Texas Science

Grade 1

Adopted 2021

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

- **A.** ask questions and define problems based on observations or information from text, phenomena, models, or investigations; 1.1.A
- **B.** use scientific practices to plan and conduct simple descriptive investigations and use engineering practices to design solutions to problems; 1.1.B
- **C.** identify, describe, and demonstrate safe practices during classroom and field investigations as outlined in Texas Education Agency-approved safety standards; 1.1.C
- **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; 1.1.D
- **E.** collect observations and measurements as evidence; 1.1.E
- **F.** record and organize data using pictures, numbers, words, symbols, and simple graphs; and 1.1.F
- **G.** develop and use models to represent phenomena, objects, and processes or design a prototype for a solution to a problem. 1.1.G

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 ex

- **A.** identify basic advantages and limitations of models such as their size, properties, and materials; 1.2.A
- **B.** analyze data by identifying significant features and patterns; 1.2.B
- **C.** use mathematical concepts to compare two objects with common attributes; and 1.2.C
- **D.** evaluate a design or object using criteria to determine if it works as intended. 1.2.D

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The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to: 1.3	**A.** develop explanations and propose solutions supported by data and models; 1.3.A
	B. communicate explanations and solutions individually and collaboratively in a variety of settings and formats; and 1.3.B
	C. listen actively to others' explanations to identify important evidence and engage respectfully in scientific discussion. 1.3.C
The student knows the contributions of scientists and recognizes the importance of scientific research and innovation for society. The student is expected to: 1.4	**A.** explain how science or an innovation can help others; and 1.4.A
	B. identify scientists and engineers such as Katherine Johnson, Sally Ride, and Ernest Just and explore what different scientists and engineers do. 1.4.B
The student uses recurring themes and concepts to make connections across disciplines. The student is expected to: 1.5	**A.** identify and use patterns to describe phenomena or design solutions; 1.5.A
	B. investigate and predict cause-and-effect relationships in science; 1.5.B
	C. describe the properties of objects in terms of relative size (scale) and relative quantity; 1.5.C
	D. examine the parts of a whole to define or model a system; 1.5.D
	E. identify forms of energy and properties of matter; 1.5.E
	F. describe the relationship between structure and function of objects, organisms, and systems; and 1.5.F
	G. describe how factors or conditions can cause objects, organisms, and systems to either change or stay the same. 1.5.G
The student knows that objects have physical properties that determine how they are described and classified. The student is expected to: 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; 1.6.A
	B. explain and predict changes in materials caused by heating and cooling; and 1.6.B
	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. 1.6.C
The student knows that forces cause changes in mo ev	**A.** explain how pushes and pulls can start, stop, or change the speed or direction of an object's motion; and 1.7.A
	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. 1.7.B

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student is expected to: 1.7	
The student knows that energy is everywhere and can be observed in everyday life. The student is expected to: 1.8	**A.** investigate and describe applications of heat in everyday life such as cooking food or using a clothes dryer; and 1.8.A **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. 1.8.B
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. 1.9	**9.** 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. 1.9
The student knows that the natural world includes earth materials that can be observed in systems and processes. The student is expected to: 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; 1.10.A **B.** investigate and describe how water can move rock and soil particles from one place to another; 1.10.B **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 1.10.C **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. 1.10.D
The student knows that earth materials and products made from these materials are important to everyday life. The student is expected to: 1.11	**A.** identify and describe how plants, animals, and humans use rocks, soil, and water; 1.11.A **B.** explain why water conservation is important; and 1.11.B **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. 1.11.C
The student knows that the environment is co rel	**A.** classify living and nonliving things based upon whether they have basic needs and produce young; 1.12.A

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living organisms and nonliving components. The student is expected to: 1.12	**B.** describe and record examples of interactions and dependence between living and nonliving components in terrariums or aquariums; and 1.12.B
	C. identify and illustrate how living organisms depend on each other through food chains. 1.12.C
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: 1.13	**A.** identify the external structures of different animals and compare how those structures help different animals live, move, and meet basic needs for survival; 1.13.A
	B. record observations of and describe basic life cycles of animals, including a bird, a mammal, and a fish; and 1.13.B
	C. compare ways that young animals resemble their parents. 1.13.C