# Summit K12 Dynamic Science Grade 1

## Summit K12 Dynamic Science Grade 1 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 K | 100% | 100% | 100% | 100% |
| Grade 1 | 100% | 100% | 100% | 100% |
| Grade 2 | 100% | 100% | 100% | 100% |

### Section 2. Instructional Anchor

- The materials are somewhat 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 somewhat 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 some 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.

# Summit K12 Dynamic Science Grade 1

- The assessments are somewhat clear and easy to understand.

## Section 7. Supports for All Learners

- The materials include guidance, scaffolds, supports, and extensions that maximize student learning potential.
- The materials include research-based instructional methods that appeal to various learning interests and needs.
- The materials partially include listening, speaking, reading, and writing supports to assist emergent bilingual students in meeting grade-level science content expectations.
- The materials provide guidance on fostering connections between home and school.

## Section 8. Implementation Supports

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

## Section 9. Design Features

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

# Summit K12 Dynamic Science Grade 1

## 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. | PM |

## Partial Meets | Score 2/4

The materials partially meet the criteria for this indicator. Materials are partially 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 some 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.

- Each Lesson Guide provides opportunities for students to develop mastery through an Engage activity, an E-Book to teach and discuss new concepts, core vocabulary, an Apply/Extend activity, a connection to a different content area, a Home Connection, a lab, and a review. Teachers first use the E-Book to introduce important vocabulary and concepts to the students. Once teachers finish instruction, students use their knowledge of the content to complete the Apply/Extend activities and lab. The Apply/Extend section provides students opportunities to engage in hands-on activities that provide students with opportunities to practice, design, and conduct grade-appropriate experiments. For example, in the Category 1 Lesson, Predicting Changes in Materials, students explain and predict changes in materials caused by heating and cooling. Using the E-Book, the teacher introduces students to the concepts of matter, heating,

melting, and cooling/freezing. After listening to the E-Book, students complete a lab where they apply their knowledge of changing states of matter. In this lab, students predict how water from a faucet, water with ice cubes, and water warmed by the sun will feel.

- The Teacher Lab Guide of each lesson includes the SEPs evident for the lab. The materials also address the Key Concept of the lab that ties back to the SEPs. For example, in the Sound lesson, the Lab Dancing Sugar, one SEPs TEKS is listed, 2.2B "Analyze data by identifying significant features and patterns." The Key Concept of the lab is "Demonstrate sound is made by vibrating matter." The lab activity asks students to “Speak at different volumes (whisper, inside voice, yell) near the cup with the sugar crystals and observe the sugar crystals." Students then record the movement of the sugar crystals with a whisper, inside voice, yelling, and radio/computer speaker.
- The 1st Grade TEKS-SEPs-RTCs Crosswalk document provides guidance on which scientific and engineering practice opportunity is matched with content Texas Essential Knowledge and Skills (TEKS) and how often throughout the year. For example, scientific and engineering practices (SEPs) TEKS 1.1A is paired with content TEKS lessons for TEKS 1.8B, 1.9A, 1.10A, C-D, and 1.13C. The same SEPs TEKS is also paired with content TEKS 1.6C, 1.7B, 1.8A, 1.11B, and 1.13A for Labs.

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

- The materials list relevant recurring themes and concepts at the beginning of each Lesson Guide and Teacher Lab, allowing teachers to make connections between and within overarching concepts during their delivery of instruction.
    - For example, in Category 4, the lessons list 1.5F, "describe the relationship between structure and function of objects, organisms, and systems," as a recurring theme.
    - For example, the Lesson Guide for Conserving and Protecting Water includes 1.5A, “Identify and use patterns to describe phenomena or design solutions.”
    - For example, the Living and Nonliving: Living or Not lab correlates with the recurring theme of the relationship between structure and function. Students all the living and nonliving things in a picture of an environment, explain and share the picture with the class, and classify the living things according to which produce young.
- The 1st Grade TEKS-SEPs-RTCs Crosswalk document shows teachers where and how often each recurring themes and concepts TEKS is matched with each content TEKS in Lab Investigations across the year. For example, RTCs TEKS 1.5F is paired with content lessons or labs for TEKS 1.6A, 1.12A-C, and 1.13A-C for seven opportunities throughout the year.

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

- Each Lesson Guide uses an E-Book to develop students' content knowledge strategically. Each lesson also includes Apply/Extend activities and labs. For example, in the Category 3 Lesson, Explain Pushes and Pulls, students explain how pushes and pulls can start, stop, or change the speed or direction of an object's motion. Teachers engage students by discussing how we can move and using the E-Poster to overview what students will be learning in the lesson. Next, teachers use the E-Book to teach new content, including force, push, and pull. The Lesson Guide provides teachers with important vocabulary and ideas to introduce as they read. After the E-Book, students apply their knowledge through various Apply/Extend activities, including but not

limited to creating a Venn Diagram to show similarities and differences between pushes and pulls and describing if a motion is a push or a pull.

- Materials systematically develop students' content knowledge and skills. Each lesson follows the 5E model of Engage, Explore, Explain, Elaborate/Extend, and Evaluate. For example, in the Aquariums and Terrariums Lesson, students' prior knowledge is activated by a series of questions from the teacher, including "What are three nonliving things you see in the classroom? Explain why they are nonliving." An E-Book is used to teach and discuss the concepts of living and nonliving things, depend and interact, and the attributes of aquariums and terrariums. Teachers check for student understanding and introduce and work with core vocabulary within the concept. Students apply their understanding by describing and explaining the relationships and interactions between living and nonliving things. There are options to engage students in art around the concept. Students participate in a lab and an evaluation through a vocabulary review or study guide and a formative assessment.

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 a general guide for teachers when planning a unit. “This is a general guide for teachers to use as they begin a unit. This guide allows students to see phenomena and explore the wonders of it. Then as a class or group will ask questions to establish the guiding question. As they complete the related TEKS, they will add to the class anchor chart. This document will serve as a guide for teachers to lead students through this exploration process of asking and planning the investigation.”
- There is little evidence of opportunities for students to ask questions in a lab investigation. Instead, teachers prompt students with questions throughout the lab. For example, in the Category 3 Lab, Characteristics of Weather: What's the Weather, students describe and record observable characteristics of weather. In this lab, the teacher takes students outside to observe the temperature, and if there is precipitation, use a windsock to describe the wind and observe the clouds in the sky. When students return inside, the teacher asks, "Based on this data, what types of clothes should you wear?" Students complete this activity daily and compare their results for each day. There is no evidence of when students are given an opportunity to ask a question.
- There is little evidence of sufficient opportunities for students to plan investigations; however, the materials include sufficient opportunities for students to conduct classroom, laboratory, and field investigations to develop an understanding of science concepts. For example, in the Lab Animals' External Structure: It's My Body, the procedures are "1. Each group will select a stuffed animal or image. 2. Students will identify the external structures and their purpose with their group. 3. Students will record the structure’s name and purpose in the lab handout. 4. After a few minutes, the students will exchange the animal and repeat steps B and C. 5. Now, it’s time to compare the structures of two animals they observed. 6. Students will record their comparison of the animals in the lab handout." Students create a chart of their observations.

# Summit K12 Dynamic Science Grade 1

## Indicator 2.2

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

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

## Partial Meets | Score 2/4

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

Materials partially 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 partially embed phenomena and problems by providing opportunities for students to participate in scientific investigations that begin with student-led inquiry. Materials provide an Anchoring Phenomena Inquiry Guide within the Science Lab Investigations section of the *Teacher's Guide* for use when planning a unit. The document states, "This is a general guide for teachers to use as they begin a unit. This guide allows students to see phenomena and explore the wonders of it. Then as a class or group will ask questions to establish the guiding question. As they complete the related TEKS, they will add to the class anchor chart. This document will serve as a guide for teachers to lead students through this exploration process of asking and planning the investigation." As such, the embedding of phenomena and problems to support students in constructing, building, and developing knowledge is limited to the unit and investigation level in materials, with limited inquiry-based instruction evidence across lessons. At the lesson level, most student learning experiences are teacher-driven or provide step-by-step directions that are not authentic applications of science concepts.

- While the materials do not embed phenomena and problems as the central anchor driving student learning across lessons, materials do provide lab investigations that support students in constructing, building, and developing knowledge through scientific and engineering practices (SEPs), recurring themes and concepts (RTCs), and Texas Essential Knowledge and Skills (TEKS)-aligned grade level content.
    - For example, in the Investigate Heat: Heat Race lab, students are expected to “know that energy is everywhere and can be observed in everyday life. The student is expected to investigate and describe applications of heat in everyday life such as cooking food or using a clothes dryer." This task is aligned with the SEPs TEKS 1.1A, "Ask questions and define problems based on observations or information from text, phenomena, models, or investigations," and the RTCs 1.5E, "Identify forms of energy and properties of matter." Students predict which heat source, the sun or a hair dryer, will dry a wet paper towel faster. Students then check their predictions and make a conclusion based on the activity.
    - For example, in the Classify Properties of Objects lab, students “identify and record observable physical properties of objects, including shape, color, texture, and material, and generate ways to classify objects. The student knows that objects have physical properties that determine how they are described and classified." Students record their observations of the properties of a variety of objects by whether the objects are hard or soft. Students then answer the question, "Is this object hard or soft?" and record their answers on a Student Lab Sheet. This investigation is aligned with the SEPs TEKS K.2A "identify basic advantages and limitations of models such as their size, properties, and materials."

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

- The materials follow the 5E model in which each Lesson Guide begins with an Engage activity. In this portion of the lesson, the materials describe how to "activate students' prior knowledge" related to phenomena and/or engineering problems. For example, in the lesson Water Conservation, teachers activate students' prior knowledge by asking a series of questions such as, "What is water?" and "Explain and describe how water is used?" The teacher also facilitates a Quick Demo/Mini Lab. "The teacher will use plastic containers to show a gallon, a quart, a pint, and a cup. The teacher will demonstrate how much water it will take to fill a gallon container compared to a cup. The student will explain which container takes the most water and which takes the least."
- Each 1st Grade Lesson Guide includes an Engage component with thinking and discussion prompts to activate students' prior knowledge and experiences. Some are related to phenomena and engineering problems. For example, in the Category 4 Lesson, Aquariums and Terrariums, the Teacher’s Guide activates students’ prior knowledge with the following: “1. Are you a living thing? Explain. 2. What are three nonliving things you see in the classroom? Explain why they are nonliving.”

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

- The Lesson Guides outline the scientific concepts and learning goals behind the content introduced in the lesson. At the beginning of each lesson, teachers find a student learning

objective, SEPs, and RTCs. While Lesson Guides provide this for each individual lesson, it is important to note that there is no evidence of unit overviews that provide teachers with information on unit goals and standards covered throughout the entire unit. The materials provide students with opportunities to build an understanding of the content presented in the lesson through readings, activities, and labs.

- In each Lesson Guide, the materials provide a "Students will..." statement that outlines the goal behind each phenomenon and engineering problem. For example, in the lesson Life Cycles of Animals, the first statement in the guide is, "Students will: Record observations of and describe basic life cycles of animals, including a bird, a mammal, and a fish." In addition, each Lesson Guide outlines the specific SEPs that the lesson covers in TEKS number and description. For example, in this lesson, there are three SEPs listed; 1.1F Record and organize data using pictures, numbers, words, symbols, and simple graphs. 1.2B Analyze data by identifying significant features and patterns. 1.3C Listen actively to others' explanations to identify important evidence and engage respectfully in scientific discussion.

# Summit K12 Dynamic Science Grade 1

## Indicator 3.1

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

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

## Meets | Score 6/6

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

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

Evidence includes but is not limited to:

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

- The materials include the TEKS for past and future learning within a Vertical Alignment Table found in the Lesson Guide. The materials include a document titled “1st Grade Vertical Alignment.” This document claims to "help close the gap between grades…[and] show how parts fit together from grade level to grade level." The document shows how the Kindergarten, 1st, and 2nd grade Texas Essential Knowledge and Skills (TEKS) align in each reporting category.
- The materials provide a Vertical Alignment document, and the Lesson Guides provide the TEKS for past and future learning to explain how the content builds in future grade levels or what students learned in previous grade levels. The materials include TEKS Scaffold lessons, which are lessons from previous grade levels. The TEKS Scaffold lessons, lessons from the same Category in kindergarten, are connected to the new content students learn in 1st grade.
- The materials provide Grades K-2 Scope and Sequences that focus on the Reporting Categories of the TEKS: Reporting Category 1, Matter and Its Properties; Reporting Category 2, Force, Motion, and Energy; Reporting Category 3, Earth and Space; and Reporting Category 4, Organisms and Environments. Each grade level includes these categories, and the vertical alignment is implied, but it is not explicitly linked. For example, within the grade 1 Scope and

Sequence and Pacing Guide, there is a First Grade Vertical Alignment document that states, "This alignment document will show how parts fit together from grade level to grade level."

- Materials are vertically aligned and designed for students to build and connect their knowledge and skills within and across units and grade levels. Materials include a vertical alignment table that supports fostering connections between students' prior knowledge and skills to current grade-level knowledge and skills. Placing this vertical alignment table within the Lesson Guide and following it with activities that directly provoke prior knowledge and are student-centered exemplifies how the materials allow students to build and connect to prior knowledge.

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

- The materials follow the 5E model, which allows scaffolding when learning a new concept in each lesson. Each lesson is sequenced and increases in rigor. The Lesson Guides follow the same routine for each lesson: Engage, Teach, and Discuss with an E-Book, Misconceptions, Core Vocabulary, Apply/Extend, Connections, Lab, Review, and Evaluate. With this sequence, students are first introduced to new concepts through pictures and explanations using the E-Book. Students apply knowledge of new content and vocabulary through class discussions and handouts. After all of these activities, students then complete a hands-on lab.
- The activities in the Lesson Guides are intentionally sequenced to scaffold learning. The 1st Grade Scope and Sequence and Pacing Guide states, "This guide provides a comprehensive timeline and framework based on state standards and serves as an optional resource that teachers and administrators may use in addition to or in support of any district-provided pacing guidelines."
- The materials provide a *1st Grade Pacing Document* that includes a *1st Grade Pacing Guide* that intentionally sequences the lessons based on the reporting categories set forth by the TEKS. Teachers can access the pacing document to view the vertical alignment of TEKS across grade levels. The materials provide a Lesson Launch Pad with lessons covered in grade 1, along with lessons vertically aligned to that same concept in Kindergarten. The lessons linked in the Lesson Launch Pad are stand-alone lessons that are TEKS-based and vertically aligned. This is one way the materials suggest teachers scaffold learning for students to develop mastery in grade-level knowledge and skills and build understanding.

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

- The materials use the 5E instructional model for sequencing science instruction. Each Lesson Guide has an Engage, Explore, Explain, Elaborate, Extend, and Evaluate section. According to the 5E section in the Teacher's Guide, each lesson begins with an Engage activity where teachers activate students' prior knowledge. Each Lesson Guide includes one lab as the Explore activity. Science and Engineering Practices (SEPs) are included in all lesson plans. Teachers use the E-Book for the lesson and core vocabulary activities to explain new content. Elaborate activities include the Apply/Extend discussions or handouts, connections to other subject areas, and home connections. To evaluate student learning, the materials list the Vocabulary Mastery Digital Flashcard Step, Study Guides, Formative Assessment by TEKS, and Lab Investigations as measures.
- The materials clearly and accurately present grade-level specific core concepts. For example, in the Category 3 lesson, Water Conservation, teachers engage students by asking what water is

and how water can be used. Next, teachers use the E-Book and core vocabulary activity to explain new content to the class. Students elaborate on their learning in the Apply/Extend and Connections activities. In one activity, students draw a picture and explain why water conservation is important. In the lab activity, students explore water conservation by acting out different scenarios, such as droughts or rain storms, and how they impact water conservation. Finally, students are evaluated on their learning by logging into their Summit K12 Login to read the E-Book, complete the vocabulary review, the interactive study guide, and the formative assessment as the Evaluate activities.

- The materials use E-Books to present core concepts in a student-friendly way. The information in the E-Books is accurate and current. The E-Books use a variety of photographs and illustrations to explain new vocabulary. For example, in the Category 1 Lesson, Predicting Changes in Materials, students are introduced to the words *matter, heating, cooling, freezing, melting, warmer,* and *predicting*. The E-Book prompts students to make predictions throughout the reading and then explains the scientific concepts behind their predictions.
- Materials include a presentation of science and engineering practices. On the grade 4 landing page, a link to scientific and engineering practices includes a slideshow with accessible text-to-speech. An explanation of scientific and engineering practices is linked in the Teacher's Guide.
- Materials include clear and accurate presentations of the RTCs and SEPs. This is noted within each learning activity box in the lesson guides. For example, in the Lesson Guide for 1.6A, in the section "Activity: Establish Relevance," The SEPs and RTCs are shown and referred to in multiple activities throughout the lesson. These are also listed at the beginning of each lesson guide.

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

- The materials provide multiple opportunities for students to develop, practice, and demonstrate mastery of grade-level appropriate SEPs as outlined by the TEKS. Each lesson contains a corresponding lab opportunity. Within the Teacher Lab guide provided with each lesson, the SEPs evident in the lab are provided. The materials also address the Key Concept of the lab that ties back to the SEPs. For example, in the lab, Sound "Dancing Sugar," one SEPs TEKS is listed, 1.2B "Analyze data by identifying significant features and patterns." The Key Concept of the lab is "Demonstrate sound is made by vibrating matter." The lab activity asks students to "predict what trees look like for each season. Speak at different volumes (whisper, inside voice, yell) near the cup with the sugar crystals and observe the sugar crystals." Students then record the movement of the sugar crystals with a whisper, inside voice, yelling, and radio/computer speaker.
- For each lesson, the material provides a mastery or goal statement within the boundaries of the grade-level concepts. Most of the student learning objectives align with the activities in the Lesson Guide. For example, for the Classify by Physical Properties lesson, the materials state, "Students will: classify objects by observable physical properties, including shape, color, and texture, and attributes such as larger and smaller and heavier and lighter." Another example is in the Young Animals lesson: "Students will: Compare ways that young animals resemble their parents."
- The Vertical Alignment pages in the Scope and Sequence document define the boundaries of content that students must master for the grade level. This document shows the TEKS required for the current grade level and the TEKS from the previous and next grade levels. For example, in Category 3, kindergarten students are expected to observe and describe weather changes daily and over seasons (K.10.B). In 1st grade, students build upon this knowledge by describing

and recording observable weather characteristics, including hot or cold, clear or cloudy, calm or windy, and rainy or icy, and explain the impact of weather on daily choices (1.10.D). In 2nd grade, students measure, record, and graph weather information, including temperature and precipitation (2.10.B).

- Materials provide a Concept Mastery Document that explains, "Student Master Science Concepts by using all of their senses read, observe, do, learn, and experience all aspects of science" and "The Concept Mastery section of the course offers a multitude of resources created specifically for the 2024 TEKS, SEPS, and English Language Proficiency Standards (ELPS), including Vocabulary Boosters, Interactive Flashcards, and Image Banks, Hands-on Labs and Explorations, Engaging Interactive E-Book, Interactive Study Guides, Vivid, and Engaging E-Posters."

# Summit K12 Dynamic Science Grade 1

## Indicator 3.2

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

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

## Meets | Score 6/6

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

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

Evidence includes but is not limited to:

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

- The materials include a Vertical Alignment section in the Lesson Guide that provides the TEKS for past and future learning to show how the content builds in future grade levels or what students learned in previous grade levels. The materials also include a Grade-Level Concept Connections section that states, "Students have an opportunity to extend and enhance their understanding of this concept through:" and lists one or more TEKS for the current grade level to show horizontal alignment within the grade level. The Vertical Alignment document states, this resource "will help support teachers and administrators in guiding the connections between grade levels." It also states that "vertical alignment helps in setting up long-term goals at the campus or district levels."
- The materials include a Grade 1 TEKS-SEPs-RTCs Crosswalk that shows where each TEKS, SEPs, and RTC is covered in the materials. It uses a color coding system to indicate which TEKS-based lessons include SEPs and/or RTCs. One color illustrates for the teacher that the SEPs/RTCs are embedded in the lab investigation, another color indicates they are embedded within an inquiry or exploration activity. This document supports teachers in understanding the horizontal alignment of the TEKS, SEPs, and RTCs within the materials.

- The materials provide a teacher resource that explains how the SEPs are embedded within each lesson. "These include areas such as: Demonstrate Safe Practices, SEPs and Science Tools Academic Vocabulary Mastery, Contributions of Scientists and Research and Explore Resources for STEM Careers, Science Process Skills Development, Analyze and Interpret Data and Developing Evidence-based Explanations, RTCs, and Lab Investigation Videos and Virtual Field Investigations"

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 Lesson Guides provide teachers with background information with explanations and examples of science concepts. However, each Lesson Guide provides teachers with teaching points that go along with the E-Book for the lesson. These teaching points provide teachers with information on the concepts to present as they read the E-Book to the class. For example, the Category 1 lesson, Investigate Heat, Lesson Guide provides teachers with information on heat, heat sources, and investigations. Under the word *heat*, teacher guidance reads, "Heat or thermal is an energy that makes things warm or hot. Heating is to make something warmer or hotter."
- The Lesson Guides provide teachers with background information and explanations and examples of science concepts to support teachers in developing their own understanding of more advanced, grade-level concepts. For example, in the Investigate and Learn section of lesson 1.6A, provides information about classifying objects to support the teacher's subject knowledge about matter and properties. These include, “Objects in the same group have at least one characteristic in common with the other objects in that group. This means there is an observable pattern in the objects classified together. Classifying objects by physical properties can be beneficial to organize objects such as trash, building materials, rocks, and craft supplies.”
- The materials provide a Misconceptions section in the Teacher's Guide that contains examples of student misconceptions to support the teacher's subject knowledge and recognition of barriers to students' conceptual development. For example, in the Soil lesson, after the Check for Understanding, teacher guidance states, "review the misconceptions with the class and allow time for them to ask questions as needed." The materials then bullet a list of possible misconceptions and explanations. The misconception includes: "Soil and rocks are not necessary; they are trash. Soil and rocks are essential to everyone, including plants and animals."

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. Under the Course Design section in the Teacher's Guide, users find a document titled Philosophy. This document provides users with seven claims, which explain the reasons behind the structure of the materials. For example, claim number one reads, "Scientific Inquiry is the essence of learning science." The materials state, "students learn science by observing phenomena, asking questions, conducting investigation, and using scientific practices to answer those questions." To support this claim, the materials include but are not limited to virtual labs and simulations, 600+ opportunities for students to explore new concepts, and recurring themes embedded in Lesson Guides for students to make connections from K-12.

# Summit K12 Dynamic Science Grade 1

- The materials provide a purpose or rationale for the instructional design of the program. Materials highlight key features of the instructional design. Under the Course Design section of the Teacher's Guide, teachers find a document titled 5E. In this document, teachers find information on how the program aligns with the 5E model and how to utilize the different materials to meet each step in the 5E model. The program states that its instructional model includes 5E and more, and provides teachers with a flexible, interactive, and hands-on approach. Students are encouraged to "productively struggle and succeed with multiple pathways of learning." For example, the "Lesson Guides are designed to engage students with a phenomenon or short activity that promotes interest and establishes relevance." Engage activities prepare "students for new learning, makes prior connections, and help diagnose misconceptions."
- Under the Course Design section of the Teacher's Guide, teachers find a document titled "Scientific and Engineering Practices." According to the document, "The SEPs are embedded within every Dynamic Science Lesson and articulated in the TEKS Lesson Guides." The course also has a designated area where teachers can access SEPs specific lessons, practice, and activities. The rest of the document explains where teachers can access instruction on the SEPs throughout the program. For example, the course includes lessons introducing students to all the SEPs standards. Lessons include but are not limited to, "Ask Questions, Define Problems, and Use Scientific Processes," "Demonstrate Safe Practices," and "Contributions of Scientists."

# Summit K12 Dynamic Science Grade 1

## Indicator 4.1

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

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

## Meets| Score 4/4

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

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

Evidence includes but is not limited to:

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

- The materials provide teachers with a Phenomenon Sensemaking Guide, which is used throughout the entire lesson. This sensemaking guide provides ample opportunities to act like scientists as they gather evidence and make sense of the phenomenon and science concept. The guide is used throughout the lesson and requires students to use different sensemaking behaviors, such as reading, writing, and thinking as engineers and scientists. For example, the guide includes an initial section where students explore the phenomenon. This consists of three subsections, "Observations: What do you notice about the phenomenon?, Questions: What do you wonder about the phenomenon?, Initial Model: Create a model to show what you think is happening." Early in the year, students will likely draw and gradually add more written text to this, and it provides an opportunity to act like scientists. This is used consistently throughout the lessons as an essential component to guide and formulate student thinking.

- The materials provide opportunities for students to make sense of science concepts and vocabulary through reading, writing, and thinking. In each lesson, students work with Core Vocabulary. For example, in the Characteristics of Weather lesson, students read the words and definitions for the unit and color the pictures on the given flashcard. Students then "draw another image of the word and write a sentence using the word." In the same lesson, in the Apply/Extend, students view a series of images and describe the weather using the words provided: *hot, cloudy, windy, rainy, icy,* and *cold*. In partners, students then create a graphic organizer to record the day's weather and write how it impacted their choices for that day.
- Materials provide evidence of opportunities for students to act like scientists. For every lesson, there is a corresponding lab that allows students an opportunity to act like scientists. For example, in the Plant Structures: Plant Survival lab, students answer the question, "How do the parts of a plant help it to survive?" Students observe a tree or plant and identify the parts of a plant on their handout. With partners, the students compare plant structures and record their observations in a chart just as a scientist would in practice.
- The materials allow students to read, write, think, and act like scientists. For example, in Category 3 Lesson, Seasons of the Year, the teacher engages students by showing different pictures of events and asking, “What is the time of the year?” Pictures include but are not limited to snow falling, rain, and leaves falling. Next, the teacher uses the E-Book to introduce students to concepts, including seasons, summer, fall, winter, and spring. Students only engage with texts when teachers present concepts through the E-Book or when students reread the same E-Book. Materials include e-posters, vocabulary booster flashcards, study guides, TEKS Check-Up Handouts, and labs. After students learn new concepts through the E-Book, the Lesson Guide offers various Apply/Extend activities. These activities include group work and discussions. In one activity, students work in groups to create an anchor chart for one season by adding facts and pictures and presenting their anchor charts to the class. Students generate questions about each group’s presentation. In the Connect to Writing activity, the teacher presents an image of a season. Students identify and describe the season in the picture and write about the changes in nature indicated in the picture. In the lab activity, students draw four tree trunks and predict what each tree will look like in each season by decorating each tree with craft supplies to match the season.

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 scientific texts by reading E-Books in each Lesson Guide. E-books contain photographs, diagrams, and student-friendly definitions and explanations of new concepts. The E-Books also include audio links for students to click so the program reads to them. After students listen to the E-Book, the materials provide Core Vocabulary activities where students apply their knowledge of new vocabulary words. The Core Vocabulary activities can be used in every lesson.. For example, in Category 3, Lesson, Water Moves Rocks and Soil, teachers use the E-Book to introduce new concepts to students. The book describes and provides examples of water, rivers, waves, streams, waterfalls, rainfalls, and glaciers. After the book, teachers pick one of the Literacy Strategy Options under the Core Vocabulary section of the Lesson Guide. In one activity, the students complete the Boost Your Vocabulary Handout, where students fill in cloze sentences with the appropriate vocabulary word.
- The materials provide multiple opportunities for students to engage with grade-level appropriate scientific texts as they gather evidence to develop conceptual understanding.

Before reading each E-Book, teachers present the e-poster as an overview of what students will learn in the lesson. E-posters include images and labels of important vocabulary words students will hear in the E-Book. After listening to the E-Book, teachers choose from five Core Vocabulary activities to practice using the new vocabulary words. For example, in Category 4 Lesson, Life Cycles of Animals, teachers present the e-poster during the Engage section of the lesson. The e-poster includes images of a bird's life cycle, a mammal's life cycle, and a fish's life cycle. An example of a Core Vocabulary activity is a Graphic. In this activity, students work in pairs and draw and fill in a graphic organizer with the term Life Cycle in the center and the rest of the Core Vocabulary words surrounding it. Students describe each vocabulary word by writing a definition.

- The materials provide multiple opportunities for students to engage with scientific texts to gather evidence and develop an understanding of concepts. In most lessons, the materials provide a study guide where students can evaluate their understanding of key concepts and then apply their understanding through a series of review tasks. These guides and activities allow students to engage with grade-level appropriate scientific texts as they develop conceptual understanding.

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 provide multiple opportunities for students to engage in various written and graphic modes of communication. For example**,** the materials include a Science Writing, Vocabulary Mastery section. In the Science Writing Skills section, students choose from differentiated science writing prompts. The prompts are based on themes and include Matter, Light and Sound, Earth, The Night Sky, Weather, Animals, Ecosystems, Ocean Ecosystems, and Plants. Students watch an Engage video about the theme and choose from Level 1 or 2 prompts. The prompts include sentence stems for students to use as they write their answers. For example, the Level 1 prompts in the Matter theme are: "Describe what each of the foods is like" and "What is inside the balloons?" The Level 2 questions are: "Why do the balloons have strings?" and "What is happening to the ice cream?"
- The materials include a variety of graphic organizers to use under the Supplemental Resources section of the website. Students write about their learning in graphic organizers as Apply/Extend activities. Graphic organizers include but are not limited to idea webs, sequence charts, Venn diagrams, and flowcharts. To use these resources along with the Lesson Guides, teachers go to the Supplemental Resources section, find the Reporting Category and Lesson Name, and download the PDF file for the graphic organizer.
- Each Lesson Guide provides at least one opportunity for students to write about new concepts. Many Lesson Guides include a Connect to Writing activity, and some writing prompts appear as an Apply/Extend activity. This activity is often a fill-in-the-blank worksheet but can also be presented as optional science journal prompts. For example, in Category 4 Lesson, Life Cycles of Animals, teachers choose from various writing activities in the Apply/Extend section. In partners or groups, students create a trifold picture, where they write, draw, and describe the life cycle of an animal. In the Core Vocabulary section, students use a graphic organizer to describe life cycles. Students write the words *Life Cycle* in the middle of the web graphic organizer and then write descriptions about the term using information they learned in the E-Book.
- The materials provide a variety of graphic organizers to support students in displaying their understanding of scientific concepts. For example, for RC 1, the materials provide an idea web

for the lesson Adding Details with Properties, a sequence chart for the lesson Water Changing States, and a Venn diagram for the lesson Physical Properties. Other types of graphics the materials provide are a cause and effect chart, concept map, four-square chart, and a two-column chart.

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

- The materials provide authentic student engagement and perseverance of concepts through productive struggle while acting as scientists and engineers. Students are given opportunities to participate in hands-on experiences that encourage them to make sense of new concepts through exploration. One example of a lab is found in Category 2 Lab, Cotton Ball Race. Students work to answer the question, “How can you make an object start, stop, or change direction?” Partners are given two straws, two cotton balls, and a 30 cm piece of yarn. Students use the materials to find a way to move the cotton ball to their partner, away from their partner, and change the direction of the cotton ball as it moves. After the experiment, students answer, “I moved the cotton ball toward my partner by ____. I moved the cotton ball back towards me by ____. I changed the direction of the cotton ball’s motion by _____.” This lab includes an Extend activity where students design and build a track for the cotton ball with strings of clay. After they build the track, they use their supplies to move the cotton ball through the track.
- The materials include investigations that invite students the opportunity to act as scientists and engineers who can learn from engaging in the design process, sensemaking, and productive struggle by creating their own plans, designs, and models. For example, in Category 1, Parts Make a System, the Student Inquiry Lab document tasks students with "creating a robot." Students answer the question, “How can you create a new system with movable parts by putting pieces together?” using materials that include precut paper shapes, brads, glue/tape, crayons/markers, and a hole puncher. Procedures: 1. Think of a model robot you want to create. 2. Some parts of your robot must be movable. 3. Study the materials provided by your teacher and select those you need. 4. Create your robot and give it a name.
- The materials include a Phenomenon Sensemaking Guide and provide opportunities for students to observe phenomena or take part in investigations, engineering challenges, and performance tasks. In the labs, students are encouraged to act as scientists in activities aligned with Scientific and Engineering Practices. For example, in the Investigate Heat lab, students record which heat source dried a paper towel faster by circling either the sunlight or hair dryer on their worksheet. Students then circle *yes* or *no* to indicate if their prediction was correct.
- An opportunity for students to be able to make sense of concepts is in the labs provided for each topic. For example, in the Characteristics of Environments, Will it Survive lab, students research what plants and animals can live in the assigned environment they are given. Students record their notes and then illustrate the environment, including the plants and animals from their research.

# Summit K12 Dynamic Science Grade 1

## 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/or verbal arguments that justify explanations of phenomena and solutions to problems using evidence acquired from learning experiences.

Evidence includes but is not limited to:

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

- Materials provide some opportunities for students to make claims and some hypotheses. The materials provide a Sensemaking Guide and lesson activities that prompt students to use evidence to support their hypotheses and claims throughout the materials. For example, Part IV: Claims, Evidence, and Reasoning - Writing asks students to articulate their claim, their evidence for it, and their reasoning. It also provides an optional section where students can combine this into a written response as appropriate for students.
- The materials include opportunities for students to use evidence to support their claims. For example, in Category 1 Lab, Predicting Changes in Materials, students investigate how heating and cooling can change the temperature of matter. The teacher fills one cup with tap water, one with water and ice cubes, and a third with water warmed by the sun. First, students make predictions about how the water in each cup will feel when they touch it by writing the word *warm, cool,* or *cold* on their lab sheets. Then, students place their fingers in each of the cups and record how the water felt. After the experiment, the teacher asks, "Based on this data, which water felt cold? Which water felt warm? Which water felt cool? Discuss with your shoulder partner how knowing the temperature of the water can help you and others." Finally, students

draw a conclusion based on the experiment and record their conclusion on their Student Lab Sheet, which includes multiple lines for students to write their conclusion.

- The materials provide opportunities for students to develop how to use evidence to support their claims. Materials provide a Sensemaking Guide that supports students in using evidence to support their hypotheses and claims. The materials provide opportunities for students to share what they have learned. For example, in Category 1, 1.6A, Classify by Physical Properties, the Apply/Extend section of the lesson states, "Students will work with a partner to discuss and classify objects from their school box or classroom by observing their physical properties." Students communicate explanations collaboratively as to how each object is classified. They classify by color, shape, texture, larger than or smaller than, heavier than, or lighter than. Students draw the group of objects in their science journals and then count and record the number of objects. Students share the drawings with the class and discuss any patterns they observed during the activity.
- The materials prompt students to use evidence to support their hypotheses or claims and provide opportunities to use observations to draw conclusions. For example, in the Characteristics of Weather lab, the students go outside to "observe how the air temperature makes them feel." Students then circle the word that describes the air temperature and repeat this process, observing water from the sky, wind, and clouds. The teacher then says, "Look at the weather on this day. Based on this data, what type of clothes should you wear?" An optional part of the lesson advises teachers to record wind speeds for a week and then analyze the collected data for patterns. In the Extend section of the Characteristics of Weather Lab, the students predict what they think the temperature outside will be and fill in the sentence stem, "I think the temperature will be _____. I think this because _____." After confirming the temperature, the students circled yes or no to determine if their prediction was correct.

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

- The materials present scientific vocabulary using multiple representations. During the Engage portion of the lesson, teachers use the e-poster to introduce vocabulary before reading the E-Book. Then, students listen to the E-Book, which includes graphics and photographs of vocabulary words. The materials also include illustrated vocabulary flashcards for each lesson guide. For example, in Category 3 Lesson, Soil, teachers use the e-poster to introduce the words *size, shape, texture, topsoil, clay,* and *sand* using images of examples. Then, students learn more about these words in the E-Book. On the clay page, students view a photograph of clay. The teacher reads, "The particle size of clay soil is small like dust. The particles are flat, wide, and tiny. Clay soil is light brown or reddish."
- The materials provide students with multiple opportunities to use new vocabulary words. Each Lesson Guide includes multiple Core Vocabulary activities. Student materials include vocabulary practice, where students select statements to match pictures of vocabulary words. The iStudy Guides provide opportunities for students to use vocabulary words in different contexts. For example, in Category 2 Lesson, Explain Pushes and Pulls, students can complete the Vocabulary activity located in the Content Mastery section of student materials. In this interactive activity on the website, students answer questions about new vocabulary words. One question reads, "The boy is ___ the toy." Students choose from *carrying, pushing,* or *pulling* to complete the sentence.
- Materials include embedded opportunities to develop and utilize scientific vocabulary in isolation. For example, Category 1, 1.6B Predicting Changes in Materials includes a Core Vocabulary section. The materials state, "Core Vocabulary should be emphasized and taught in

context throughout the lesson." There are four activities to explicitly teach vocabulary: first, a Graphic where students write the vocabulary word, draw a picture, and write a sentence using the word; second, a Word Web where students write a vocabulary word in the center and write words that describe or are related to it; next, Core Vocabulary Flashcards where students take turns reading the words and definitions to a partner, color the vocabulary image and write a sentence on the back, then cut the flashcards on the dotted line and store the cards in a plastic bag; finally, a Boost Your Vocabulary Handout where the teacher reads the handout as needed for students, or they can choral read it together.

- The materials include some opportunities to develop and utilize scientific vocabulary in context. For example, the Category 4, Animal Life Cycles Lesson Guide provides a Where Do I Belong? activity that guides students to record and describe the basic life cycles of animals. “The students will write the words from a word bank in the correct line of the life cycle. They will draw a picture to show the stage.” In the Graphic activity, partners will work together to draw and fill in the graphic with the life cycle in the center and the rest of the Core Vocabulary words in the circles around it. The students will describe the term *life cycle* in the circles around it and then present it to the class.
- The materials provide an e-poster where content vocabulary is used in context. In the Water Moves Rocks and Soil e-poster, the first poster has a series of sentences surrounding a picture of a running river over a bed of rocks, such as "Water moves rocks and soil to a new place." On the second page of the e-poster, the same sentence leaves out the vocabulary words so that students can fill in the blanks.

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

- The materials integrate argumentation and discourse throughout to support students' development of content knowledge and skills as appropriate for the concept and grade level. For example, in the Category 1 lesson, 1.6C Parks Make a System Lesson Guide, the Engage section guides the teacher to activate students' prior knowledge by asking: "Name objects that move or do something. Students explain the purpose of the object (computer - helps people find information; car - takes people to different places; flashlight - gives light; bike - takes people to other places; stove - heats and cooks food; clock - tells time).” The materials integrate argumentation and discourse within the stages of the learning cycle.
- The materials integrate argumentation and discourse throughout to support students' development of content knowledge and skills as appropriate for the concept and grade level. For example, in Category 1, 1.6C Parks Make a System Lesson Guide, the Apply/Extend section guides the teacher to show students images of items. The guidance includes, "Students make a chart explaining whether the items can be taken apart and put back together. If the item can be put together and it’s a system, the student will draw a picture of the item in the last column. The students will not draw the picture if the item can’t be put back together. After sorting all items, count how many show systems and record this email on the board. The teacher will ask if the students can think of other systems."
- The materials integrate discourse to support students' content knowledge. For example, in the Bodies of Water lesson, content and grade-level appropriate discourse happens in the Check for Understanding section of the lesson. The teacher is guided to "discuss the following, allowing students an opportunity to demonstrate their understanding of the content as needed." Questions include, "What are some properties of streams, lakes, and oceans that you have

studied?", "Which bodies of water are freshwater and which are saltwater?", and "Why is it important to know that bodies of water differ?"

- The materials provide opportunities for students to develop how to engage in the practice of argumentation and discourse. In lab investigations, students either observe their teacher complete a demonstration or complete a hands-on activity, record their observations on their Student Lab Sheet, and draw conclusions based on the demonstration or experiment. The majority of student investigations include discussion questions. Students are encouraged to draw conclusions about the experiment. The Phenomenon Teaching Guide provides teacher guidance on how to support or model argumentation and discourse. For example, in Category 2 Lab, Investigate Heat, students determine if sunlight or a hair dryer will dry a paper towel faster. At the end of the lab, students write their conclusion on their Student Lab Sheet. Students are invited to share their conclusions with a partner.
- The materials integrate argumentation and discourse within the stages of the learning cycle. For example, in lesson 1.6A, students think about how toys are similar and different. Students consider what would happen if they were all put in the same toy box. How would you put them in groups to organize and store them? Students create a possible solution and compare their ideas “with a partner and can use sentence frames to communicate their explanation.”

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.

- Materials 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 Category 1, 1.6C Teacher Lab, Parts Make a Whole: My Robot, "the student is expected to demonstrate and explain that a whole object is a system made of organized parts, such as a toy, which can be taken apart and put back together." The Student Lab Handout poses the question, "How can you create a new system with movable parts by putting pieces together?" The students think about the model robot they want to create, create the model with paper shapes and brads, and name their robot. Students explain and demonstrate how they made their robot system, how many parts it has, and how it got its name. Students demonstrate how it moves and explains the function of its parts. Students write their conclusions. The extension asks students what they would change to improve their robot and identify the basic advantages and limitations of their models. The teacher asks, "What could you do to make your model better?" Students respond on their handouts. Part two of the lab has students write to respond to the question, "If it has one moving part, what could you add to make it movable in at least two different ways?"
- The materials provide instructions for how to construct and present a verbal or written argument using the Sensemaking Guide. Each lab begins with a question that students answer throughout the investigation. At the end of the investigation, students write their conclusion. The materials encourage students to use data and observations from the experiment to draw a conclusion using the Sensemaking Guide. For example, in Category 1 Lab, Predicting Changes in Materials, students answer, “How can heating and cooling change the temperature of the matter?” They test the temperature of tap water, water with ice, and water warmed by the sun and record their results on their Student Lab Sheet. At the end of the lab, students draw the conclusion, “The cup with the water and ice cubes felt cold. The cup of water from the faucet felt cool. The cup with water in the sun felt warm.”

# Summit K12 Dynamic Science Grade 1

- Materials provide opportunities for students to construct written and verbal explanations from learning experiences and opportunities for students to construct and present arguments that justify explanations of phenomena or solutions to problems. For example, in Category 3 Lab, Seasons of the Year, students observe how trees can change with each season. At the end of the lab, students use blank lines to write their conclusion statement based on evidence from their observations.
- Materials provide opportunities for students to construct written and verbal explanations from learning experiences and opportunities for students to construct and present arguments that justify explanations of phenomena or solutions to problems. For example, in the Bodies of Water lab, students identify the size and clarity of bodies of water based on the size and clarity of the body of water. They label the correct container lake, ocean, pond, or puddle and put food coloring and the same number of rocks in each container. Students then test the clarity and the number of rocks they can see when a flashlight is pointing at each container. Students record these observations. Lastly, "students remove their body of water labels and then gallery walk to other tables in the room and have them try to label at least one of the models based on its properties."

# Summit K12 Dynamic Science Grade 1

## 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. | PM |
| 2 | Materials include teacher guidance on how to scaffold and support students' development and use of scientific vocabulary in context. | PM |
| 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 |

## Partial Meets | Score 2/4

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

Materials provide some teacher guidance on anticipating student responses and the use of questioning to deepen student thinking. Materials include little 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 provide support and guidance for 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.

- Lesson Guides include prompts with questions for teachers to ask after reading the E-Book and in different Apply/Extend activities. Some Lesson Guides provide teachers with possible student responses. For example, in Category 2 Lesson, Changes by Heat, the Lesson Guide provides teachers with three questions to ask after reading the E-Book. The first question, "Describe how some changes to matter caused by heat can be reversed," has the possible student response, "butter and ice cream can melt and reverse back to a solid state of matter but in a different shape." The second question, "Describe how some changes to matter because of heat cannot be reversed," has the possible student response of "Raw eggs and popcorn kernels cannot be reversed when heat is added." The third question, "Why is it important to know what happens when heat is added to a candle or a raw egg?" has the possible student response as "When heat is added to a candle, the wax will melt and harden when it cools down. When heat is added to a raw egg, it will cook and cannot be changed back."
- The materials provide some teacher responses to possible students' responses or how to build on students' thinking. The materials sometimes provide teachers with possible student answers to questions provided in the Lesson Guides. For example, in Category 2 Lesson, Investigate Heat, the Lesson Guide provides teachers with three prompts to ask after reading the E-Book and

possible student answers for each question. Question one states, “Think of an investigation. Why did one candy melt faster than the other two candies?” with the possible student answer, “The candy that melted the fastest received more heat.” Question two says, “Describe a time that you used heat at home,” with the possible student answers, “to keep warm, to toast bread, to dry clothes.” The third question says, “Describe and explain why heat is important in everyday life,” and provides teachers with three possible student answers, including “heat is important because we use it to make food, dry clothes, and keep warm.” There is no evidence of providing teachers with information on how to build on these possible student responses.

- The materials provide teachers with some questions to prompt discussions, and some questions provided in the lesson plans guide teachers to deepen student thinking. For example, in Category 2 Lesson, Investigate Pushes and Pulls, teachers are directed to check for understanding with three questions. First, the teacher is directed to ask students, “What happens when you push an object?” Second, teachers ask, “What happens when you pull an object?” Then teachers ask, “Why is it important to learn how to predict what a push or pull can do?” The materials provide teachers with some questions to prompt discussions, and some questions provided in the lesson plans guide teachers to deepen student thinking.

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

- Although there is limited guidance on scaffolding and student use of vocabulary in context, the materials do provide teacher guidance on how to support students' development of scientific vocabulary. For example, each lesson contains an Interactive E-Poster that provides the vocabulary for the lesson as well as visuals and connections between vocabulary words. In the Water Conservation E-poster, the words conserve, natural resource, freshwater, reduce, drought, and survive are all used in context with accompanying visuals. The materials guide teachers to "present the E-Poster as an overview of what students will be learning in this lesson."
- Each Lesson Guide has a Vocabulary Boosters section. In this section, teachers read the vocabulary words that are introduced in the E-Book. The Lesson Guide also stars the Core Vocabulary words for the lesson. For example, in Category 2 Lesson, Magnets, the Core Vocabulary words are motion, push, pull, and magnet. Additional vocabulary words are position, force, and energy. Students are introduced to these vocabulary words in the E-Book, where teachers define the words and provide examples of the vocabulary words to students.
- The materials provide some embedded support for the teacher in how to introduce and scaffold students' development of scientific vocabulary. However, little guidance is given or scripted to support teachers in using vocabulary in context. The materials tell teachers, "After initial teaching and introducing all words, the core vocabulary should be emphasized in context throughout the lesson. The teacher will model the use of the vocabulary words when discussing the content." This section also provides teachers with a variety of activities to choose from to reinforce new vocabulary words. For example, there are five vocabulary activities in Category 2 Lesson, Light Travels. In one activity, students write the vocabulary words and illustrate them in their science journals. Then, students share their illustrations with a shoulder partner, group, or the class. In another activity, teachers use the Vocabulary Boosters (digital flashcards) to guide students in matching images to words. Teachers start a discussion by asking students for other examples of each vocabulary word.

# Summit K12 Dynamic Science Grade 1

## 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 guidance on preparing for student discourse and supporting students using evidence to construct written and verbal claims. The Teacher's Guide provides information in the section Science Writing about the process and rationale of the Claims, Evidence, and Reasoning framework with examples. This, when combined with the student sensemaking guide and prompts for teachers in the lessons, provides opportunities for students to engage in discussion with their peers using evidence to support their claims.
- The materials provide possible sentence frames or graphic organizers to support discourse. For example, in lesson 1.6A, students work in groups to remove objects from a bag and classify them by physical properties. Students record their evidence and then "present their final groupings to the class." The materials instruct teachers to "provide time for students to share their thinking and debrief the process of classifying."
- The materials provide a Teacher Guide for each performance task that provides teacher guidance to support students in using evidence to construct written and verbal claims. These guides provide guidance in Part 2: Writing a Claim for students to support the claim with evidence from the investigation, the Sensemaking Guide, and other learning experiences.
- The materials provide general sentence stems for supporting student discourse. The materials often state, "To support student discussion, discourse, and argumentation of the concept, some suggested sentence frames might include: I observed the same thing as ... and want to add that I also noticed…, I agree with ... because…, I have a question about…, Can you tell me more about…, I understand your point, and I wonder…"

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

- The materials support and guide teachers in facilitating and sharing the students' thinking. Materials provide several exemplars of student-written responses as well as possible answers to questions in the Check for Understanding sections in the lessons. Materials state that teachers can use the exemplars as a guide to help them facilitate students showing their thinking in a written form.
- The materials provide support and guidance for teachers to facilitate the sharing of students' thinking and finding solutions and support students' thinking and sharing of their thinking. For example, in the Water Conservation lab, the students play a game where they are ranchers, farmers, the City of Austin, or the City of Dallas. Each roll of the dice is attached to a scenario of a drought, dried-up body of water, rain, or water being polluted. Students must explain the effects of each of these on the group they are a part of and the other groups. For example, students must explain what happened to the ranchers when a drought affected the area and why.
- The materials provide example sentence frames that assist teachers in facilitating the sharing of students' thinking and finding solutions. For example, the Category 4, Organisms and Environments Life Cycles of Animals Lesson Guide, provides an explanation of an Apply/Extend activity about the Mammal Life Cycle. The explanation guides teachers to facilitate the sharing of students' thinking and finding solutions. Students will engage in a class discussion of how mammal life cycles are similar. Students are then instructed to analyze the data, identifying any patterns or features there may be. Teachers are then prompted to ask students, "What patterns

or features can you identify based on the data you analyzed?" and have students record answers in their Science journals.

- The materials provide teacher support and guidance to engage students' thinking in various modes of communication throughout the year. For example, in Category 2 Lesson, Explain Pushes and Pulls, students create a Venn diagram in partners to compare push and pull. The lesson guide provides teachers with possible student answers in each part of the Venn diagram. Under push, students may write, "A push moves an object away from you. Kicking a ball is a push." Under pull, students may write, "A pull moves an object closer to you. Playing tug-of-war is a pull." In the middle, students may write, "Starts an object in motion. Changes the direction of an object." These possible answers allow teachers to anticipate student thinking in order for teachers to facilitate sharing their thinking during the lesson cycle.
- The materials provide opportunities for students to work together to find solutions. The lesson guides provide support and guidance for teachers to facilitate the sharing of students' finding solutions. For example, in Category 2 Lab, Explain Pushes and Pulls, students work with partners to use straws and yarn to move cotton balls to their partners. After the lab, students complete the fill-in-the-blank sentences, "I moved the cotton ball toward my partner by___. I moved the cotton ball back toward me by ____. Because I ___ into the straw, the cotton ball moved ___."

# Summit K12 Dynamic Science Grade 1

## 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 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.

- The materials include diagnostic assessments. For example, the diagnostic assessment for 1.12A shows students twelve images of living and nonliving things. Students are prompted to circle the living things. In question 2, students explain their reasoning for circling the pictures.
- The materials include numerous tools to evaluate student learning. For example, the 1.13C Young Animals Lesson Guide ends with an Evaluate section. In this section, the teacher guidance states, "The following assessment tools can be used to assess and monitor student mastery and understanding of key science concepts, Scientific and Engineering Practices, Recurring Themes and Concepts, and academic vocabulary: Formative Assessment (Summit K12 Online), Interactive Study Guide (Summit K12 Online), Student Phenomenon Sensemaking Guide, 1.13C Performance Task: Animal and Its Young Model. “In 1.6B Predicting Changes in Materials I-Study Guide, students review core vocabulary by completing the definitions using a drop-down menu and drag and drop shapes into a correctly labeled box for triangles, circles, and squares. The questions can be read to the students through the LMS. When the I-Study Guide is submitted, students can see if their answers are correct or incorrect. Students are not given guidance on what they did incorrectly.
- The materials include an Evaluate section at the end of each Lesson Guide that states, “The following assessment tools can be used to assess and monitor students’ mastery and

understanding of key science concepts, scientific and engineering practices, recurring themes and process and academic vocabulary. The assessments listed include Assessment 1, Assessment 2, Phenomenon Sensemaking Guide, and a Performance Task.

- The materials include performance tasks. For example, in 1.8A, students design a device that will cook a hot dog using the power of the sun. The task guides students through the Design Process, and the teacher guide includes a rubric called Part 2: Reflection that indicates what mastery looks like and gives a glow and a grow for students to evaluate their work.

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

- Each Lesson Guide lists the standards and Science and Engineering Practices (SEPs) addressed in the activities. Lesson Guides provide teachers with a variety of activities they can use to teach new content to students. The Pacing Guide and Scope and Sequence in the Teacher Resources list the standards covered in each lesson. There is no evidence that the materials assess all the TEKS. The materials label each assessment with the single TEKS that the lesson materials it is associated with cover. Both the TEKS Check-Ups and the Study Guide Review include the TEKS assessed in the top right corner of the assessment. For example, the TEKS listed on Formative Assessment for Seasons of the Year TEKS is 1.9A.
- The assessments available at review included both formative and summative assessments for all of the grade-level student expectations.

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

- The materials include assessments that integrate scientific knowledge and Science and Engineering Practices (SEPs) with recurring themes and concepts. The only evidence of assessments included in the materials are the formative assessments at the end of each Lesson Guide. The formative assessments are multiple-choice questions that align with the standard covered in the lesson. There is no evidence of questions that integrate the SEPs. For example, in Category 2's formative assessment for Investigate Heat, students answer six multiple-choice questions about the content learned throughout the lesson. Question types include multiple choice questions with three answer choices. For example, in question 2, students answer, "What two things can be done with heat from a stove?" Answer choices may include "cook and bake," "cook and clean," and "bake and wash." Question six reads, "The stove does not work. Which is another way to cook your food?" The answer choices are photographs of a grill, candle, and iron.
- The materials provide students opportunities to respond to prompts that apply the recurring themes within a topic. For example, in the Seasons of the Year lab, the recurring theme and concept is "Identify and use patterns to describe phenomena or design solutions." Throughout the lab, students discuss and describe how trees change throughout each season. In the Extend portion of the lab, the materials ask students to use their understanding of the patterns of seasons to respond to the prompt, "Describe activities they can do during each season."
- There is evidence that materials include assessments that integrate scientific concepts and science and engineering practices with recurring themes and concepts. For example,1.13C Young Animals includes a Performance Task: Animal and Its Young Model and lists SEPs 1.1G, 1.3A, and RTCs 1.5C, 1.5F above the activity.

- The Performance Task for 1.8A called “Heat from the Sun” has students create a device that allows them to cook a hotdog using heat from the sun. In Part 1, students go through the design process and follow a check-list to create their device. Items on the checklist include, “Decide what materials and design you are going to create to build your hotdog cooker, draw a model of your hotdog cooker, share your plan with your teacher, create the hotdog cooker, make improvement based on your test, and share your results.”

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

- The materials include formative assessments that focus on assessing knowledge and memorized content, not skills. For example, in Category 1, 1.6B Predicting Changes in Materials, the "Formative Assessment" question 1 shows students a picture of birthday candles on a toy train and asks, "What will happen if heat is added to the candles?" with the answer choices, "A. They will change to a gas. B. They will change to a liquid. C. They will stay solid."
- The materials include Performance Tasks that require students to apply knowledge and skills to a new phenomenon or problem. The task guides students through the Design Process, and the teacher guide includes a rubric called Part 2: Reflection that indicates what mastery looks like and gives a glow and a grow for students to evaluate their work. Each of these allow students to use their knowledge in novel concepts.
- The Performance Task for 1.8A called “Heat from the Sun” has students create a device that allows them to cook a hotdog using heat from the sun. In Part 1, students go through the design process and follow a check-list to create their device. Items on the checklist include, “Decide what materials and design you are going to create to build your hotdog cooker, draw a model of your hotdog cooker, share your plan with your teacher, create the hotdog cooker, make improvement based on your test, and share your results.”

# Summit K12 Dynamic Science Grade 1

## Indicator 6.2

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

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

## Meets | Score 2/2

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

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

Evidence includes but is not limited to:

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

- The materials provide documents that give the correct answers to the assessments and worksheets. For example, 1.6B Predicting Changes in Materials provides a Diagnostic Teacher Guide that explains student responses may vary, lists possible drawings, misconceptions, and teacher notes that include what should not be depicted in the drawing response.
- The materials provide an answer key to the Study Guide in each lesson. The Water Moves Rocks and Soil Study Guide's Key shows the worksheet and has the correct answers filled in the blanks in blue. For example, one question states, "Waterfalls can move large _____ to new places." The Key shows the answer rocks in the blank. In the graph section of the review where students are guided to "Draw rocks moving in a river. Draw an ocean wave, making a cave or cliff. Draw rain flowing down a hill." The Key states that "Drawings will vary" on the Answer Key.
- The materials provide teachers with possible student answers to discussion questions. For example, in Category 2 Lesson, Light, teachers use three questions to check for understanding after reading the E-Book. One question states, "Give an example of a natural light and artificial light," with the possible student answers, "sun and flashlight."
- Performance tasks include a reflection rubric for students to self-assess and a teacher rubric to grade student answers. For example, in the performance task for 1.8A, students create a device that allows them to cook a hotdog with heat from the sun. Students are assessed on their ability

to describe how heat is used in everyday life, explain how the sun provides heat to their hotdog cooker, and describe other appliances that work similarly to the hotdog cooker. The rubric is separated into Beginning, Developing, and Mastery. For explaining how the sun provides heat to the hotdog cooker, a Beginning student "is not able to describe how heat is used in everyday life," a Developing student "incorrectly explains how the sun provides heat to the hotdog cooker, and a student demonstrating Mastery "explains how the sun provides heat to the hotdog cooker."

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

- The materials provide assessment tools that result in data reports teachers can use to track student progress and respond to individual needs. Teachers can generate reports for Concept Boosters and Vocabulary Boosters. The downloadable reports can be generated for individual students or entire classes. Under reports in Content Mastery, a teacher can see first-attempt, vocabulary, and second-attempt scores by TEKS, individually or by class. Teachers can export the report into a spreadsheet and manipulate the data with colors or groupings.
- Teachers can use the "Teacher Reports Dashboard" to view students' scores on the Concept Mastery and Vocabulary Mastery activities. The reports are divided by Reporting Category and broken down by each lesson guide and standard. Teachers can download reports for each Reporting Category onto an Excel spreadsheet. The reports show student names and scores on each standard assessed in the Reporting Category.
- Lesson Guides provide guidance and direction to respond to individual students' needs in the Check for Understanding questions and green highlighted Teacher Notes. For example, in lesson 1.6A, Classify by Physical Property, the Teaching Note states: "Use students' responses to identify misconceptions, instructional needs, lingering misconceptions, and to make instructional decisions that meet individual student needs." Additionally, in lesson 1.8A, Investigate Heat, the Teaching Note states: "Use students' responses to identify misconceptions, instructional needs, lingering misconceptions, and to make instructional decisions that meet individual student needs. Utilize appropriate Apply and Extend learning activities to respond to individual student needs and provide just-in-time learning acceleration for all."

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

- Materials include a Dynamic Science Teacher Reports Dashboard that provides teachers with multiple reports, including E-Books Read, Concept Mastery, Vocabulary Mastery, Usage Reports, Science and Engineering Practices Reports, and Science Literacy Reports. For example, in the E-Books Read report, a checkmark denotes a TEKS-correlated book ready by each student in the class, and the SEPs Vocabulary report shows teachers the percent mastery of vocabulary terms in each lesson by individual students.
- Materials include a Concept Mastery management tool that allows teachers to review and organize student data to differentiate science instruction according to assessment results. In grade 1, materials allow teachers to download a *Concept Mastery s*tudent report based on the reporting category from the Teacher Reports Dashboard. In addition, materials allow teachers to download a *Vocabulary Mastery* student report based on the reporting category from the

Teacher Reports Dashboard. The computer-generated report color codes based on their performance and can aid teachers in organizing student data and planning differentiated instruction. These tools and reports can be used by teachers to effectively plan instruction, intervention, and extension activities for all learners.

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

- The materials include a variety of resources for responding to student data: Lesson Guides, E-Books, E-Posters, Vocabulary Activities, Science Lab Investigations, and Science Writing activities. For example, when student data indicates that there is a deficit in understanding vocabulary terms, teachers can access the *Science Literacy Link,* the educator can access a cognate list, and a digital component is included for students.
- Lesson Guides include Teaching Notes that guide teachers in responding to student data after instruction and activities. For example, in 1.6A, Classify by Physical Properties, students read the E-Book to learn how to classify different objects. The Teaching Note states, “Consider pulling students into small groups based on individual needs to use the read-aloud as a tool to address specific misconceptions, concept refinement, and academic vocabulary needs.”

# Summit K12 Dynamic Science Grade 1

## 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. | PM |
| 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 |

## Partially Meets | Score 1/2

The materials partially meet the criteria for this indicator. Assessments are somewhat 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 minimal guidance to ensure consistent and accurate administration of assessment tools. Materials include guidance to offer accommodations for assessment tools that allow students to demonstrate mastery of knowledge and skills aligned to learning goals.

Evidence includes but is not limited to:

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

- The Formative Assessments for each grade level are scientifically accurate. For example, the Formative Assessment for Category 2 Lesson, Explain Pushes and Pulls, prompts students to look at a picture of a man hitting a baseball with a bat. The question says, "What will happen when the batter pushes the ball with the bat?" The answer choices say, "The ball will change color," "The ball will change directions," or "Nothing will happen."
- Assessments for each grade level contain items that avoid bias. Questions are presented in a fair and impartial manner with no impact on student performance. For example, in the formative assessment for Category 2 Lesson "Investigate Pushes and Pulls," students view images of boys and girls in a variety of places.
- The assessment tools are free from content errors. For example, the Vocabulary Assessment for Characteristics of Weather contains nine questions that accurately describe vocabulary words used in the unit. Question 2 shows a picture of a clear ocean and a beach. The question states, "Some beaches have very ___ water." Students select from hot, clear, and icy.

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

- The Formative Assessments use clear pictures and graphics. For example, question 1 on the Formative Assessment for "Changes Caused by Heat" shows a graphic of a campfire and an arrow pointing to what the campfire looks like when the fire goes out. The graphic is clear and easy for first-grade students to understand.

- The pictures and graphics used in the formative assessments are developmentally appropriate. For example, the formative assessment for "Explain Pushes and Pulls," question five shows a photograph of a young boy kicking a soccer ball. The image is something that students can relate to and is easy to understand.

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

- The materials include a Diagnostic Teacher Guide for lesson 1.6B, there is some guidance for the administration of the Diagnostic Assessment. The guidance states, “teachers should use the data collected to plan the student learning experience for 16. B and can be used as a post-assessment to show student growth after engaging in the Lesson Guide learning experiences”. This doesn’t provide information to ensure consistent and accurate administration, rather this is what to do with the results after the assessment. Words like “can” do not ensure consistency since it gives the user of the materials the option not to do that with the assessment.
- Each Lesson Guide has an Evaluate section at the end, which lists assessment tools for each lesson. There is minimal guidance for how to administer the assessment and, again, the word “can” is used, which displays the opportunity for inconsistent or inaccurate administration of the assessment tool. For example, in 1.6A, the Evaluate section states, “The following assessment tools can be used to assess and monitor student mastery and understanding of key science concepts, Scientific and Engineering Practices (SEPs), Recurring Themes and Processes, and academic vocabulary.” Assessments listed include Assessment 1, Assessment 2, Student Phenomenon Sensemaking Guide, and 1.6A Engineering Performance Task Challenge.
- Diagnostic Assessments include an Administration section explaining instructions for test administration. There is no discussion of the length of time for the assessment when the assessment should occur, or reminders to consistently apply administration protocols across grade levels and/or campuses. For example, the Diagnostic Assessment for 1.6B states students should complete questions 1 and 2 independently before beginning the learning experiences in the Lesson Guide. According to the administration section, “Teachers should use the data collected to plan the student learning experience with Lesson Guide 1.6B.” The instructions also provide the “can” statement, which provides options for how to administer the assessments, which may lead to inconsistent administration.

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

- Within the Dynamic Science Teacher's Guide, under Course Design, there is guidance for teachers on the accommodation assessment tools titled Accommodations, Accessibility, and Designated Supports. The guide is a presentation that lists the accessibility features and designated supports and then provides screenshots of where these supports are located and which ones can be turned on and off. Some of the accessibility features include bilingual dictionaries, reading assistance for short-constructed response items, a highlighter, a zoom feature, bookmark questions, and an Answer Eliminator for Multiple Choice Items. The designated supports list includes, but is not limited to, a digital calculator, content and language supports, a notepad, and spelling assistance. For example, for the content and language supports, it shows an assessment question with the word *decomposers*. The word *decomposers* is in a box which indicates there is a text-based pop-up with a definition that will serve as a language support. The guide shows the pop-up box that decomposers relate to "to break down into smaller pieces. Nature's way of recycling."

# Summit K12 Dynamic Science Grade 1

- The materials include accessibility features such as a notepad, highlighter, zoom feature, bookmark questions, and answer eliminator for MC/MS items. The materials also include designated supports such as calculation aids, content and language supports, individualized structured reminders, spelling assistance, and supplemental aids.
- The formative assessments provide a text-to-speech feature that reads the question and answer choices to students. There is a play button next to each line of text that students can click on to have it read aloud.

# Summit K12 Dynamic Science Grade 1

## 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 enrichment activities for all levels of learners. Materials provide scaffolds and guidance for just-in-time learning acceleration for all students.

Evidence includes but is not limited to:

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

- The materials provide scaffolded instruction in the daily lessons and several options of activities in the Apply/Extend section that will guide students toward mastery. For example, in the Investigate Heat lesson, the Engage section offers activities to "activate students' prior knowledge." In this lesson, the activities include discussion questions, a teacher-led demonstration, and the presentation of the topic's E-Poster and learning objective. The teacher uses the E-Book to directly teach students the concepts of heat, heat sources, and investigation, which includes steps for how to lead an investigation. The teacher checks for understanding with several questions and reviews the core vocabulary. The teacher then reviews any misconceptions the students may have and then has a series of Apply/Extend activities, such as a Describe It! graphic organizer activity and a What's its Purpose chart. The materials provide several options to connect students' learning to writing and home. For example, the materials provide students with the following instructions for the connection to home: "You have learned that heat is everywhere in your everyday life. With an adult, you will investigate different objects that produce heat. In your journal, write to describe how those objects use heat and are needed in everyday life. (What objects are used with heat on hair? What object with heat is used to cook other than the stove?)."
- The teacher materials provide access to the lessons from the previous grade levels that connect to the current grade-level curriculum. Teachers have the ability to assign these lessons to students who have not achieved mastery or need additional support.
- Lesson Guides provide teachers with some information on scaffolding instruction for students who have yet to achieve mastery. The lesson guides provide sentence stems to use during

various activities to guide student thinking. For example, in Category 4, Lesson “Animal Parts,” students demonstrate their learning through a writing activity. The lesson guide provides teachers with sentence stems, including, “Today, I learned____. In my opinion____. What I know about ____ is ____. I can explain____.”

- According to the Differentiation section in the Teacher’s Guide, the content teams consider vertically aligned scaffolded content “1-2 grade levels below“ when designing new courses. The materials have “a comprehensive on grade level course, but embed the appropriate lower grade scaffolds and extension activities to support differentiation and acceleration.”

## Materials provide enrichment activities for all levels of learners.

- Materials provide enrichment activities for all levels of learners. Each lesson guide includes various Apply/Extend activities for teachers to choose from. Each lab also contains an Extend activity for students to complete once they finish their lab work. For example, in Category 1, Lesson: Parts Make a System, students demonstrate and explain that a whole object is a system of organized parts. After using the E-Book to teach new concepts, the teacher has three Apply/Extend activities to assign to students. In the first one, the teacher shows the provided images of objects, such as a flashlight, plate, and toy truck. Students make a chart explaining whether the items can be taken apart and put back together. If they can, then it is an example of a system. In the second activity, the teacher gives each group a card with the image of an object. Students draw the object on a large sheet of paper and label the parts that make up the object. Students write and explain the purpose of their object and its parts. In the third activity, students use clay to make a model of any object that can be taken apart and put back together.
- The materials provide enrichment activities for all levels of learners. In Category 3, Lab Investigate Pushes and Pulls, students build a ramp to make object(s) roll as far as possible. In the Extend activities, students use the same object(s) they rolled in their experiment but try to roll it on a different surface. Students predict whether it will roll further, conduct the investigation, and record their observations.
- The materials provide a variety of enrichment activities for each lesson. For example, the Soil lesson has three core vocabulary enrichment activities. The materials suggest that "core vocabulary should be emphasized and taught in context throughout the lesson." In addition to this, there is a "My Definition" activity, where students rephrase the definition of vocabulary words in their terms, and "The Word on My Back" activity, where students try to guess the word on their back when given clues, and the Boost Your Vocabulary Handout, where the students complete a graphic organizer for each vocabulary word.
- The Sensemaking Guide support students in figuring out the phenomena presented in the lesson guides. All students complete the Sensemaking Guide throughout the duration of the lesson. In Part 1 of the guide, students observe and ask questions about the phenomenon they are studying. In Part 2, students connect knowledge and phenomenon to describe evidence observed. In Part 3, students explain the phenomenon by drawing a final model of their learning. In Part 4, students make a claim, describe the evidence they observed, and explain their reasoning.

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

- The teacher materials provide access to the lessons from the previous grade levels that connect to the current grade-level curriculum. Teachers have the ability to assign these lessons to students who have not achieved mastery or need additional support. This can provide valuable

just-in-time learning acceleration as these lessons can be presented electronically to students by simply turning them on for the students who need the support.

- The materials provide guidance for teachers for just-in-time learning acceleration for all students. The lesson guides provide teachers with what TEKS students addressed prior to the grade level and then those that come later in a student's instructional journey. This provides teachers with the vertical alignment that can scaffold teachers' understanding of where students' strengths and weaknesses are in order to provide appropriate learning acceleration.
- The teacher materials provide scaffolds and guidance for just-in-time learning acceleration for all students. These teacher materials provide access to Vocabulary Boosters, Study Guides, and TEKS Videos to provide just-in-time learning experiences to support all students. These resources can fill gaps and provide even greater depth of understanding for all students.
- The materials provide a scaffold for just-in-time learning for all students. Lesson 1.6A, Classify by Physical Properties, includes a Teaching Note that states, "Use student responses to identify misconceptions, instructional needs, lingering misconceptions and to make instructional decisions that meet individual student needs. Utilize appropriate Apply and Extend learning activities to respond to individual student needs and provide just-in-time learning acceleration for all."
- The lesson materials include an Apply and Extend section that provides activities that are "designed to be just-in-time learning that is flexible and can be used during small group instruction, in science centers, as part of a station rotation, or during whole group science time."

# Summit K12 Dynamic Science Grade 1

## 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 research-based instructional methods that appeal to various learning interests and needs.

Materials include a variety of developmentally appropriate instructional approaches to engage students in the mastery of the content. Materials provide flexible grouping (e.g., whole group, small group, partners, one-on-one). Materials include 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 include a variety of developmentally appropriate instructional approaches, including but not limited to classroom demonstrations, multimodal texts, collaborative learning activities, and hands-on exploration. The materials provide opportunities for students to share, write, and draw what they have learned. For example, in Category 1, Lesson: Predicting Changes in Materials, students conduct a Mini Lab during the Engage part of the lesson, where they predict how matter changes if heated or cooled. In groups, students cut out three pictures of different matter from magazines. Then they “predict what would happen to the objects in your pictures if they were put in the freezer or on a hot stove.”
- Materials include collaborative learning activities and hands-on explorations. For example, in Category 2, Lesson: Investigate Pushes and Pulls, students work with a partner in an Apply/Extend activity. Student pairs create a graphic organizer for push and pull to explain what push or pull can do. Students provide examples of push and pull in each bubble of the graphic organizer. Once students finish writing, they will “conduct an investigation to support one of the examples they listed for pull.”
- The materials include a variety of appropriate instructional strategies to engage students. Each lesson begins with the Engage section, where teachers ask questions and lead a demonstration

to "activate students' prior knowledge." Then, the teacher explains what they will be learning. For example, in the Seasons of the Year lesson, the teacher asks students to "Describe your favorite time of the year" and then asks students to predict the time of year while presenting students with pictures. The teacher then shows the E-Poster and gives students an overview of what they will learn in the lesson.

- Materials include checks for understanding in each Lesson Guide. In the Seasons of the Year lesson, the materials state, "The teacher will discuss the following, allowing students an opportunity to demonstrate their understanding of the content as needed." The materials then give the teacher several questions to ask students.

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

- The materials provide opportunities for students to work in whole group, collaborative groups, with partners, and individually in various activities. The materials provide opportunities and guidance for having students work in a variety of grouping settings. For example, in Category 1, Lesson: Parks Make a System, students can work in multiple settings. The teacher uses the E-Book to present new concepts to the class in a whole group setting. Then, the teacher facilitates a class discussion. In a Think-Pair-Share activity, students work with partners to explain and describe a picture from a page in the E-Book and present their description to the class. The Apply/Extend section includes various activities, such as the Demonstrate and Explain activity. In this activity, students work in groups to draw a picture of a given object on a large sheet of paper and identify the parts that make their object. Then, students write and explain the purpose of each object and its parts. In the Review section of the Lesson Guide, students can “complete Study Guide independently, in partners, triads, groups, or whole class.”
- In Category 3, Lesson: Bodies of Water, the teacher uses the Lesson Guide to present information and activities to all students. There is no evidence of how to use specific grouping structures based on students’ needs. The Apply/Extend section includes various activities for teachers to assign students. Activities include a Word Wall activity where students work in partners or groups to illustrate and label vocabulary from the lesson, a T-chart exercise where students compare freshwater and saltwater, and a whole-group demonstration where the teacher demonstrates the meaning of clarity using three different water samples.
- The materials support flexible grouping. Each lesson contains opportunities for whole group, partners, small group, and independent work. In every lesson, the Engage section is completed whole group, with many partner opportunities that follow. For example, in the Conserving and Protecting Water lesson, the teacher engages the entire class in a demonstration that includes pictures of what may happen to the earth if we don't take care of it. Students then participate in a partner discussion about solutions to protect and keep water clean. Later in the lesson, in the Review section, "Students complete Study Guide independently, in partners, triads, groups, or whole class."

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

- All Lesson Guides include explicit teaching, then opportunities for students to practice applying their knowledge with partners, groups, or independently. For example, in Category 1, Lesson “Classify by Physical Properties,” the teacher uses the E-Book to teach new content explicitly. Then, students apply their new knowledge using various practices in the Apply/Extend activities. In the Physical Properties activity, students work with a partner to discuss and classify objects

from their school box or classroom by observing their properties. The Lesson Guide states teachers should “make sure students communicate explanations collaboratively as to how each object is classified.” In the Classifying Magazine Pictures activity, students look through magazines independently and cut pictures to classify them by their properties. Students glue their photographs into their science journals and share their photos and classification rules with classmates.

- The materials support opportunities for multiple types of practice. For example, in the Water Conservation lesson, the teacher models for students using plastic containers to show a gallon, a quart, a pint, and a cup. Students then independently determine which container holds the most water and which holds the least. Later in the lesson, in the Apply/Extend portion, the students work with partners to collaboratively discuss possible solutions for water conservation. At the end of the lesson, the materials suggest that students "complete Study Guide independently, in partners, triads, groups or before the whole class."
- The materials include various types of instructional practices. For example, in 1.6A, Classify by Physical Property, students “work in groups to remove objects from a bag, one at a time. As a new object is revealed, students describe the object’s physical properties and classify all the objects into groups by their physical properties.” The lesson provides clear instructions on what students should do throughout the activity. In this activity, “Students record and organize their data in science notebooks.”

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

- While most pictures show concepts or images of the natural world, the photos that include people are ethnically or otherwise diverse.
- The materials use cartoon images and photographs to represent information in E-Books and other materials. There is a diversity of communities represented.
- The materials represent various places. There are several pictures of urban, rural, and suburban areas and plains, mountains, rivers, lakes, and other geographic diversity.
- The materials contain an image bank within the Vocabulary Mastery section. A variety of racial/ethnic groups, urban and rural scenes, and individuals of various ages are represented in the images. Most images are of science concepts, science materials, or scenes in the natural world.

# Summit K12 Dynamic Science Grade 1

## 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. | PM |

## Partial Meets | Score 1/2

The materials partially meet the criteria for this indicator. Materials partially 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 partially 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 embed scaffolds for students, such as visuals, graphic organizers, and anchor charts. The *Concept Teacher Edition* for all categories includes a mini-lesson navigation with key content vocabulary words with definitions and illustrations. In these slides are the key elements of each concept, such as the energy in a food web example with words such as consumer, decomposer, and ecosystem. These activities can be used as accommodations for EB students and varying levels of language proficiency.
- The materials provide the English Language Proficiency Standards (ELPS) that correlate with each lesson activity. The ELPS document provides teachers with guidance on linguistic accommodations for each grade level TEKS. The document includes suggestions for Beginning, Intermediate, Advanced, and Advanced High. For example, the ELPS guide for 1.6A states teachers should "use with Apply/Extend section before they work on the Graphic Gallery Walk." Beginning students "will take a class item and orally describe it with one word to their group." Intermediate students "will take a class item and write one word on a sticky note to describe it." Advanced students "will orally describe one object using their senses" and "write a sentence on a sticky note about a new item and pass it to the group member to the right." Advanced High students "will write a sentence on a sticky note to describe the object" and exchange sticky notes with someone in the group to "add one more descriptive detail to the sentence."
- The online platform offers designated Content and Language Supports that can be activated by the teacher for specific students. The E-Book has the option to be read aloud (text to speech).

The online platform also includes a bilingual dictionary. These can be found in the Differentiation section of the Teacher's Guide.

- The materials include a Differentiated Science Writing section. These activities are separated by theme, include an Engage video, and are differentiated by Level 1 and Level 2. Students type their answers to the prompts using the provided sentence stems. For example, in the "The Night Sky" theme, students first watch a video that introduces them to the concepts discussed in the writing prompts. Then, students select a differentiated writing prompt. Level 1 Prompt 1 is, "Describe the moon and the sun. Begin your answer with 'The moon…' "The Level 2 prompt 2 is, "Describe the spiral galaxy. Begin your answer with 'The spiral galaxy…'"
- The materials provide linguistic support, In 1.13C Young Animals, the Lesson Guide includes a Teaching Note to support sensemaking with Emergent Bilingual students. Prompting teachers to: provide sentence frames and appropriate academic vocabulary to anchor writing, group emerging bilingual with students at a higher level of language acquisition, pull a small group of students and use a shared pen strategy as they write, and provide access to a bilingual dictionary.

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

- The materials partially encourage strategic use of students' first language as a means to linguistic, affective, cognitive, and academic development in English by providing information on dual-language connections and Spanish cognates. Materials primarily focus on making Spanish-English connections in line with a dual-language framework. While some student-facing materials are provided in other languages, the Lesson Guides and other teacher-facing materials lack guidance for strategically using students' first language through such strategies as having students speak or write about science in their first language as a scaffold for their English language development.
- The "Dual Language Connections" section in the *Summit K12 Teacher's Guide* outlines the research foundations and ways the program fits a dual-language framework by designing materials in both English and Spanish rather than translating or transadapting materials.
- The Science Writing component includes a Science Cognates section with "context images and sentences, professionally recorded audio in both English and Spanish and the ability for students to speak and record themselves repeating the context sentences." Students view an image, listen to the context sentence first in Spanish and then in English, and record themselves reading it. For example, in Set 2 of "Force, Motion, and Energy," students view a picture of a rollercoaster, listen to the word *energia* in Spanish, and the sentence, "El calor es una forma de energia." Then, students record themselves reading the sentence in Spanish. On the next page, students view the same image, listen to the word "energy" in English, and listen to the sentence, "Heat is a form of energy." Then, students record themselves reading the sentence in English.

# Summit K12 Dynamic Science Grade 1

## 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 to help them reinforce student learning and development. Materials include information to guide teacher communications with caregivers.

Evidence includes but is not limited to:

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

- The materials include a “Student Dynamic Science Orientation Guide.” The orientation guide is a scripted slideshow introducing students to the different components of the materials included in the program. Students learn to access E-Books, Vocabulary, I-Study Guides, and Formative Assessments. Students are also introduced to the Science Writing section, where they are introduced to the Vocabulary Mastery, Science Writing, and Science Literacy sections. Finally, students are shown the Scientific and Engineering Practices (SEPs) section. At the end of the presentation, students are prompted to practice logging into their individual accounts to practice using the materials.
- The materials include a Parent/Guardian letter, which teachers “may send home to the guardians or guardians of your students to introduce them to the Summit K12 Science resources.” The letter explains the online components that are available for use at home, including “lesson videos, digital flashcards, study guides, animations and assessments.” It includes a step-by-step directions guide to access the program and provides an overview and information on how guardians can help their children log in at home. On the overview page, guardians learn detailed information about Science Animations, Concept Mastery, Science Literacy and Vocabulary Mastery, and the Scientific and Engineering Practices section. The same letter and overview are also translated into Spanish.

# Summit K12 Dynamic Science Grade 1

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

- The materials provide resources for caregivers to help reinforce student learning and development. For example, the materials include a family letter in English and Spanish explaining the materials with information on how to access the materials digitally. There is evidence of letters or other communication to send home at the beginning of each lesson explaining what students will be learning and/or how to support students at home with the new materials.
- Materials include a Home School Connection document that includes vocabulary strategies, field investigations, science literacy, and studying the TEKS at-home activities for guardians/caregivers to complete with students. E-Posters are also provided within the document with content and vocabulary for each of the reporting categories. For example, the Home School Document explains to caregivers that they can accelerate the learning of the Science content with their students by using activities listed in the document. The activities include Taking a picture walk with your child while allowing our child to tell you about the pictures on the page, reading the page together, looking around your home or outside to find things that are similar to the pictures on the page, writing sentences with the vocabulary words, and students can recreating the page with their own pictures.
- Each Lesson Guide has a Home Connection section, providing students with an activity to do at home with an adult relating to what they have learned in class. For example, in the Category 2 lesson, Explain Pushes and Pulls, the Home Connection section says, "After dinner, you will explain to your family how pushes and pulls will affect an object. For example, explain how a toy car will move while being pushed on the tile. Explain how a toy car will move while being pushed on the carpet. What will happen when you push a chair on a tile or carpet? Be prepared to come to class and share some of the examples you found at home about the effect of forces at work."

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

- The *Dynamic Teacher Guide* includes a section for a generic letter format and information the school can use to communicate to caregivers the program's purpose and how to access its online features. This resource also includes a Parent/ Guardian letter detailing the benefits of the program and basic components of the program. The "Connections to Home" section provides suggestions on how to establish a relationship by incorporating "Field Investigations at Home." By providing these comprehensive resources, the materials aim to foster ongoing communication and partnership between teachers, caregivers, and students while facilitating the sharing of progress updates.
- The Teacher's Guide Home to School Connection link includes teacher guidance and support for clearly communicating the TEKS required for student mastery at grade level. The materials offer a letter with ideas of how to accelerate learning, a brief overview of the big ideas of the TEKS, and visuals of the TEKS with Vocabulary Boosters. The information to guide teacher communications with caregivers can be found in the Teacher- Getting Started link in the Teacher's Guide. This guide gives teachers a sequence of orientation to the material's resources.
- The materials include a "Parent/Guardian Letter" in the *Summit K12 Teacher's Guide* that provides information to guide teacher communications with caregivers. The instructions state, "The attached letter is an example of one that you may send home to the parents or caregivers of your students to introduce them to the [program] K12 Science resources. We suggest sending

the letter below, as well as instructions for how to access the program from home, through the district's LMS or portal."

# Summit K12 Dynamic Science Grade 1

## Indicator 8.1

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

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

## Partial Meets | Score 1/2

The materials partially meet the criteria for this indicator. Materials partially 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 some 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 Year-at-a-Glance Pacing Guide, which breaks the resource into four reporting categories, "Matter and Its Properties," "Force, Motion, and Energy," "Earth and Space," and "Organisms and Environments." It includes the number of Texas Essential Knowledge and Skills (TEKS) covered, the estimated time allotment for each category, and the order in which the TEKS are presented for the entire year. The Grade 1 Pacing Guide breaks the lessons down into days to assist with planning instruction.
- The Dynamic Science Teacher's Guide includes a TEKS-aligned scope and sequence. Each lesson on the scope and sequence is labeled with the corresponding TEKS. For example, Reporting Category 2, Force, Motion, and Energy, covers TEKS 1.7A, 1.7B, 1.8A, and 1.8B. The Pacing Guide suggests teaching these lessons over thirty days.

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

- The Dynamic Science Teacher's Guide includes the TEKS-SEPs-RTCs Crosswalk that shows the alignment of the scientific and engineering practices (SEPs), recurring themes and concepts (RTCs), and TEKS and where they are covered in each category. While this document shows which SEPs and RTCs are covered in each category, it does not give clarity in understanding how activities and experiences connect.

- The lesson plans include an overview of the SEPs and RTCs covered in each lesson. While materials provide this and other teacher guidance for facilitating connections across core concepts in the grade level, materials lack such guidance for facilitating connections across SEPs and RTCs. Additionally, the teacher guidance provides engagement questions to facilitate students making connections within the lesson but not to lessons that have been or will be taught.
- Teacher guidance in the lessons includes engagement questions to help activate prior knowledge but does not provide guidance to help students make connections to lessons that have been previously taught. For example, in Category 3: Earth and Space, Lesson: Soil, the teacher activates students' prior knowledge by asking, “Why is soil important?” (To plant food, home for some animals, it makes up the Earth) and “Why do plants grow in soil?” (The soil holds the plant in place and provides food for the plants). The teacher does a "Quick Demo'' and shows a flower to the class. The teacher asks, "What are the properties of this flower?” (Suggested answers are colorful, flexible, and scented.) The teacher then asks, "How are flowers helpful to people?" The materials suggest students' responses could be gifts, making a room smell nice, and decorations. No evidence was found showing connections across core concepts in the materials.
- While materials provide this and other teacher guidance for facilitating connections across core concepts in the grade level, materials lack such guidance for facilitating connections across SEPs and RTCs. For example, in Lesson Guide 1.6B, materials provide the following teacher guidance for facilitating connections across core concepts: TEKS 1.6B is connected to 1.6A because students learned that matter is anything that takes up space. In 1.6A, students learned that matter takes up space and everything is made of matter. In 1.6B, students spiral information about matter and add that changes happen to it. During the Teach and Discuss portion of the lesson, materials guide teachers to facilitate such student-made connections as "Matter is anything that takes up space. Everything is made of matter." In Lesson Guide 1.7B, materials explain that "TEKS 1.7B is connected to 1.7A because students learned that force is a push or a pull. A push or pull can start, stop, or change the speed or direction of an object. In 1.7B, students spiral information about push and pull and investigate these forces." Teacher guidance for facilitating student discussion includes student-friendly explanations of the science concepts push, pull, and force.
- Each lesson guide provides teachers with an overview of SEPs and RTCs at the beginning of the lesson. For example, in Category 4, lesson "Life Cycles of Animals," the lesson guide lists three SEPs and two RECs at the beginning of the lesson plan.

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

- The materials provide spiraling, reviewing, and practicing the SEPs and RTCs. The materials provide a TEKS-SEPs-RTCs Crosswalk document that shows the spiraling of these TEKS. For example, in Category 3, "Earth and Space," students learn about the Sun, Earth, and Moon. Students use their knowledge of these concepts in the next lesson titled "Objects in the Sky," where students observe and compare different objects in the sky.
- Teachers can assign E-Book readings, vocabulary activities, and study guide activities to provide spiraling of previously taught content to support mastery and retention.
- Lesson plans spiral concepts taught in previous lessons by providing opportunities for students to activate prior knowledge during the Engage component and revisit concepts in the Evaluate

component. For example, in Category 4, "Organisms and Environments," the materials include lesson plans that spiral and review standards 1.12A, 1.12B, and 1.12C.

# Summit K12 Dynamic Science Grade 1

## Indicator 8.2

Materials include classroom implementation support for teachers and administrators.

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

## Partial Meets | Score 1/2

The materials partially meet the criteria for this indicator. The materials include some 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, but they do not explain the standards within the grade level context. Materials partially 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.

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

- The materials include a Teacher's Guide that provides information about the different components of the program. Section titles include Course Design, Teaching and Learning, Scientific and Engineering Practices (SEPs), Science Literacy-Vocabulary Mastery, Additional Resources, and TEA Resources. Materials also indicate that teachers can access an online asynchronous training course.
- The Lesson Guide and Teacher Inquiry Lab materials provide teacher guidance and recommendations for the use of digital, print, and optional resources. Resources include E-Poster, E-Book, Study Guides, and Vocabulary Boosters, including Digital Flashcards, Flashcard Cut-outs, and Handouts. For example, in the lesson Classify Properties of Objects, the materials list E-Poster, E-Book, Study Guide, Texas Essential Knowledge and Skills (TEKS) Assessment, and Vocabulary Boosters Digital Flashcards under digital resources. The Engage portion of the lesson guides the teacher to present the E-Poster as an overview of what students will be learning in this lesson.
- Materials are designed to allow flexibility for use. The materials include a scope and sequence that breaks down each category into 1st-grade TEKS Pacing Guides, arranged by reporting category. Each guide includes a list of activities, the time allotted for each, and a suggested

number of instructional days. As stated in the materials, these guides "can be adapted for teaching the TEKS in any preferred order."

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

- While the Lesson Guides and Teacher Inquiry Labs provide teachers with cross-curricular connections, the guides do not explain how these connections correlate within the context of the grade-level content. The scope and sequence in the First Grade Pacing Document includes a list of standards taught throughout the school year and in which categories each standard is introduced. For example, the Seasons of the Year lesson is correlated to TEKS 1.9A. Additionally, the Parts Make a System lesson guide includes cross-curricular connections to math in the Connect to Math section. The teacher instructions include two math standards: ”Math 1.5G; 1.3F” and guide teachers to “Read or project for students to read the following math problem.” Students work on a math problem about the number of parts in three different cars. The instructions suggest, “In partners, students can write a math word problem relating to parts of a system. (Bike, car, toaster...)” However, there is no guidance for teachers explaining how or where these activities correlate to science content standards. The materials do not include support for teachers in making the cross-content connections by guiding them to connect to the learning from other content areas, they list TEKS.
- The 1st Grade TEKS Pacing Guides divide lessons into sections, including information on cross-curricular connections. For example, Lesson Guides include "Connect to..." activities that embed cross-content correlation to English language arts, including writing and grammar, social studies, math, art, and reading standards.
- The materials include a 1st Grade TEKS Pacing Guide that includes lessons divided into sections. One section is called "Connect to..." For example, Reporting Category 4, Lesson: Life Cycles of Animals connects to a math activity. The materials provide two additional problems. The teacher says, "A family had three dogs. One of the dogs had six puppies. How many dogs are there now?" The teacher then says, "A fish tank had five fish swimming in it. One of the fish had ten baby fish. How many fish are there in the tank now?"
- Lesson Guides and Teacher Inquiry Labs include standards correlations for lessons, activities, and resources. For example, the Scope and Sequence and Pacing Guides include charts listing TEKS and cross-curricular connections. While the Lesson Guide provides teachers with cross-curricular connections, and the guides list specific standards, by number, to identify cross-content connections, they do not explain or guide teachers in how these connections correlate within the context of grade-level science. For example, In the Characteristics of Weather lesson guide, the Connect to Math section lists “Math 1.3D and 1.3F” and states, “The students will solve addition and subtraction problems about the amount of rainfall. Then students will write a problem about weather.” Additionally, in the Connect to Math section of the lesson where “students are working on Conserving Water on TEKS 1.11C. The students will be solving math problems relating to water conservation. Then students will write a Math word problem relating to water.”

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

- The Teacher’s Guide includes a “Materials Lists and Lab Inquiry Kits” resource within the Scientific and Engineering Practices section, which lists materials for all lab investigations in the

grade level. Teachers also can access guidance documents for lessons and lab investigations by reporting categories that include lists of necessary resources and materials. However, it should be noted that while materials include this chart of materials needed for lab investigations across the year, materials do not include a comprehensive list of equipment and supplies commensurate with TEA recommendations for Grade 1.

- The materials contain a list of equipment and supplies necessary for a particular lesson, including the engagement piece, investigative lab, and extension. Inside each Lesson Guide is a materials list that contains all the materials needed for each activity within the lesson, including digital, print, and optional lab materials. For example, in Category 2: Force Motion and Energy, Lesson: Magnets, the materials list includes magnets (different types if possible) and various materials (magnetic and nonmagnetic). In Category 4: Organisms and Environments, Lesson: Young Animals, the material list includes "cards of animals for Part One and Part Two, instructions in the procedure section."
- Grade 1 materials also include individual lists of equipment and support for the inquiry lab investigation within each lesson guide. For example, the Teacher/Student Inquiry Lab section of Category 3: Earth and Space, Lesson "Day and Night" materials list includes a "flashlight, globe, and a sticker to mark where we are located on the globe." For example, in a Category 3: Earth and Space Soil lesson, the lab materials include four paper plates, four plastic bags with Topsoil, Clay soil, Sand, Mystery Mixture, a hand lens, and safety goggles.

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

- The materials provide a Science Safety Contract that lists ten safety statements that students read with a parent or guardian. This document provides safety statements that outline safety rules and appropriate student behaviors. For example, item five states, "I agree to keep my area clean during and after laboratory investigations." The safety contract is the same for grades kindergarten-2. The Safety Contract also has questions that ask about students' medical conditions, allergies, and emergency contact information.
- In each Teacher Resource category guide, Teacher and Student Inquiry Labs include safety statements and reminders related to student behaviors and material use. For example, in Category 3, Bodies of Water Lab, the safety guidance states, "Make sure students wash their hands after the lesson is complete. As a class, discuss, describe, and identify safe practices that students will use during the lab. The teacher says, "We will describe and identify what safe practices we will use during the lab." Category 1: Matter and its Properties, Lesson: Predicting Changes in Materials includes an inquiry lab with safety instructions that read, "Discuss, describe and identify safe practices that students will use during the lab." The teacher says, "When using a thermometer, please handle it with care. You will wash your hands after the lesson is complete."
- The materials include a "Scientific and Engineering Practices" E-Book for grades K-1 that introduces students to common scientific practices, such as following procedures or using senses and tools to make observations. It also includes a page discussing safety during scientific investigations. On this page, students learn about goggles, first aid kits, and gloves.

# Summit K12 Dynamic Science Grade 1

## Indicator 8.3

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

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

## Meets | Score 2/2

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

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

Evidence includes but is not limited to:

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

- The materials provide a 1st grade Pacing Guide located in the Teacher's Guide section of the website. This document provides teachers with the Year-at-a-Glance, Scope and Sequence, Pacing Guide, and individual Texas Essential Knowledge and Skills (TEKS) Pacing Guides. All guides are based on 160 days; however, it gives guidance for additional scheduling considerations. "Only 160 days have been planned out of the 180 school days, though this course includes more than enough material to cover the full 180 days of instruction. This was intended to account for beginning of year logistics, district and state testing, field trips, or any other interruptions to the daily cycle of instruction. Pacing should be adjusted according to student assessment data and district instructional priorities."
- Within the 1st grade Science Pacing Guide, the TEKS Pacing Guide lists each section of the lesson, based on the 5E Model, and the activities within each section. The guide gives guidance on the number of days and the time allotment per day for each activity. For example, in the Classify by Physical Properties Lesson, the Teach and Discuss section has three components: Instruction and Classroom Discussion, Check for Understanding, and Relevancy. Under the Instruction and Classroom Discussion, the materials list five options, such as Matter and Physical Properties, Shape and Color, Texture, Size, Weight, and Temperature. Matter and Physical Properties and Temperature take two days, thirty minutes a day, and the other sections are suggested to take four days, thirty minutes a day. The Check for Understanding is suggested to take fifteen minutes, and the Relevancy section is ten minutes.

# Summit K12 Dynamic Science Grade 1

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

- Materials guide strategic implementation without disrupting the sequence of content and allowing for flexibility to meet student needs and district priorities. The Summit K12 Pacing Document contains the following to guide implementation: Year-at-a-Glance Pacing Document, Scope and Sequence, Pacing Guide, and Individual TEKS Pacing Guides. The document overview states, “The Summit K12 pacing materials are intended to assist educators in planning and organizing science curriculum according to the Texas Essential Knowledge and Skills for Kinder. This guide provides a comprehensive timeline and framework based on state standards and serves as an optional resource that teachers and administrators may use in addition to or in support of any district-provided pacing guidelines.”
- It should be noted that the Summit K12 Pacing Document also states that materials “can be adapted can be adapted for teaching the TEKS in any preferred order or according to a district-provided Scope and Sequence." Materials indicate that grade-level content is taught according to the reporting categories. For example, the Scope and Sequence gives a table outlining the TEKS and suggested days for each of the four reporting categories in Grade 1. Similarly, the Pacing Guide gives a table of content arranged by reporting category, with a suggested number of days for each TEKS within the category.
- The materials suggest "introducing the fundamental concepts and principles of science prior to beginning instruction." Teachers use the Scientific and Engineering Practices (SEPs) section of the website to locate resources that can be used at the teacher's discretion. These resources are aligned to Grade 1 SEPs and include E-Book lessons and Vocabulary Boosters that will aid in teaching and practicing these skills. Some skills taught in this section include but are not limited to "Use Science Tools to Observe, Measure, Test, and Analyze Information."
- The materials strategically delineate the order of lessons to ensure students learn about precursor concepts first. In Grade 1, learn about the Moon and Sun in one lesson before using that knowledge to observe and compare objects in the sky in the next lesson.

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

- The Scope and Sequence and Pacing Guide indicate that the materials are flexible and will be completed in 160 days. According to the introduction of the 1st grade Pacing Document, "the guide provides a comprehensive timeline and framework based on state standards and serves as an optional resource that teachers and administrators may use in addition to or in support of any district-provided pacing guidelines."
- The Year-at-a-Glance provides teachers with the estimated time allotment in days for each Reporting Category. In grade 1, Category 1 is thirty days, Category 2 is thirty-five days, Category 3 is fifty days, and Category 4 is forty-five days, for a total of 160 days. The document states the materials were designed to cover 160 "to account for beginning of year logistics, district and state testing, field trips, or any other interruptions to the daily cycle of instruction.” The materials also state that the course includes "more than enough materials to cover the full 180 days of instruction.”

# Summit K12 Dynamic Science Grade 1

## Indicator 9.1

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

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

## Not Scored

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

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

Evidence includes but is not limited to:

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

- The materials include an appropriate amount of white space and an overall design that does not distract from student learning. Students utilize both digital resources and handouts. Digital resources include but are not limited to E-Books, Vocabulary practice, I-Study Guides, and Formative Assessments. Handouts include activities in the lesson guides and student lab worksheets. For example, in Category 2, students complete a cause-and-effect graphic organizer titled "Forces." The title is bolded and clearly marked at the top of the page. The worksheet is split into two columns titled "cause" and "effect." Students are provided with enough white space to record their answers. There are no additional graphics on the handout, and the layout of the graphic organizer does not distract from student learning.
- The digital Vocabulary activities include an appropriate amount of white space and have an overall design that does not distract from student learning. For example, in Category 2 Lesson Investigate Heat, question one shows a man warming his hands over a fire. The question states, "The ____ from the fire warms their hands." Students choose an answer from a dropdown menu to complete the sentence. The photographs are clear, easy to understand, and relate to the content. Answer choices are written in a clear font that is big enough for students to read. Students also have the option to click a play button to have the question read to them.
- Materials in the 1st Grade student learning digital resources include an appropriate amount of white space and a design that supports and does not distract from student learning. For example, the Vocabulary activities, I-Study Guides, and Formative Assessments for each lesson include one question/prompt per page of the assignment.

# Summit K12 Dynamic Science Grade 1

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

- The materials embed age-appropriate pictures and graphics that support student learning and engagement without being visually distracting. Teachers can find pictures and age-appropriate graphics on student handouts, in E-Books and e-posters, in Vocabulary flashcards, and in all digital student activities. For example, the E-Book for Category 2 Lesson, Changes Caused by Heat, uses age-appropriate pictures and graphics that support student learning. The photographs and graphics are clear and easy to read. The text on each page is in a readable font and is big enough for teachers and students to read. On page three, titled “Heat is Everywhere,” students view photographs of the sun, a hair dryer, and a stove. The text on the page describes the images and graphics and says, “Heat energy is used in our daily lives."
- Materials use age-appropriate and content-appropriate visuals that support student learning. The E-Posters use real photographs or colorful drawings to convey concepts and provide visual support to topic vocabulary. For example, the Category 4, Living and Nonliving, E-Poster shows one photograph of two children washing a dog outside, with sentences about living things below. Next is a photograph of colorful toys and clothing items on a painted background, followed by statements about nonliving things
- Materials in the 1st Grade student learning digital resources embed age-appropriate pictures and graphics that support student learning and engagement without being visually distracting. For example, all Category four: Organisms and Environments Vocabulary activity statements include a drop-down menu with three-word choices to complete the sentence.

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

- Materials are free of spelling, grammar, and punctuation errors. Materials are free of inaccurate content materials or information. Materials are free of wrong answer sheets to problems. Materials include digital components that are free of technical errors.

# Summit K12 Dynamic Science Grade 1

## Indicator 9.2

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

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

## Not Scored

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

Materials integrate digital technology and tools that support student learning and engagement. Materials integrate digital technology in ways that support student engagement with the science and engineering practices, recurring themes and concepts, and grade-level content. Materials do not 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. Each Lesson Guide includes an E-Book, Interactive Vocabulary Practice, an I-Study Guide, and an online Formative Assessment. The materials also include Differentiated Science Writing activities, which have an Engage Video and writing prompts. The digital components include embedded tools, such as variable font size, text-to-speech, note-taking, highlighting, and strikethroughs. For example, in the I-Study Guide for Explain Pushes and Pulls in Category 2, students push a play button to hear prompts read aloud. Students also have the option to use the highlighting tool to highlight important words or sentences, the note-taking tool to type notes, and a magnifying tool that makes text larger or smaller.
- The embedded technology within the student materials supports the print and does not replace it.

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 that supports student engagement with grade-level content. For example, in the Weather Differentiated Science Writing activity, students view a video clip about different types of weather. Then, answer two questions about the content

learned in the video by typing and submitting their answers. The Level two questions are, “How is rain different from snow? As the day warms up, what will happen to the dew on the grass?”

- The student materials provide digital tools for students to review and answer questions about Science and Engineering Practices (SEPs), Recurring Themes and Concepts (RTCs), and grade-level content through Differentiated Science Writing videos and written response prompts, Vocabulary Mastery Practice questions and answers, Science and Engineering Practice vocabulary image observation and statement activities which include written/typed response, complete the sentence with a drop-down option.

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

- The materials do not integrate digital technology that provides opportunities for teachers and/or students to collaborate. All of the digital activities are completed independently and submitted by students for teachers to view. Teachers have the ability to view student responses but are not able to provide feedback on the digital platform. Students do not have the ability to view their peers' responses.
- There is no evidence of a digital collaboration tool that provides teachers and/or students with opportunities to collaborate. There are face-to-face collaboration opportunities within the unit lessons. For example, in the Water Conservation Lesson Guide, the Vocabulary section describes a Think, Pair up, and Share activity, "The teacher asks a question and allows students to walk around the classroom, allowing them time to think. Then the teacher announces to pair up and share their thoughts about the question. How do you conserve water? What are some natural sources? Where is freshwater found? Explain what happens during a drought. What does it mean to reduce? What does survive mean?"

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

- Materials integrate digital technology that is compatible with a variety of learning management systems. For example, the 1st Grade Dynamic Science Teacher's Guide links a sample Parent/Guardian letter that states, "Since the Summit K12 program is web-based, students can access it from any computer or tablet with an internet connection." The support link for Onboarding and Integrations states, "Summit K12 provides online supplemental curriculum that is 100% web-based (HTML5) and requires no special software installations" and cautions users that "while Android Tablets and Phones are able to access our LMS on a web browser, not all features are fully supported."
- The Dynamic Science Teacher's Guide links the Teacher- Getting Started document and states that Summit K12 supports all major SSO tools like Clever, Classlink, Rapid Identity, and others, and supports access to all major district LMS and SIS platforms through one of the SSO solutions.

# Summit K12 Dynamic Science Grade 1

## 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 materials provide information that identifies how online and digital components align with grade-level science knowledge and skills. The Concept Mastery section lists the digital components along with the standard they align with.
    - For example, in the Concept Mastery section for Category 2, teachers can see the Texas Essential Knowledge and Skills (TEKS) that are aligned with each lesson. Explain Pushes and Pulls covers 1.7A, Investigate Pushes and Pulls covers 1.7B, Investigate Heat covers 1.8A, and Changes Caused by Heat covers 1.8B.
- Digital components align with the science knowledge and skills progression.
    - For example, in the Content Mastery Vocabulary assessment for the Bodies of Water unit, Question 11 shows a picture of three different-sized cell phones. The question asks, "Phones come in different ___." Students choose between rivers, sizes, and properties.
    - For example, in question 10, students are given a picture of seashells, and the question states, "The seashells have different ____." Students choose from types, lakes, and properties to complete the sentence.

# Summit K12 Dynamic Science Grade 1

## 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.
    - For example, the Online Course Site Map guides teachers on using the online features and where and when to access them to facilitate student learning.
    - For example, the Teacher Getting Started Guide includes instructions on enrolling students, using single sign-on (SSO) for student access, and pushing the Summit K12 app onto iPads.
    - For example, the Student Getting Started Guide supports teachers in introducing the digital technology components of the Summit K12 program.

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

- The materials include a Parent/Guardian Letter explaining how to use Summit K12 at home. The letter includes embedded screenshots as visuals to help parents and caregivers support student engagement with digital technology and online components. It also briefly explains the work students will mostly do at home, including Science Animations, Concept Mastery, and Science Literacy and Vocabulary Mastery.