Texas Science

Grade K

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: K.1

- **A.** ask questions and define problems based on observations or information from text, phenomena, models, or investigations; K.1.A
- **B.** use scientific practices to plan and conduct simple descriptive investigations and use engineering practices to design solutions to problems; K.1.B
- **C.** identify, describe, and demonstrate safe practices during classroom and field investigations as outlined in Texas Education Agency-approved safety standards; K.1.C
- **D.** use tools, including hand lenses, goggles, trays, cups, bowls, sieves or sifters, notebooks, terrariums, aquariums, samples (rocks, sand, soil, loam, gravel, clay, seeds, and plants), windsock, demonstration thermometer, rain gauge, straws, ribbons, non-standard measuring items, blocks or cubes, tuning fork, various flashlights, small paper cups, items that roll, noise makers, hot plate, opaque objects, transparent objects, foil pie pans, foil muffin cups, wax paper, Sun-Moon-Earth model, and plant life cycle model to observe, measure, test, and compare; K.1.D
- **E.** collect observations and measurements as evidence; K.1.E
- **F.** record and organize data using pictures, numbers, words, symbols, and simple graphs; and K.1.F
- **G.** develop and use models to represent phenomena, objects, and processes or design a prototype for a solution to a problem. K.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 expected to: K.2

- **A.** identify basic advantages and limitations of models such as their size, properties, and materials; K.2.A
- **B.** analyze data by identifying significant features and patterns; K.2.B
- **C.** use mathematical concepts to compare two objects with common attributes; and K.2.C
- **D.** evaluate a design or object using criteria to determine if it works as intended. K.2.D

The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to: K.3	A. develop explanations and propose solutions supported by data and models; K.3.A B. communicate explanations and solutions individually and collaboratively in a variety of settings and formats; and K.3.B C. listen actively to others' explanations to identify important evidence and engage respectfully in scientific discussion. K.3.C
The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to: K.4	A. explain how science or an innovation can help others; and K.4.A B. identify scientists and engineers such as Isaac Newton, Mae Jemison, and Ynes Mexia and explore what different scientists and engineers do. K.4.B
The student uses recurring themes and concepts to make connections across disciplines. The student is expected to: K.5	A. identify and use patterns to describe phenomena or design solutions; K.5.A B. investigate and predict cause-and-effect relationships in science; K.5.B C. describe the properties of objects in terms of relative size (scale) and relative quantity; K.5.C D. examine the parts of a whole to define or model a system; K.5.D E. identify forms of energy and properties of matter; K.5.E F. describe the relationship between the structure and function of objects, organisms, and systems; and K.5.F G. describe how factors or conditions can cause objects, organisms, and systems to either change or stay the same. K.5.G
The student knows that objects have physical properties that determine how they are described and classified. The student is expected to identify and record observable physical properties of objects, including shape, color, texture, and material, and generate ways to classify objects. K.6	7. Force, motion, and energy. The student knows that forces cause changes in motion and position in everyday life. The student is expected to describe and predict how a magnet interacts with various materials and how magnets can be used to push or pull. K.7 8. Force, motion, and energy. The student knows that energy is everywhere and can be observed in everyday life. The student is expected to: K.8 A. communicate the idea that objects can only be seen when a light source is present and compare the effects of different amounts of light on the appearance of objects; and K.8.A B. demonstrate and explain that light travels through some objects and is blocked by other objects, creating shadows. K.8.B

The student knows that there are recognizable patterns in the natural world and among objects in the sky. The student is expected to: K.9	**A.** **identify, describe, and predict the patterns of day and night and their observable characteristics; and** K.9.A **B.** **observe, describe, and illustrate the Sun, Moon, stars, and objects in the sky such as clouds.** K.9.B
The student knows that the natural world includes earth materials and systems that can be observed. The student is expected to: K.10	**A.** **describe and classify rocks by the observable properties of size, shape, color, and texture;** K.10.A **B.** **observe and describe weather changes from day to day and over seasons; and** K.10.B **C.** **identify evidence that supports the idea that air is all around us and demonstrate that wind is moving air using items such as a windsock, pinwheel, or ribbon.** K.10.C
The student knows that earth materials are important to everyday life. The student is expected to observe and generate examples of practical uses for rocks, soil, and water. K.11	**12.** **Organisms and environments. The student knows that plants and animals depend on the environment to meet their basic needs for survival. The student is expected to:** K.12 **A.** **observe and identify the dependence of plants on air, sunlight, water, nutrients in the soil, and space to grow; and** K.12.A **B.** **observe and identify the dependence of animals on air, water, food, space, and shelter.** K.12.B
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: K.13	**A.** **identify the structures of plants, including roots, stems, leaves, flowers, and fruits;** K.13.A **B.** **identify the different structures that animals have that allow them to interact with their environment such as seeing, hearing, moving, and grasping objects;** K.13.B **C.** **identify and record the changes from seed, seedling, plant, flower, and fruit in a simple plant life cycle; and** K.13.C **D.** **identify ways that young plants resemble the parent plant.** K.13.D