

3rd Grade Science TEKS

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Knowledge and skills.

(1) Scientific investigation and reasoning. The student conducts classroom and outdoor investigations following school and home safety procedures and environmentally appropriate practices. – Science Investigation Skills

The student is expected to:

(A) demonstrate safe practices as described in the Texas Safety Standards during classroom and outdoor investigations, including observing a schoolyard habitat; and

(B) make informed choices in the use and conservation of natural resources by recycling or reusing materials such as paper, aluminum cans, and plastics.

(2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and outdoor investigations. – Science Reasoning Skills

The student is expected to:

(A) plan and implement descriptive investigations, including asking and answering questions, making inferences, and selecting and using equipment or technology needed, to solve a specific problem in the natural world;

(B) collect data by observing and measuring using the metric system and recognize differences between observed and measured data;

(C) construct maps, graphic organizers, simple tables, charts, and bar graphs using tools and current technology to organize, examine, and evaluate measured data;

(D) analyze and interpret patterns in data to construct reasonable explanations based on evidence from investigations;

(E) demonstrate that repeated investigations may increase the reliability of results; and

(F) communicate valid conclusions supported by data in writing, by drawing pictures, and through verbal discussion.

(3) Scientific investigation and reasoning. The student knows that information and critical thinking, scientific problem solving, and the contributions of scientists are used in making decisions. – Science Reasoning Skills

The student is expected to:

(A) in all fields of science, analyze, evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, including examining all sides of scientific evidence of those scientific explanations, so as to encourage critical thinking by the student;

(B) draw inferences and evaluate accuracy of product claims found in advertisements and labels such as for toys and food;

(C) represent the natural world using models such as volcanoes or Sun, Earth, and Moon system and identify their limitations, including size, properties, and materials; and

(D) connect grade-level appropriate science concepts with the history of science, science careers, and contributions of scientists.

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(4) Scientific investigation and reasoning. The student uses age-appropriate tools and models to investigate the natural world. - Science Investigation Skills

The student is expected to:

- (A) collect, record, and analyze information using tools, including microscopes, cameras, computers, hand lenses, metric rulers, Celsius thermometers, wind vanes, rain gauges, pan balances, graduated cylinders, beakers, spring scales, hot plates, meter sticks, compasses, magnets, collecting nets, notebooks, sound recorders, and Sun, Earth, and Moon system models; timing devices, including clocks and stopwatches; and materials to support observation of habitats of organisms such as terrariums and aquariums; and
- (B) use safety equipment as appropriate, including safety goggles and gloves

(5) Matter and energy. The student knows that matter has measurable physical properties and those properties determine how matter is classified, changed, and used.

The student is expected to:

- (A) measure, test, and record physical properties of matter, including temperature, mass, magnetism, and the ability to sink or float;

-STAAR Readiness Standard for 5th Grade (5.5A Classifying Matter)

- (B) describe and classify samples of matter as solids, liquids, and gases and demonstrate that solids have a definite shape and that liquids and gases take the shape of their container;

-STAAR Readiness Standard for 5th Grade (5.5A Classifying Matter)

- (C) predict, observe, and record changes in the state of matter caused by heating or cooling;

-STAAR Supporting Standard for 5th Grade (3.5C Adding/Removing Heat to Matter)

- (D) explore and recognize that a mixture is created when two materials are combined such as gravel and sand and metal and plastic paper clips.

-STAAR Supporting Standard for 5th Grade (5.5B Mixtures and their Separation Methods)

(6) Force, motion, and energy. The student knows that forces cause change and that energy exists in many forms.

The student is expected to:

- (A) explore different forms of energy, including mechanical, light, sound, and heat/thermal in everyday life;

-STAAR Readiness Standard for 5th Grade (5.6A Forms of Energy and their Use)

- (B) demonstrate and observe how position and motion can be changed by pushing and pulling objects to show work being done such as swings, balls, pulleys, and wagons;

-STAAR Supporting Standard for 5th Grade (3.6B Force and Work)

- (C) observe forces such as magnetism and gravity acting on objects.

-STAAR Supporting Standard for 5th Grade (5.6D Force and Motion)

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(7) Earth and space. The student knows that Earth consists of natural resources and its surface is constantly changing.

The student is expected to:

(A) explore and record how soils are formed by weathering of rock and the decomposition of plant and animal remains;

-STAAR Supporting Standard for 5th Grade (4.7A Properties of Soil)

(B) investigate rapid changes in Earth's surface such as volcanic eruptions, earthquakes, and landslides;

-STAAR Supporting Standard for 5th Grade

(C) identify and compare different landforms, including mountains, hills, valleys, and plains;

-STAAR Readiness Standard for 5th Grade (5.7B Landforms and their Changes)

(D) explore the characteristics of natural resources that make them useful in products and materials such as clothing and furniture and how resources may be conserved.

-STAAR Supporting Standard for 5th Grade (4.7C Renewable and Nonrenewable Resources)

(8) Earth and space. The student knows that there are recognizable patterns in the natural world and among objects in the sky.

The student is expected to:

(A) observe, measure, record, and compare day-to-day weather changes in different locations at the same time that include air temperature, wind direction, and precipitation;

-STAAR Supporting Standard for 5th Grade (5.8A Weather vs Climate)

(B) describe and illustrate the Sun as a star composed of gases that provides light and heat energy for the water cycle;

-STAAR Supporting Standard for 5th Grade (5.8D Physical Characteristics of Earth, Sun, Moon)

(C) construct models that demonstrate the relationship of the Sun, Earth, and Moon, including orbits and positions; and

-STAAR Supporting Standard for 5th Grade (5.8D Physical Characteristics of Earth, Sun, Moon)

(D) identify the planets in Earth's solar system and their position in relation to the Sun.

-STAAR Supporting Standard for 5th Grade

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(9) Organisms and environments. The student knows that organisms have characteristics that help them survive and can describe patterns, cycles, systems, and relationships within the environments.

The student is expected to:

(A) observe and describe the physical characteristics of environments and how they support populations and communities within an ecosystem;

-STAAR Supporting Standard for 5th Grade

(B) identify and describe the flow of energy in a food chain and predict how changes in a food chain affect the ecosystem such as removal of frogs from a pond or bees from a field;

-STAAR Readiness Standard for 5th Grade (5.9B Flow of Energy in Organisms) and Supporting Standard (5.9C Effect on Organisms by Competitors, Invasive Species, or Humans)

(C) describe environmental changes such as floods and drought where some organisms thrive and others perish or move to new locations.

-STAAR Readiness Standard for 5th Grade (5.9A How Organisms interact with environment to Live and Survive)

(10) Organisms and environments. The student knows that organisms undergo similar life processes and have structures that help them survive within their environments.

The student is expected to:

(A) explore how structures and functions of plants and animals allow them to survive in a particular environment;

-STAAR Readiness Standard for 5th Grade (5.10A Structures and Functions of Species to Live and Survive)

(B) explore that some characteristics of organisms are inherited such as the number of limbs on an animal or flower color and recognize that some behaviors are learned in response to living in a certain environment such as animals using tools to get food;

-STAAR Readiness Standard for 5th Grade (5.10B Inherited and Learned Traits of Organisms)

(C) investigate and compare how animals and plants undergo a series of orderly changes in their diverse life cycles such as tomato plants, frogs, and lady bugs

-STAAR Supporting Standard for 5th Grade (3.10B Life Cycle of Organisms)