# Grade 1 Side-by-Side

| 2021 Knowledge and Skill Statement/Student Expectation | 2021 Text | 2017 Knowledge and Skill Statement/Student Expectation | 2017 Text | Notes from TEA Staff |
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| SCIENCE.1.1 | Scientific and engineering practices. The student asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to: | 1.1 | Scientific ~~investigation and reasoning.~~ The student conducts classroom and ~~outdoor~~ investigations ~~following home and school~~ safety ~~procedures and uses environmentally appropriate and responsible practices~~. The student is expected to: | |
| | | 1.2 | Scientific ~~investigation and reasoning~~. The student ~~develops abilities to~~ ask questions ~~and seek answers in~~ classroom and ~~outdoor~~ investigations. The student is expected to: | |
| SCIENCE.1.1.A | ask questions and define problems based on observations or information from text, phenomena, models, or investigations; | 1.2.A | ask questions ~~about organisms, objects, and events observed in the natural world;~~ | |
| SCIENCE.1.1.B | use scientific practices to plan and conduct simple descriptive investigations and use engineering practices to design solutions to problems; | 1.2.B | plan and conduct simple descriptive investigations; | |
| SCIENCE.1.1.C | identify, describe, and demonstrate safe practices during classroom and field investigations as outlined in Texas Education Agency-approved safety standards; | 1.1.A | identify, discuss, and demonstrate safe ~~and healthy~~ practices as outlined in Texas Education Agency-approved safety standards during classroom and ~~outdoor~~ investigations, ~~including wearing safety goggles or chemical splash goggles, as appropriate, washing hands, and using materials appropriately; and~~ | |
| SCIENCE.1.1.D | use tools, including hand lenses, goggles, heat-resistant gloves, trays, cups, bowls, beakers, sieves/sifters, tweezers, primary balance, notebooks, terrariums, aquariums, stream tables, soil samples (loam, sand, gravel, rocks, and clay), seeds, plants, windsock, pinwheel, student thermometer, demonstration thermometer, rain gauge, straws, ribbons, non-standard measuring items, flashlights, sandpaper, wax paper, items that are magnetic, non-magnetic items, a variety of magnets, hot plate, aluminum foil, Sun Moon-Earth model, and plant and animal life cycle models to observe, measure, test, and compare; | 1.4 | Scientific ~~investigation and reasoning~~. The student uses ~~age-appropriate~~ tools and models to ~~investigate the natural world.~~ The student is expected to: | |
| | | 1.4.A | ~~collect, record,~~ and compare ~~information~~ using tools, including ~~computers~~, hand lenses, primary balances, cups, bowls, magnets, ~~collecting nets~~, notebooks, and safety goggles or chemical splash goggles, as appropriate; ~~timing devices~~; non-standard measuring items; weather instruments such as demonstration thermometers and wind socks; and ~~materials to support observations of habitats of organisms such as~~ aquariums and terrariums; and | |
| SCIENCE.1.1.E | collect observations and measurements as evidence; | 1.2.C | collect ~~data and make~~ observations ~~using simple tools~~; | |
| SCIENCE.1.1.F | record and organize data using pictures, numbers, words, symbols, and simple graphs; and | 1.2.D | record and organize data using pictures, numbers, and words; and | |
| SCIENCE.1.1.G | develop and use models to represent phenomena, objects, and processes or design a prototype for a solution to a problem. | | | |
| SCIENCE.1.2 | Scientific and engineering practices. The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to: | ~~1.3~~ | ~~Scientific investigation and reasoning. The student knows that information and critical thinking are used in scientific problem solving. The student is expected to:~~ | When students analyze and interpret data, they use critical thinking skills to solve problems. The new standard has provided more detail about what student learning will look like. |
| SCIENCE.1.2.A | identify basic advantages and limitations of models such as their size, properties, and materials; | | | |

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| **SCIENCE.1.2.B** | analyze data by identifying significant features and patterns; | **1.3.B** | ~~make predictions based on observable~~ patterns; and | |
| **SCIENCE.1.2.C** | use mathematical concepts to compare two objects with common attributes; and | **1.4.B** | ~~measure and~~ compare ~~organisms~~ and objects ~~using non-standard units~~. | |
| **SCIENCE.1.2.D** | evaluate a design or object using criteria to determine if it works as intended. | | | |
| **SCIENCE.1.3** | Scientific and engineering practices. The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to: | | | |
| **SCIENCE.1.3.A** | develop explanations and propose solutions supported by data and models; | **1.3.A** | ~~identify and~~ explain ~~a problem and~~ propose a solution; | |
| **SCIENCE.1.3.B** | communicate explanations and solutions individually and collaboratively in a variety of settings and formats; and | ~~**1.2.E**~~ | ~~communicate observations and provide reasons for explanations using student-generated data from simple descriptive investigations~~. | Students are now being asked to communicate not only as scientists but also as engineers. |
| **SCIENCE.1.3.C** | listen actively to others' explanations to identify relevant evidence and engage respectfully in scientific discussion. | | | |
| **SCIENCE.1.4** | Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation for society. The student is expected to: | | | |
| **SCIENCE.1.4.A** | explain how science or an innovation can help others; and | | | |
| **SCIENCE.1.4.B** | identify scientists and engineers such as Katherine Johnson, Sally Ride, and Ernest Just and explore what different scientists and engineers do. | ~~**1.3.C**~~ | ~~describe~~ what scientists do. | |
| **SCIENCE.1.5** | Recurring themes and concepts. The student uses recurring themes and concepts to make connections across disciplines. The student is expected to: | | | |
| **SCIENCE.1.5.A** | identify and use patterns to describe phenomena or design solutions; | | | |
| **SCIENCE.1.5.B** | investigate and predict cause-and-effect relationships in science; | | | |
| **SCIENCE.1.5.C** | describe the properties of objects in terms of relative size (scale) and relative quantity; | | | |
| **SCIENCE.1.5.D** | examine the parts of a whole to define or model a system; | | | |
| **SCIENCE.1.5.E** | identify forms of energy and properties of matter; | | | |
| **SCIENCE.1.5.F** | describe the relationship between structure and function of objects, organisms, and systems; and | | | |
| **SCIENCE.1.5.G** | describe how factors or conditions can cause objects, organisms, and systems to either change or stay the same. | | | |

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| **SCIENCE.1.6** | Matter and its properties. The student knows that objects have physical properties that determine how they are described and classified. The student is expected to: | **1.5** | Matter and ~~energy~~. The student knows that objects have properties and ~~patterns~~. The student is expected to: | |
| | | **1.5.C** | classify objects ~~by the materials from which they are made.~~ | |
| **SCIENCE.1.6.A** | classify objects by observable physical properties, including, shape, color, and texture, and attributes such as larger and smaller and heavier and lighter; | **1.5.A** | classify objects by observable properties such as larger and smaller, heavier and lighter, shape, color, and texture; | |
| **SCIENCE.1.6.B** | explain and predict changes in materials caused by heating and cooling; and | **1.5.B** | predict and ~~identify~~ changes in materials caused by heating and cooling; | |
| **SCIENCE.1.6.C** | demonstrate and explain that a whole object is a system made of organized parts such as a toy that can be taken apart and put back together. | | | |
| **SCIENCE.1.7** | Force, motion, and energy. The student knows that forces cause changes in motion and position in everyday life. The student is expected to: | **1.6** | Force, motion, and energy. The student knows that force, motion, ~~and energy are related and are a part of~~ everyday life. | Force and motion and Energy are now two different Knowledge and Skill statements. |
| **SCIENCE.1.7.A** | explain how pushes and pulls can start, stop, or change the speed or direction of an object's motion; and | ~~**1.6.B**~~ | ~~predict and describe how a magnet can be used to~~ push or pull an object. | Magnets are no longer covered in Grade 1. The focus has shifted to explaining how pushes and pulls impact an object's motion. |
| | | ~~**1.6.C**~~ | ~~1.6C demonstrate and record the ways that~~ objects can move ~~such as in a straight line, zig zag, up and down, back and forth, round and round, and fast and slow.~~ | Describing patterns of motion has been deleted from elementary science. |
| **SCIENCE.1.7.B** | plan and conduct a descriptive investigation that predicts how pushes and pulls can start, stop, or change the speed or direction of an object's motion. | | | |
| **SCIENCE.1.8** | Force, motion, and energy. The student knows that energy is everywhere and can be observed in everyday life. The student is expected to: | **1.6** | Force, motion, and energy. The student knows that ~~force, motion, and~~ energy ~~are related and are a part of~~ everyday life. | Force and motion and Energy are now two different Knowledge and Skill statements. |
| **SCIENCE.1.8.A** | investigate and describe applications of heat in everyday life such as cooking food or using a clothes dryer; and | ~~**1.6.A**~~ | ~~identify and discuss how different forms of energy such as light, thermal, and sound are important to everyday life;~~ | The forms of energy have been split between grade levels. Grade 1 focuses on heat energy. |
| **SCIENCE.1.8.B** | describe how some changes caused by heat may be reversed such as melting butter and other changes cannot be reversed such as cooking an egg or baking a cake. | | | |
| **SCIENCE.1.9** | Earth and space. The student knows that the natural world has recognizable patterns. The student is expected to describe and predict the patterns of seasons of the year such as order of occurrence and changes in nature. | **1.8.C** | ~~identify characteristics~~ of the seasons of the year ~~and day and night.~~ | Patterns of day and night were covered in kindergarten. |
| | | ~~**1.8.B**~~ | ~~observe and record changes in the appearance of objects in the sky such as the Moon and stars, including the Sun;~~ | Objects in the sky were covered in kindergarten. |
| **SCIENCE.1.10** | Earth and space. The student knows that the natural world includes earth materials that can be observed in systems and processes. The student is expected to: | **1.7** | Earth and space. The student knows that the natural world includes ~~rocks, soil, and water~~ that can be observed in ~~cycles, patterns,~~ and systems. The student is expected to: | |
| **SCIENCE.1.10.A** | investigate and document the properties of particle size, shape, texture, and color and the components of different types of soils such as topsoil, clay, and sand; | **1.7.A** | ~~observe, compare, describe, and sort~~ components of soil by size, texture, and color; | |
| **SCIENCE.1.10.B** | investigate and describe how water can move rock and soil particles from one place to another; | | | |

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| **SCIENCE.1.10.C** | compare the properties of puddles, ponds, streams, rivers, lakes, and oceans, including color, clarity, size, shape, and whether it is freshwater or saltwater; and | **1.7.B** | ~~identify and describe a variety of natural sources of water~~, including streams, lakes, and oceans; | Freshwater and saltwater were moved from Grade 2. |
| **SCIENCE.1.10.D** | describe and record observable characteristics of weather, including hot or cold, clear or cloudy, calm or windy, and rainy or icy, and explain the impact of weather on daily choices. | ~~**1.8**~~ | ~~The student knows that the natural world includes the air around us and objects in the sky. The student is expected to:~~ | |
| | | **1.8.A** | record weather information, including ~~relative temperature such as~~ hot or cold, clear or cloudy, calm or windy, and rainy or icy; | Weather choices were moved from Grade 2. |
| | | ~~**1.8D**~~ | ~~demonstrate that air is all around us and observe that~~ wind ~~is moving air.~~ | The concept of air has been moved to kindergarten.. |
| **SCIENCE.1.11** | Earth and space. The student knows that earth materials and products made from these materials are important to everyday life. The student is expected to: | | | |
| **SCIENCE.1.11.A** | identify and describe how plants, animals, and humans use rocks, soil, and water; | **1.7.C** | identify how rocks, soil, and water are used ~~to make products.~~ | |
| **SCIENCE.1.11.B** | explain why water conservation is important; and | ~~**1.1.B**~~ | ~~identify and learn how to use natural resources and materials, including~~ conservation ~~and reuse or recycling of paper, plastic, and metals.~~ | 1st grade only focuses on water conservation. Other types of conservation are studied in Grades 2-5. |
| **SCIENCE 1.11.C** | describe ways to conserve water such as turning off the faucet when brushing teeth and protect natural sources of water such as keeping trash out of bodies of water. | | | |
| **SCIENCE.1.12** | Organisms and environments. The student knows that the environment is composed of relationships between living organisms and nonliving components. The student is expected to: | **1.9** | Organisms and environments. The student knows that the living environment is composed of relationships between ~~organisms and the life cycles that occur.~~ The student is expected to: | |
| **SCIENCE.1.12.A** | classify living and nonliving things based upon whether they have basic needs and produce young; | **1.9.A** | ~~sort and~~ classify living and nonliving things based upon whether they have basic needs and produce ~~offspring~~; | |
| **SCIENCE.1.12.B** | describe and record examples of interactions and dependence between living and nonliving components in terrariums or aquariums; and | **1.9.B** | ~~analyze~~ and record examples of ~~interdependence found~~ in ~~various situations~~ such as terrariums and aquariums or ~~pet and caregiver~~; | |
| **SCIENCE.1.12.C** | identify and illustrate how living organisms depend on each other through food chains. | ~~**1.9.C**~~ | ~~gather evidence of interdependence among living organisms such as energy transfer~~ through food chains ~~or animals using plants for shelter.~~ | |

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| **SCIENCE.1.13** | Organisms and environments. The student knows that organisms resemble their parents and have structures and undergo processes that help them interact and survive within their environments. The student is expected to: | **1.10** | Organisms and environments. The student knows that organisms resemble their parents and have structures and processes that help them survive within their environments. The student is expected to: | |
| **SCIENCE.1.13.A** | identify the external structures of different animals and compare how those structures help different animals live, move, and meet basic needs for survival; | ~~**1.10.A**~~ | ~~investigate how~~ the external ~~characteristics of an~~ animal ~~are related to where it~~ lives~~, how it~~ moves, ~~and what it eats;~~ | |
| | | ~~**1.10.B**~~ | ~~identify and compare the parts of plants;~~ | Parts of a plant were moved to Grade 2. |
| **SCIENCE.1.13.B** | record observations of and describe basic life cycles of animals, including a bird, a mammal, and a fish; and | **1.10.D** | observe and record life cycles of animals such as a ~~chicken, frog~~, or fish. | |
| **SCIENCE.1.13.C** | compare ways that young animals resemble their parents. | **1.10.C** | compare ways that young animals resemble their parents; | |
| **KEY** | **Blue double underline: indicates content new to the grade level** | | ~~**Orange strike through: indicates content was deleted**~~ | |