performance assessment with an explanation for each of its components.
- Materials provide clear guidance for teachers to consistently and accurately administer assessment tools. For example, the materials offer alternate-form reliability to maintain consistency of test results between two different but equivalent forms of tests. For example, in the grade 4 Teacher's Guide, "Conductors and Insulators" lesson, in the section Planning for Assessment, the materials include two quizzes, A and B, for the learning objective of the lesson TEKS 4.8B, "Conductors and Insulators."
- The materials provide guidance to ensure consistent and accurate administration of assessment tools. The materials include detailed information that supports the teacher's understanding of assessment tools and scoring (answer key guidance and scoring rubrics). The grade 4 *Frontmatter* guide states that HMH Science Texas Assessments can be administered, scored, and printed on Ed. Teachers can use the Standards Report on Ed to check in on students' cumulative proficiency and get helpful resource recommendations. There are two versions of the answer key available: one in a filterable spreadsheet containing important info such as Depth of Knowledge (DOK), item type, and rationales, and one in annotated, printable PDF to use for easy grading. The guide also includes information about scoring rubrics for open-ended assessment items that allow teachers to evaluate student responses for all TEKS aligned to the question. There are 2-point scoring rubrics included along with exemplar student responses to show how students could respond to each portion of the prompt to receive full credit.

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

# HMH Into Science Texas Grade 4

- Materials consistently include guidance to offer accommodations for assessment tools that allow students to demonstrate mastery of knowledge and skills aligned with learning goals. For example, materials for grades 3-5 include audio options for students to listen to administered online assessments for additional reading support. These audio options are available across all assessments in the Planning for Assessment: Ed Online section of the Teacher's Guide.
- Materials offer accommodations for assessment tools so that students of all abilities can demonstrate mastery of learning goals. For example, materials provide a text-to-speech feature on the web-based assessment platform. In the grade 4 Teacher's Guide, "Electrical Energy" lesson, in the Planning for Assessment section, the materials state, "When administered online on Ed, audio is available for additional reading support."
- In grade 4, the materials offer a Form A and Form B TEKS assessment. Form B has a lesser amount of items and overall less reading material to accommodate students.
- In grade 5, materials provide an *Assessment Frontmatter* that includes an Additional Resources section. One section is a *Skills & Themes Bank*, and one of the guides for the teachers they provide is, "You can add to quizzes/tests as needed to supplement the content through My Stuff on Ed or by using the editable Word format."

# HMH Into Science Texas Grade 4

## 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 also 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.

- The materials include teacher guidance for some scaffolding instruction and differentiating activities for students who have not yet achieved mastery. For example, materials in grades 3-5, provide sentence stems for teachers to guide students in writing their claims, evidence, and reasoning, such as: "My claim is…(I think that….)(I noticed that….) or My evidence is…." These sentence stems are used in all units and are repetitive throughout the materials.
- Materials include teacher guidance for scaffolding instruction and differentiating activities for students who have not yet achieved mastery. For example, lessons include recommendations for downward scaffolds to support students in successful science learning and knowledge building. In the grade 4 Teacher's Guide, "Patterns of Forces Day 3" lesson, the materials include a section titled Differentiation: Extra Support, which states, "For students who need assistance with planning and implementing their investigation, prepare three or four bags of rocks, set up the testing station, and create a data recording sheet in advance of the lesson. Number the bags in the order of weight, and provide them to students to test in order and record their findings."
- The materials include teacher guidance for scaffolding instruction and differentiation activities for students who have not yet achieved mastery by providing sentence stems for using scientific vocabulary for the CER Method. An example from the grade 4 "Energy" unit provides sentence stems such as "I think…. I know this because…. This means that…."
- The materials provide recommended targeted instruction and activities to scaffold throughout the Teacher's Guide. Teachers are provided with links to EdOline with differentiation/reteaching support that scaffolds their current lesson. For example, in lesson 4.7A, the teachers are

provided with differentiation/reteaching support by providing links to *ScienceSaurus Physical Science: Forces and Motion* and *Supplemental Lesson: What Is Motion?*

Materials provide enrichment activities for all levels of learners.

- Enrichment activities are consistently provided in the materials and account for learner variability. For example, in the grade 4 Teacher's Guide, the materials include a section titled Manage Small Group Work. In the lesson "Patterns in Seasons Day 3," the materials state, "Manage small-group work by preparing and assigning websites and resources to groups according to their abilities and interests. During the activity, circulate among the groups to help guide the process and facilitate discussion."
- The materials provide enrichment activities that account for learner variability. This evidence can be seen in the Elaborate section of each lesson inside each unit. In the Elaborate section, there are a variety of resources the teacher can choose that extend the learning for students. An example of this can be found in the grade 4 "Seasonal Patterns" unit in the Elaborate section. Students can learn about the role of a satellite meteorologist and then apply it to how they have acted as a scientist to collect and analyze their own data. Students can research, answer questions about the topic, and summarize what they have learned.
- Materials include opportunities for cross-curricular activities. For example, in grade 4, lesson 4.8A, "Energy," Cross-Curricular Connections, *Language SmArts,* "Day 2: Students will use the information they've found to describe the best materials to create drink containers to meet different needs." *Do the Math*, "Day 5: Students will use the information provided in a chart to determine how thick oven mitts made of different materials would have to be to protect their hands from the heat."
- The materials include guidance to regularly engage in tasks and provide enrichment activities that account for learner variability, such as writing prompts for responding to lessons so students can apply their science knowledge in writing. For example, in grade 4, the lesson "Inherited Traits" in the unit covering "Traits of Organisms," there are opportunities for students to check their understanding by writing a response on a CER on inherited and acquired traits.

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

- The lessons include recommendations for just-in-time scaffolds to develop productive perseverance of learning in the moment. Materials include questions for the teacher as a means of supporting students when they struggle to maintain engagement on a task within the lesson. For example, in grade 4, teacher resource materials for a unit on "Traits of Organisms," the "Inherited and Acquired Physical Traits" lesson provides teacher guidance for when students need extra support in writing a narrative in which the organism acquires a new physical trait due to a change occurring in its environment. Materials prompt teachers to consider providing a paragraph frame to students who are struggling with the given example. One paragraph frame that could be provided is "One problem that can affect organisms is…. For example,...."
- Materials provide support and resources for students who are ready to accelerate their learning. For example, materials include recommendations for project-based exploration and/or scientific experimentation rooted in SEP. In the grade 4 Teacher's Guide lesson, "The Role of Producers Day 3," students investigate and experiment to find out how water moves from roots to leaves in a producer.
- There is evidence throughout the lessons that the materials include recommendations for just-in-time scaffolds to develop productive perseverance in learning at the moment. For example, in

the grade 4 "Weather Engage" lesson, the materials include suggested immediate and specific feedback to help learners. This can be seen in each section titled, Support for Student Answers.

- Materials provide scaffolds and guidance that support the teachers in just-in-time learning acceleration for all students. In grade 4, lesson 4.8B, "Energy," the materials provide a Vocabulary section that guides the teachers to encourage and remind students to "Review terms on the Vocabulary Anchor Charts and remind students to refer to it throughout the lesson." This resource is also provided also an EdOnline section with links to the Vocabulary Anchor Charts.

# HMH Into Science Texas Grade 4

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

Evidence includes but is not limited to:

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

- The materials engage students in the mastery of the content through a variety of developmentally appropriate instructional approaches. For example, lessons include authentic tasks in which students use tools to measure and collect data. In the grade 4 Teacher's Guide lesson, "Patterns of Forces Day 4," students use a metric ruler to measure how magnetic force acts on different materials up close and at a distance. Students record their measurements and analyze them to look for patterns. In another grade 5 unit focusing on the "Life Process of Organisms," students are collecting data to explain how to develop a model of a bird's nest that would increase the chances of survival for the bird living in the nest.
- The materials include a variety of developmentally appropriate instructional approaches to engage students in the mastery of the content. An example of this is found in the lessons in each unit in the I Notice, I Wonder section, such as in the grade 4 "Earth, Sun, Moon System" lesson. In the Notice and Wonder section, the guide suggests students discuss what they notice about the weather. Then the guide suggests the teacher ask what students wonder about the weather. This strategy lends itself to a discussion about the phenomena as well as allows students to

think out loud so they can hear other perspectives and gain a better understanding of the science concepts.

- The materials consistently include a variety of developmentally appropriate approaches to engage students in content mastery. For example, in the online interactive grade 4, Lesson 4.7A Day 1, the students are provided with the guiding question, "What patterns of forces act on the student playing on the lawn water slide?" to think about while watching a video. After the video, students are asked, "What do you notice about patterns of forces on the student?" and type their answer.

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

- The materials consistently support flexible grouping by promoting small group work, as seen in the grade 4 "Weather" lesson. The guide suggests preparing and assigning websites to groups according to their abilities and interests. Another example can be found in the grade 4 Teacher's Guide lesson "Conservation of Mass Day 2," where materials state, "Students should work with a partner or group..." which includes opportunities for students to engage in collaborative or cooperative learning activities.
- Materials consistently support flexible grouping. Throughout the student's text, it guides them to work in either small groups, whole groups, partners, or one-on-one. In grade 4, Lesson 4.9A, the teachers are guided in the *Preparation Tips* to have materials available for each group. The tip states, "Each group of students will need to access average temperature and average precipitation data for a city in Texas."
- The materials support a variety of instructional groupings (e.g., whole group, small group, partners, one-on-one). In the Teacher Edition, all lessons in grades 3-5, Hands-on Activities are provided for self-directed (teacher-monitored and approved) investigations and problem-solving projects. In the grade 4 unit on "Traits of Organisms," the lesson titled "Structures and Functions of Plants" has students work through a Hands-on Lab to design a useful device that mimics or copies the structures and functions of plants to apply what they learned in the unit to the human world.

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

- The materials consistently support multiple types of practices and provide guidance and structures to the teachers in supporting the students' understanding of the phenomena at all their levels. For example, in grade 4, Lesson 4.6C, the text provides sections for Emergent Bilinguals Support and Differentiation/Reteaching Support.
- The materials provide teacher guidance and structures for the effective implementation of multiple types of practices. Materials state a clear purpose and learning goals for groups contained in units and lessons. Every lesson states a learning objective. For example, in the grade 4 unit on "Organisms and Environments" within the lesson titled "Structure and Functions of Plants," the Hands-on Lab starts by stating the learning objective of "students will be able to use tools to explore plant structures and explain how the structures cause function."
- There are multiple types of practices (e.g., modeled, guided, collaborative independent) provided in the materials. For example, in the grade 4 Teacher's Guide lesson, "Classify Matter by Physical Properties Day 1," the materials guide teachers to model and explain by using a think-aloud such as picking up a cup and saying, "I wonder if this cup is matter. I can touch it. I can hold it. It takes up space. It must be matter."

- The materials consistently support multiple types of practices and provide guidance and structures to achieve effective implementation. An example of this can be found in the grade 4 "Energy" unit. The Teacher's Guide suggests teachers demonstrate for students how to create a model of the transfer of energy. The guide also gives teacher guidance for students with sample answers and what they should look like, as well as feedback teachers can give to students to help guide them even further.

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

- The materials represent diverse communities using images that depict real-world examples and connections through materials that represent communities and places, including rural, urban, and suburban communities. For example, throughout the grade 4 Teacher's Guide, there are images of students in parks, neighborhoods, cities, and schools, and they are playing soccer, baking cookies, having picnics, and completing lab investigations.
- The materials represent diverse communities using images and information that are respectful and inclusive. Information in teacher guidance documents, student materials, scientific texts, and assessments positively portrays a diverse group of scientists and engineers representing genders, races, ethnicities, abilities, religions, and national origins. For example, the grade 4 Teacher's Guide lesson, "Patterns of Forces Day 5," discusses the contributions to society of the scientist Dr. Martin Lo.
- Materials represent a diversity of communities in the images and information about people and places by the scientist they include and their research. The photos of other students working show a diverse picture of all nationalities. For example, in grade 4, Lesson 4.7A, "Patterns of Forces," there is a photo included of two students of different nationalities; one also has a physical disability.

# HMH Into Science Texas Grade 4

## 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 the 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 teacher guidance for communication with EB students, with the goal of creating comprehensible input. For example, in the grade 4 Teacher's Guide in the lesson "Energy Transfer" in the section Emergent Bilinguals Support, the materials state, "Have students express their knowledge in ways that are accessible to them, such as using visuals, gestures, and other nonverbal cues to reinforce or express understanding."
- The materials include linguistic accommodations commensurate with various levels of English proficiency as defined by the ELPS. An example of this is found in the grade 4 "Magnetism and Gravity" ELPS Mini-Lesson section titled "Preview Student Reading." The lesson suggests showing students the passages on the last page of the Mini-Lesson. The teacher states, "Review the image." The teacher displays the sentence frames and has partners take turns completing the sentence frames: "The picture shows…. The title is Magnetism and Gravity. I think magnetism is…. I think gravity is…."
- The materials consistently include guidance for linguistic accommodations commensurate with various levels of English language proficiency as defined by the ELPS. For example, in grade 4, TEKS 4.7A, "Forces," the teachers are provided with an ELPS Mini-Lesson. One provided in this section states, "One document provided in this section is a language development worksheet that is paired with the ELPS Mini-Lesson for TEKS 4.7A." The language development worksheet provides the teacher with strategies for previewing the student reading before the lesson. It also includes scaffolding supports for beginning, intermediate, advanced, and advanced high ELPS.

- Materials include teacher guidance for communication with EB students, with the goal of creating comprehensible input. Materials provide specific guidance for linguistic accommodations commensurate with various levels of English language proficiency. For example, in grade 4, in the lesson on "Food Webs," the Teacher Edition ELPS Mini-Lesson provides scaffolding for intermediate, advanced, and advanced high learners when the teacher is working with students to listen to the text and retell how matter and energy move through food webs. Teacher Edition materials guide teachers to provide students with a word bank and have students add the words to a sequence organizer.

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

- The materials encourage strategic use of students' first language as a means to linguistic, affective, cognitive, and academic development in English. For example, in grade 4, TEKS 4.7 "Forces," the teachers are provided with a Support for Vocabulary section. It instructs them to "Remind students that people learn and remember some words better if they write down the word and add examples or pictures to show what the word means." The second helpful ELP support in that section is, "It is helpful for all students to hear and speak the vocabulary words. Review the vocabulary words starting with an 'I say'/'You say' routine. Go through the list two or three times until everyone can say them."
- In the grade 4 Teacher's Guide in the lesson "Energy Transfer" in the Emergent Bilinguals Support section, the materials state, "Have students express their knowledge in ways that are accessible to them, such as writing a term in another language they know, then looking it up in a bilingual dictionary to confirm the term's meaning."
- Materials include textbooks or audio/video clips that explain concepts in languages other than English. All materials, grades 3-5, student and teacher-facing, are available in Spanish. Materials provide an equitable experience for Emergent Bilinguals, including vocabulary support within the English materials.
- The materials consistently provide evidence to encourage strategic use of students' first language. For example, in the grade 4 "Structures and Functions of Plants" unit, there is a section, Emergent Bilingual Support. In this section, there is a section for Day 1 that suggests that students express their knowledge in ways accessible to them, such as writing a term in another language they know, then looking it up in a bilingual dictionary to confirm the term's meaning.

# HMH Into Science Texas Grade 4

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

- Information is provided to share with students and caregivers about the design of the program in the materials. For example, the grade 4 Overview has an overview of science and engineering practices in easy-to-read language with graphics to illustrate key terms, i.e., the materials state, "HMH Into Science Texas follows the 5E Structure for each lesson (Engage, Explore/Explain, Elaborate, Evaluate)."
- The materials provide information to share with students and caregivers about the design of the program. Examples include an "Engineering Design Home Letter" template. In the letter, there is a description for families explaining engineering design and practices that includes an explanation of some of the vocabulary terms that are used with engineering design steps.
- The materials consistently provide information to be shared with caregivers about the design of the program. For example, in the Teacher's Corner under Program Support, the teachers are provided with "Reaching Out With Home Letters." The letters begin, "*HMH Into Science* is our new program designed to provide your child with opportunities to step away from their books or computers and actively participate in their learning." This letter home supplies an overview of HMH and space for teachers to write their own notes to parents and provide them with the login information they will need to get into HMH.
- Materials provide information to share with students and caregivers in all grade levels about the design of the program. In grades 3-5, the teacher resource materials, Teacher's Corner Tab, included, provide a beginning of the year letter home to families which provides information on the design of the program, how each lesson is designed, opportunity for the teacher to insert their own notes and personalized login information.

# HMH Into Science Texas Grade 4

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

- The materials provide information to be shared with caregivers to help reinforce student learning and development. Examples include a Home Letter that can be sent out at the beginning of each unit explaining the unit's focus, performance expectations for students, and additional activities they can do at home to reinforce their child's learning.
- The materials consistently provide information to be shared with caregivers to help reinforce student learning and development. In grade 4 in Extra Resource, the teachers are provided a letter for each section. An example includes the "TEKS 4.6 Matter and Energy: Home Letter." This letter includes *What We're Doing, At-Home Activity, Helpful Resources, Science Summary, Preconception Alert,* and a place for *Teacher Comments.* It guides the caregivers to support their student's learning.
- Materials provide resources and strategies for caregivers to help reinforce student learning and development. Examples include letters to families in multiple languages, explaining the objectives of each unit and how they can support student progress at home. Unit letters focus on units, performance expectations for students, and additional activities that families can do at home to reinforce their child's learning.
- Materials provide at-home activities for caregivers to help reinforce student learning and development. For example, the grade 4 Discover section in the program's landing page has home letters for each unit students will learn throughout the program—for example, the materials state for the matter and energy "At-Home Activity. To prepare your child for this lesson, try this short activity: Together, make a list of small objects you can find around your home. Then, for each item, write whether it can sink or float. If possible, fill a bowl of water and test to see if your list is correct."

## Materials include information to guide teacher communications with caregivers.

- The materials include information to guide teachers' communications with caregivers by providing Reports & Insights that outline the standards and where their student falls in attaining them. For example, in grade 4, a report has guide bands such as "Scientific and engineering practices. The students ask questions, identify problems, and plan and safely conduct classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models."
- Materials consistently include teacher guidance for communicating with caregivers. Materials include templates for sharing updates on student progress toward benchmark goals for science knowledge and skills and recommendations for sending updates at certain intervals. For example, grades 3-5, Teacher Edition, Reports tab, includes assessment and standards reports. These standards-based reports can be sent home after a unit or benchmark assessments to an individual student's caregiver. Reports show mastery percent for Science and Engineering Practices (SEP), Recurring Themes and Concepts (RTC), and content standards.
- In the grade 4 Discover section of the landing page, the materials include letters to families providing the objectives of the unit in a family-friendly format for parents so they can guide students at home. The letter for matter and energy states, "What We're Doing: ...By the end, your child will be able to describe matter using properties such as temperature, mass, magnetism, relative density, and physical state; compare mixtures and solutions and demonstrate that matter is conserved when mixtures are formed."

- Materials include information to guide teacher communications with caregivers. An example of this is the Reports section in the Ed online program. Teachers can access Assessment reports by the student and by standards that include how individual students performed by standard so teachers can communicate with caregivers how the student is performing and give additional ideas and support for how families can support their learning.

# HMH Into Science Texas Grade 4

## Indicator 8.1

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

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|---|---|---|
| 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.

- The materials include a cohesive scope and sequence that shows how the science knowledge and skills TEKS are addressed over the course of the entire year.
- The materials include a scope and sequence that details the order in which knowledge and skills are presented and revisited. For example, in “Dig into Details,” the modules named “TEKS Correlations” and “ELPS Correlations” include the lessons and the corresponding TEKS or ELPS.
- The materials contain a TEKS-aligned scope and sequence that outlines the order in which the knowledge and skills are taught and can be found in the “Teacher’s Guide.” It also notes where the RTCs and SEPs are integrated.
- The Table of Contents contains a TEKS-aligned scope and sequence that outlines the order in which knowledge and skills are taught. It showcases the flow of knowledge and skills and gives a clear breakdown to help guide the teacher.

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

- The materials provide teacher clarity in understanding how activities and experiences connect concepts and SEP. For example, the materials include a science progression in the module titled “Supporting Materials: Grade 4,” which explains how activities align to core concepts, the SEPs, and the RTCs across lessons.

- The materials provide teacher guidance to help students make connections between units over the course of the year. For example, the materials contain two different year-long plans. The "TEKS Correlations" module displays the progression of skill development by listing the TEKS and units/lessons in which the TEKS are addressed. In addition, the "Student Edition" module under "Supporting Materials Grade 4" includes notes for students and teachers to make connections in the section "Recurring Themes and Concepts."
- The teacher guide provides clear teacher guidance that helps make connections across core concepts, scientific and engineering practices, and recurring themes and concepts. For example, in the grade 3 lesson "Properties of Matter: Measuring Mass," there is a section noting how the SEPs and RTCs connect with these concepts.

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

- The materials provide teacher guidance to help students make connections between units over the course of the year. For example, in the "Lesson Planning" section of the grade 4 Teacher's Guide, the materials include a section titled "Recurring Themes and Concepts" that provides information for teachers to help students connect concepts across units.
- There are some practice opportunities that build on previously taught science knowledge and skills. The ELPS mini-lesson provides a "Connect to Prior Knowledge" section with opportunities for students to connect their new learning with previously taught knowledge.
- The materials include intentional practice and spiraling of previously taught knowledge and skills from earlier lessons/grade levels and the current lesson's science knowledge and skills. The "What Do You Already Know?" prompts and the "Activate Prior Knowledge" section show how the content builds up across science disciplines and between grades. For example, in grade 4, the "Structures and Functions of Plants" lesson in the "Traits of Organisms" unit prompts teachers to activate students' prior knowledge from prior grades on how animal structures and functions enable them to survive in their environments.
- The materials include intentional practice and spiraling of previously taught knowledge and skills from grade levels and the current lesson's science knowledge and skills. The "Activate Prior Knowledge" section supports that element within the Teacher's Guide and shows how the content builds up across the disciplines of science and between grades. For example, in the "Earth and Space" unit, Day 1, "Engage," teachers activate students' knowledge from prior grades on the orbit of Earth in relation to the Sun. After showing the students a video about the seasons, the teacher asks open-ended questions that help students recall what they have already learned about the seasons in school.
- The materials include intentional practice and spiraling of previously taught knowledge and skills from earlier lessons/grade levels and the current lesson's science knowledge and skills. For example, in the Teacher's Guide, in the section titled "Recurring Themes and Concepts (RTC)," the materials provide a note for teachers about the concept and associated TEKS that connect with the lesson objective. For example, in grade 4, in the "Melting Butter Better Hands-On Activity," the RTC is 4.5F (explain the relationship between structure and functions of objects).

# HMH Into Science Texas Grade 4

## Indicator 8.2

Materials include classroom implementation support for teachers and administrators.

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

Evidence includes but is not limited to:

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

- Evidence shows that the materials support teachers in understanding how to use all materials as intended. For example, materials contain an implementation guide module titled “Walkthrough Guide” on the grade 4 landing dashboard, which has a visual map of the recommended sequence of lesson implementation.
- The materials include a list of resources designed to support learning across multiple science concepts, TEKS, and lessons, such as in the lesson “Bags and Balance.” The materials are organized in a way that facilitates ease of implementation and use, including the assessment and storage of science materials.

# HMH Into Science Texas Grade 4

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

- The materials include a comprehensive list of all equipment and supplies required to support lab investigations. For example, the “Materials List” section includes all the materials and the specific lessons where teachers and students use them.
- The materials include a comprehensive list of all equipment and supplies required to support lab investigations. At the beginning of each day of lessons, there is a list of materials required for the hands-on activity. For example, for the lesson “Mighty Magnets,” Day 4, the Teacher’s Guide lists materials, including two bar magnets, metal paper clips, and tape.

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

- The materials include a comprehensive list of all equipment and supplies needed to support the hands-on investigations, listed by TEKS and lessons in each grade level.
- The materials include a list of equipment needed for each hands-on investigation at the beginning of each lesson. These materials lists are also located in the student-facing materials.

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

- The Teacher’s Guide contains a four-page safety overview and a guide to assist teachers with safety in the science classroom and lab. It includes the purpose of safety in science, what the risks are, how to avoid risks and more. There is also a guide on safety with chemicals and personal protective equipment (PPE).
- There is evidence of safety reminders and tips at the beginning of each lesson in the Teacher’s Guide.
- There is evidence of safety reminders for students at the beginning of each hands-on investigation in the student materials.

# HMH Into Science Texas Grade 4

## Indicator 8.3

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

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

## Meets | Score 2/2

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

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

Evidence includes but is not limited to:

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

- The materials include support for specific scheduling considerations in the “Pacing Guide,” with guidance for covering required science content for the grade level/course within various schedules. The examples listed in the “Pacing Guide” include three different paths: “TEKS Streamlined,” “TEKS Emergent,” and “TEKS Extended.” Each path gives suggested days/minutes for science instruction.
- There is a guide on the days and minutes allotted for each unit and lesson for each TEKS. The “Lesson at a Glance” suggests the number of days to spend on a unit and the number of minutes per day to spend on a lesson.
- The materials provide guidance for adjusting to local time and scheduling constraints. For grades 3–5, the “Pacing Guide” materials provide teacher guidance on how to make adjustments to extend or condense units and lessons within the “Teacher’s Guide” in the event that scheduling allows for additional instruction or needs to be shortened due to lack of time.

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

- The materials include units, lessons, and activities for a full year of instruction. This includes 152 days of instruction for the streamlined path, 171 days for the bilingual path, and 178 days for the extended path. The recommended pacing for grade 4 also includes eight days for summative assessments.

- Each unit can be reasonably implemented within the time constraints of a school year. The activities and routines within each lesson can reasonably be completed within the time suggested for the 152 30-minute days for streamlined paths.
- The materials provide guidance for adjusting to scheduling constraints and differentiation. Multiple pathways are provided for teachers to take in a variety of situations, including extension or differentiation for emergent bilingual classrooms.

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

- The scope and sequence indicates a majority of the lessons support the development of the TEKS, the SEPs, and recurring themes among all areas of the grade level. The lessons fit within the entirety of the school year. The scope and sequence recommends three different paths to choose from, all fitting within the days and minutes of the school year.
- The “Pacing Guide” materials provide teacher guidance on how to make adjustments to extend or condense units and lessons within the Teacher’s Guide in the event that scheduling allows for additional instruction or needs to be shortened due to lack of time.

# HMH Into Science Texas Grade 4

## Indicator 9.1

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

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

## Not Scored

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

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

Evidence includes but is not limited to:

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

- The digital materials include an appropriate amount of white space and an overall design that does not distract from student learning. For example, in the grade 4 Interactive Student Lessons, in the lesson "Patterns of Forces Day 1," the student materials have only one guiding question and one video for students in the "Can You Explain It?" section. The section does not have any other images that could distract students.
- The teacher guidance materials are appropriately designed with clear, designated places for important information. The teacher guidance materials are designed so that teachers can find information easily to help them plan and implement instruction. Materials use repeated patterns of color coding to designate specific areas, such as state standards, the 5E components, guiding questions, Bilingual support, and more. Once teachers know the coding, they can look for these features by color in each lesson. The flow and the sequence are organized and easy to follow while also repeating the organization so teachers can be familiar with the flow once they become accustomed to it. Important points are bolded and separated by boxes, such as titles of each section, Exit Tickets, and rubrics for scoring short constructed responses.
- Materials consistently include an appropriate amount of white space and a design that supports and does not distract from student learning. For example, in grade 4 TEKS, Lesson 4.8A, Day 4, Hands-on Activity, the students are given a lined space to write their answers and a blank box to draw a new game design that uses transfer of energy with collision.
- Student materials are appropriately designed to support student learning. Student materials inside the student interactive textbook are appropriately designed to support student learning and include titles and headings, sections that are clearly marked, and content organized in a logical progression.

# HMH Into Science Texas Grade 4

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

- There is evidence that the materials embed age-appropriate pictures and graphics that support student learning and engagement without being too visually distracting. An example of this is found in the grade 4 "Sun and Water Cycle" lesson, where there is an image of two students using clay to make a model of a water cycle system. The image is clear, colorful, and age-appropriate. There are also images of a robot and a stop sign, giving students clear signals for when to stop in a lesson and not move on without the teacher's direction. These clear signals are not distracting from the learning and could be helpful with students who need more guidance within the boundaries of a lesson.
- At the beginning of every Hands-on Activity, the introduction page provides a review or preview of the activity, possible materials, and safety sections. The page is always yellow to alert the students to the start of the next activity. The text includes a robot illustration and a photo that correlates with the section. It's informative but not distracting.
- Materials in the Student Edition include vocabulary cards with clear and authentic images and graphics to define and support the new words students are learning. For example, grade 4 materials include multiple images to represent properties of matter. Photos of mass, magnetism, and temperature are included with a brief definition under each so students can connect their visual learning to vocabulary definition.
- In the grade 4 Interactive Student Lessons in the lesson "Patterns of Forces Day 1," the materials include vocabulary cards with photos of clear examples of the concepts, i.e., the magnet card shows the picture of a magnet and a paper clip attracted to it.

## Materials include digital components that are free of technical errors.

- Materials include digital components that are free of technical errors. For example, the grade 4 Teacher's Guide lesson, "Energy Transfer," has accurate phenomenon teacher background information about energy transfer.
- Materials are free of spelling, grammar, and punctuation errors. An example of this is found in the grade 4 Student Interactive Edition for "Energy" 4.8A. In the Day 1 Engage section, students are able to click on a video to watch to get a better understanding of the concepts being taught in the lesson about the transfer of energy using the game of bowling. The video is easy to click on and free of technical errors.

# HMH Into Science Texas Grade 4

## Indicator 9.2

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

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

## Not Scored

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

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

Evidence includes but is not limited to:

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

- The materials integrate digital technology and tools that support student learning and engagement. For example, the grade 4 materials include digital technology and tools to enhance student learning through such features as online assessments. In the grade 4 Teacher's Guide "Electrical Energy" lesson, in the Planning for Assessment, the materials state, "For the TEKS Quiz and the TEKS Test, assessments are available in an editable, printable format or can be administered and auto-graded online on Ed."
- Students are able to use interactive flashcards for learning vocabulary for each lesson. A grade 4 interactive lesson from 4.6A, "Properties of Matter," shows digital flashcards with words and images. Then, when the student clicks on them, the cards flip over, and the definitions are on the back. Students can also be provided a Language Development Worksheet by the teacher to help support their digital learning.
- The materials integrate digital technology and tools that support student learning when the teachers utilize interactive online lessons. For example, in grade 4, the students are able to highlight and make notes throughout the text that they can access later.
- In the grade 4 lesson on "Identifying Energy Transfers," materials provide digital pictures of a child jumping into the pool, and students use digital drawing space to draw a diagram to model the objects in the pool system and label the model to represent transfers of energy in the system.

# HMH Into Science Texas Grade 4

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

- The materials integrate digital technology in ways that support student engagement with the Science and Engineering Practices (SEP), Recurring Themes and Concepts (RTC), and grade-level content. A grade 4 "Properties of Matter" 4.6A lesson has students completing a hands-on investigation where they are measuring the mass of objects using a balance. After the investigation, students interactively match pictures to measurements, then complete an Exit Ticket classifying objects by their unit of mass. These interactive lessons address SEPS 4.1D, use tools to observe, measure, and test the physical properties of objects.
- Materials integrate digital technology in a way that supports student engagement. For example, in grade 4, the students engage in a "Solve It" where the students virtually research different types of materials to use as insulators and fill out a lab sheet online. They are able to insert illustrations into their lab also.
- Materials provide digital tools for students to engage with recurring themes and concepts through interactive online labs. For example, in grade 4, Student Interactive Textbook, Discovery tab, students are able to complete the "Crash Course" lab online. During the lab, students are using SEP and making RTC connections to labs and data.
- In grade 4 student-facing digital platforms, the materials include a section titled *Discover* in the dashboard, where students can choose among the several "You Solve It!" simulations. The simulations, like the "Evidence of Change," provide opportunities for students to execute an investigation digitally and enter their observations in the platform.

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

- Materials integrate digital technology that provides opportunities for teachers and/or students to collaborate. Materials for grades 3-5 provide an online collaboration platform on the Dashboard tab in which teachers can post assignments and give immediate feedback to students. Teachers are able to collaborate with students on their assignments that are due, needing grading, and overdue.
- In a grade 4 student-facing digital platform, the materials include a section in the dashboard titled *Virtual Classroom*, where teachers can post virtual sessions for students.
- Teachers are able to project the Student Interactive Lessons while teaching. While they are teaching, teachers can read student answers that students submit online and give them feedback immediately. Students can then adjust their answers or ask questions based on this feedback which allows for some teacher-to-student collaboration

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

- The materials integrate digital technology that is compatible with a variety of learning management systems. For example, I was able to access and navigate both the student and teacher versions on my Samsung phone, tablet, and laptop. There are materials that can be downloaded to these devices and accessed when offline.
- Materials include an HMH Ed: Teacher Help Accessibility support section stating that recommended operating systems could be ChromeOS, Windows 10, Mac 10.15 & 11, iOS 13& 14.

- The digital materials are accessible and compatible with multiple operating systems and devices. For example, on the grade 4 landing page, the section titled *Walkthrough Guide* includes recommendations for the best user experience of the digital features. The materials state, "Before You Get Started: For the best user experience, we recommend using the Google Chrome browser. Disable pop-up blockers or allow pop-ups from this site in your browser software. Ensure your PDF settings are set to open PDFs in the browser and not to download. For technical support, contact 800-323-9239."
- The materials integrate digital technology that is compatible with a variety of learning management systems. While there is nothing in writing about accessible, compatible devices, I was able to access the program using a desktop, iPad, and iPhone device.

# HMH Into Science Texas Grade 4

## 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 digital technology and online components are aligned with the grade-level scope and approach to science knowledge and skills progression. For example, the grade 4 Student Interactive Lessons are aligned with the lessons teachers follow in the grade 4 Teacher's Guide. The lesson "Electrical Energy Day 2" includes a reference and link to the Interactive Student Lesson Day 2.
- The materials provide teacher guidance for the use of embedded technology to support and enhance student learning. The Digital Learning Guide provides the teacher guidance on how to set up classes and create student groups. Once teachers set up their classes, they can assign lessons, interactive simulations, assessments, and more. Teachers also can create groups using data to help differentiate the learning and meet the students where they are. This guide is available in grades 3-5.
- The materials contain digital technology and online components that are developmentally appropriate for the grade level and align with the scope and approach to science knowledge and skills progression. For example, in grade 4, the students have online access to FUNomenal Readers. The students are provided with three books on the same subject, but on three different reading levels to support the students where they are in their reading acquisition.
- The 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 information that identifies how online and digital components align with

grade-level science knowledge and skills. The materials provide related TEKS and ELPS for online and digital components within the Teacher's Guide. For example, in grades 3-5, the Language Support section of the teacher's guides provides ELPS Mini-Lessons to go with TEKS lessons with an online component.

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

- The materials provide teacher guidance for using embedded technology to support and enhance student learning. The Digital Learning Guide provides the teacher guidance on how to navigate to discover the content within each lesson and how to view the resource categories. Within the content, teachers have access to all the lesson resources, including the standards, lesson components, student interactive lessons, assessments, and more. The guide helps teachers know how to access these resources so they can use the program to its fullest potential and enhance student learning. This guide is available in grades 3-5.
- In grade 4, in the teacher introduction, the tools HMH provides are listed. "The Student Interactive Lessons support science learning for all students, with hands-on activities and science readings in 30-minute blocks of time."
- The materials support teachers to successfully integrate the technology within the program. For example, all teacher guides contain an HMH ED: Teacher Help section that provides clear instructions and tutorials within the teacher platform on how to use the embedded technology. Specific examples of support include "Quick Tips for supporting parents with remote learning," "Using Virtual Classrooms on Ed," and "Making a Memorable Space."
- The materials provide specific teacher guidance for embedding the technology within lessons and assessments. For example, in the grade 4 Walkthrough Guide, the materials provide support for teachers to use data to inform instruction. The materials state, "Use Data to Inform Instruction. The Reports tab provides student performance data and access to critical information for teachers. The Assessment Report includes a distribution of class proficiency, average class scores over time, and individual student scores. Drill down further to view students' performance on an individual assignment and to see recommended groups based on scores."

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

- The materials are available to parents and caregivers to support student engagement with digital technology and online components. HMH provides a Family Room for all grade levels. On this online forum, the caregivers can access the student's assignments and grades. There is also access to the TEKS unit they are currently studying and a place for classroom support with articles and videos about the class they are taking with ideas for supporting them. All of the family resources are also available in Spanish. Also included are Shareables, "Strategies from the teachers in the community encouraging your child to learn."
- Materials are available to parents and caregivers to support student engagement with digital technology and online components. The materials include resources for parents and caregivers on supporting student engagement with digital technology and online components. For example, the Teacher's Edition includes a Teacher's Corner tab that provides a program support section for parents to use which provides articles and videos about the class their child is taking with ideas for supporting them.

# HMH Into Science Texas Grade 4

- The materials include resources for parents and caregivers on supporting student engagement with digital technology and online components. For example, on the grade 4 Teacher's Corner site on the landing website page, the materials include a section titled "Step Inside the Family Room" that states, "Empower the adults in your students' lives to act as your unofficial co-teachers. Introduce them to the Family Room, where they'll find a collection of quick, easy-to-follow tips and explanations that help families and caregivers reinforce their child's learning."
- The materials are available to parents and caregivers to support student engagement with digital technology and online components. Parents and caregivers have access to the Family Room. This is an online resource section just for families. It includes a Program Support section that has articles and videos about the class the child is taking with ideas for how to support them with digital and in-class learning. This is available to all students in grades 3-5.