



State of Texas Assessments of Academic Readiness

**TEKS Curriculum Framework
for STAAR Alternate 2**

**Elementary Science Assessment
Administered in Grade 5**

Note: This curriculum framework document includes the Science TEKS implemented in the 2024-2025 school year.

Strand 1 - Matter and Energy	
TEKS Knowledge and Skills Statement/ STAAR-Tested Student Expectations	STAAR Alternate 2 Essence Statement
<p>(5.6) Matter and energy. The student knows that matter has measurable physical properties that determine how matter is identified, classified, changed, and used. The student is expected to:</p> <p>(A) compare and contrast matter based on measurable, testable, or observable physical properties, including mass, magnetism, relative density (sinking and floating using water as a reference point), physical state (solid, liquid, gas), volume, solubility in water, and the ability to conduct or insulate thermal energy and electric energy; Readiness Standard</p> <p>(B) demonstrate and explain that some mixtures maintain physical properties of their substances such as iron filings and sand or sand and water; Supporting Standard</p> <p>(C) compare the properties of substances before and after they are combined into a solution and demonstrate that matter is conserved in solutions. Supporting Standard</p> <p>(3.6) Matter and energy. The student knows that matter has measurable physical properties that determine how matter is identified, classified, changed, and used. The student is expected to:</p> <p>(C) predict, observe, and record changes in the state of matter caused by heating or cooling in a variety of substances such as ice becoming liquid water, condensation forming on the outside of a glass, or liquid water being heated to the point of becoming water vapor (gas). Supporting Standard</p>	<p>Identifies and classifies matter by its physical properties and determines how matter is changed.</p>

5.6**Prerequisite Skills Linked to Assessed Curriculum**

- 4.6.A: Classify and describe matter using observable physical properties, including temperature, mass, magnetism, relative density (the ability to sink or float in water), and physical state (solid, liquid, gas).
- 4.6.B: Investigate and compare a variety of mixtures, including solutions that are composed of liquids in liquids and solids in liquids.
- 4.6.C: Demonstrate that matter is conserved when mixtures such as soil and water or oil and water are formed.
- 3.6.A: Measure, test, and record physical properties of matter, including temperature, mass, magnetism, and the ability to sink or float in water.
- 3.6.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.
- 3.6.C: Predict, observe, and record changes in the state of matter caused by heating or cooling in a variety of substances such as ice becoming liquid water, condensation forming on the outside of a glass, or liquid water being heated to the point of becoming water vapor (gas).
- 3.6.D: Demonstrate that materials can be combined based on their physical properties to create or modify objects such as building a tower or adding clay to sand to make a stronger brick and justify the selection of materials based on their physical properties.
- 2.6.A: Classify matter by observable physical properties, including texture, flexibility, and relative temperature, and identify whether a material is a solid or liquid.
- 2.6.B: Conduct a descriptive investigation to explain how physical properties can be changed through processes such as cutting, folding, sanding, melting, or freezing.
- 2.6.C: Demonstrate that small units such as building blocks can be combined or reassembled to form new objects for different purposes and explain the materials chosen based on their physical properties.
- 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.B: Explain and predict changes in materials caused by heating and cooling.
- 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.
- K.6: Identify and record observable physical properties of objects, including shape, color, texture, and material, and generate ways to classify objects.
- PK4.VI.A.1: Observe, investigate, describe, and discuss characteristics of common objects.
- PK4.VI.A.3: Use simple scientific tools to learn about objects.

Strand 2 - Force, Motion, and Energy	
TEKS Knowledge and Skills Statement/ STAAR-Tested Student Expectations	STAAR Alternate 2 Essence Statement
<p>(5.7) Force, motion, and energy. The student knows the nature of forces and the patterns of their interactions. The student is expected to:</p> <p>(A) investigate and explain how equal and unequal forces acting on an object cause patterns of motion and transfer of energy; Supporting Standard</p> <p>(B) design a simple experimental investigation that tests the effect of force on an object in a system such as a car on a ramp or balloon rocket on a string. Supporting Standard</p> <p>(3.7) Force, motion, and energy. The student knows the nature of forces and the patterns of their interactions. The student is expected to:</p> <p>(A) demonstrate and describe forces acting on an object in contact or at a distance, including magnetism, gravity, and pushes and pulls; Supporting Standard</p> <p>(B) plan and conduct a descriptive investigation to demonstrate and explain how position and motion can be changed by pushing and pulling objects such as swings, balls, and wagons. Supporting Standard</p>	<p>Knows that forces such as magnetism, gravity, pushing, and pulling can act on an object and cause patterns of motion and the transfer of energy.</p>

5.7**Prerequisite Skills Linked to Assessed Curriculum**

- 4.7: Plan and conduct descriptive investigations to explore the patterns of forces such as gravity, friction, or magnetism in contact or at a distance on an object.
- 3.7.A: Demonstrate and describe forces acting on an object in contact or at a distance, including magnetism, gravity, and pushes and pulls.
- 3.7.B: Plan and conduct a descriptive investigation to demonstrate and explain how position and motion can be changed by pushing and pulling objects such as swings, balls, and wagons.
- 2.7.A: Explain how objects push on each other and may change shape when they touch or collide.
- 2.7.B: Plan and conduct a descriptive investigation to demonstrate how the strength of a push and pull changes an object's motion.
- 1.7.A: Explain how pushes and pulls can start, stop, or change the speed or direction of an object's motion.
- 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.
- K.7: Describe and predict how a magnet interacts with various materials and how magnets can be used to push or pull.
- PK4.VI.A.2: Observe, investigate, describe, and discuss position and motion of objects.

Strand 2 - Force, Motion, and Energy	
TEKS Knowledge and Skills Statement/ STAAR-Tested Student Expectations	STAAR Alternate 2 Essence Statement
<p>(5.8) Force, motion, and energy. The student knows that energy is everywhere and can be observed in cycles, patterns, and systems. The student is expected to:</p> <p style="padding-left: 20px;">(B) demonstrate that electrical energy in complete circuits can be transformed into motion, light, sound, or thermal energy and identify the requirements for a functioning electrical circuit; Readiness Standard</p> <p style="padding-left: 20px;">(C) demonstrate and explain how light travels in a straight line and can be reflected, refracted, or absorbed. Readiness Standard</p> <p>(4.8) Force, motion, and energy. The student knows that energy is everywhere and can be observed in cycles, patterns, and systems. The student is expected to:</p> <p style="padding-left: 20px;">(A) investigate and identify the transfer of energy by objects in motion, waves in water, and sound. Supporting Standard</p>	<p>Knows that electrical energy can be transformed into other types of energy (motion, light, sound, and thermal) and understands how light can be reflected, refracted, or absorbed.</p>
5.8 Prerequisite Skills Linked to Assessed Curriculum	
<ul style="list-style-type: none"> • 4.8.A: Investigate and identify the transfer of energy by objects in motion, waves in water, and sound. • 4.8.B: Identify conductors and insulators of thermal and electrical energy. • 4.8.C: Demonstrate and describe how electrical energy travels in a closed path that can produce light and thermal energy. • 3.8.A: Identify everyday examples of energy, including light, sound, thermal, and mechanical. • 3.8.B: Plan and conduct investigations that demonstrate how the speed of an object is related to its mechanical energy. • 2.8.A: Demonstrate and explain that sound is made by vibrating matter and that vibrations can be caused by a variety of means, including sound. • 2.8.B: Explain how different levels of sound are used in everyday life such as a whisper in a classroom or a fire alarm. • 1.8.A: Investigate and describe applications of heat in everyday life such as cooking food or using a clothes dryer. 	<p style="border: 1px solid black; border-radius: 15px; padding: 2px 10px; display: inline-block;"><i>Continued</i></p>

5.8**Prerequisite Skills Linked to Assessed Curriculum**

- 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.
- 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.
- K.8.B: Demonstrate and explain that light travels through some objects and is blocked by other objects, creating shadows.
- PK4.VI.A.4: Observe, investigate, describe, and discuss sources of energy including light, heat, and electricity.

Strand 3 - Earth and Space	
TEKS Knowledge and Skills Statement/ STAAR-Tested Student Expectations	STAAR Alternate 2 Essence Statement
<p>(5.9) Earth and space. The student recognizes patterns among the Sun, Earth, and Moon system and their effects. The student is expected to:</p> <p>(A) demonstrate that Earth rotates on its axis once approximately every 24 hours and explain how that causes the day/night cycle and the appearance of the Sun moving across the sky, resulting in changes in shadow positions and shapes. Readiness Standard</p> <p>(4.9) Earth and space. The student recognizes patterns among the Sun, Earth, and Moon system and their effects. The student is expected to:</p> <p>(A) collect and analyze data to identify sequences and predict patterns of change in seasons such as changes in temperature and length of daylight; Supporting Standard</p> <p>(B) collect and analyze data to identify sequences and predict patterns of change in the observable appearance of the Moon from Earth. Supporting Standard</p> <p>(3.9) Earth and space. The student knows there are recognizable objects and patterns in Earth’s solar system. The student is expected to:</p> <p>(B) identify the order of the planets in Earth’s solar system in relation to the Sun. Supporting Standard</p>	<p>Recognizes the patterns of movement of the Sun, Earth, and Moon and understands the effects of this movement.</p>
5.9	Prerequisite Skills Linked to Assessed Curriculum
<ul style="list-style-type: none"> • 4.9.A: Collect and analyze data to identify sequences and predict patterns of change in seasons such as change in temperature and length of daylight. • 4.9.B: Collect and analyze data to identify sequences and predict patterns of change in the observable appearance of the Moon from Earth. • 3.9.A: Construct models and explain the orbits of the Sun, Earth, and Moon in relation to each other. • 3.9.B: Identify the order of the planets in Earth’s solar system in relation to the Sun. • 2.9.A: Describe the Sun as a star that provides light and heat and explain that the Moon reflects the Sun’s light. 	

Continued

5.9**Prerequisite Skills Linked to Assessed Curriculum**

- 2.9.B: Observe objects in the sky using tools such as a telescope and compare how objects in the sky are more visible and can appear different with a tool than with an unaided eye.
- 1.9: Describe and predict the patterns of seasons of the year such as order of occurrence and changes in nature.
- K.9.A: Identify, describe, and predict the patterns of day and night and their observable characteristics.
- K.9.B: Observe, describe, and illustrate the Sun, Moon, stars, and objects in the sky such as clouds.
- PK4.VI.C.2: Identify, observe, describe, and discuss objects in the sky.
- PK4.VI.C.3: Observe and describe what happens during changes in the earth and sky.

Strand 3 - Earth and Space	
TEKS Knowledge and Skills Statement/ STAAR-Tested Student Expectations	STAAR Alternate 2 Essence Statement
<p>(5.10) Earth and space. The student knows that there are recognizable patterns and processes on Earth. The student is expected to:</p> <ul style="list-style-type: none"> (A) explain how the Sun and the ocean interact in the water cycle and affect weather; Supporting Standard (B) model and describe the processes that led to the formation of sedimentary rocks and fossil fuels; Readiness Standard (C) model and identify how changes to Earth’s surface by wind, water, or ice result in the formation of landforms, including deltas, canyons, and sand dunes. Readiness Standard <p>(4.10) Earth and space. The student knows that there are processes on Earth that create patterns of change. The student is expected to:</p> <ul style="list-style-type: none"> (A) describe and illustrate the continuous movement of water above and on the surface of Earth through the water cycle and explain the role of the Sun as a major source of energy in this process; Supporting Standard (B) model and describe slow changes to Earth’s surface caused by weathering, erosion, and deposition from water, wind, and ice; Supporting Standard (C) differentiate between weather and climate. Supporting Standard <p>(3.10) Earth and space. The student knows that there are recognizable processes that change Earth over time. The student is expected to:</p> <ul style="list-style-type: none"> (C) model and describe rapid changes in Earth’s surface such as volcanic eruptions, earthquakes, and landslides. Supporting Standard 	<p>Knows that there are patterns and processes on Earth that change the Earth’s surface over time.</p>

5.10**Prerequisite Skills Linked to Assessed Curriculum**

- 4.10.A: Describe and illustrate the continuous movement of water above and on the surface of Earth through the water cycle and explain the role of the Sun as a major source of energy in this process.
- 4.10.B: Model and describe slow changes to Earth's surface caused by weathering, erosion, and deposition from water, wind, and ice.
- 4.10.C: Differentiate between weather and climate.
- 3.10.A: Compare and describe day-to-day weather in different locations at the same time, including air temperature, wind direction, and precipitation.
- 3.10.B: Investigate and explain how soils such as sand and clay are formed by weathering of rock and by decomposition of plant and animal remains.
- 3.10.C: Model and describe rapid changes in Earth's surface such as volcanic eruptions, earthquakes, and landslides.
- 2.10.A: Investigate and describe how wind and water move soil and rock particles across the Earth's surface such as wind blowing sand into dunes on a beach or a river carrying rocks as it flows.
- 2.10.B: Measure, record, and graph weather information, including temperature and precipitation.
- 2.10.C: Investigate different types of severe weather events such as a hurricane, tornado, or flood and explain that some events are more likely than others in a given region.
- 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.B: Investigate and describe how water can move rock and soil particles from one place to another.
- 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.
- 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.
- K.10.A: Describe and classify rocks by the observable properties of size, shape, color, and texture.
- K.10.B: Observe and describe weather changes from day to day and over seasons.
- K.10.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.
- PK4.VI.C.1: Observe, investigate, describe, and discuss earth materials, and their properties and uses.
- PK4.VI.C.3: Observe and describe what happens during changes in the earth and sky.

Strand 3 - Earth and Space	
TEKS Knowledge and Skills Statement/ STAAR-Tested Student Expectations	STAAR Alternate 2 Essence Statement
<p>(4.11) Earth and space. The student understands how natural resources are important and can be managed. The student is expected to:</p> <p>(A) identify and explain advantages and disadvantages of using Earth’s renewable and nonrenewable natural resources such as wind, water, sunlight, plants, animals, coal, oil, and natural gas; Supporting Standard</p>	<p>Understands Earth’s renewable and nonrenewable natural resources.</p>
4.11 Prerequisite Skills Linked to Assessed Curriculum	
<ul style="list-style-type: none"> • 4.11.A: Identify and explain advantages and disadvantages of using Earth’s renewable and nonrenewable natural resources such as wind, water, sunlight, plants, animals, coal, oil, and natural gas. • 4.11.B: Explain the critical role of energy resources to modern life and how conservation, disposal, and recycling of natural resources impact the environment. • 4.11. C: Determine the physical properties of rocks that allow Earth’s natural resources to be stored there. • 3.11.A: Explore and explain how humans use natural resources such as in construction, in agriculture, in transportation, and to make products. • 3.11.B: Explain why the conservation of natural resources is important. • 3.11.C: Identify ways to conserve natural resources through reducing, reusing, or recycling. • 2.11.A: Distinguish between natural and manmade resources. • 2.11.B: Describe how human impact can be limited by making choices to conserve and properly dispose of materials such as reducing use of, reusing, or recycling paper, plastic, and metal. • 1.11.A: Identify and describe how plants, animals, and humans use rocks, soil, and water. • 1.11.B: Explain why water conservation is important. • 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. • K.11: Observe and generate examples of practical uses for rocks, soil, and water. • PK4.VI.C.1: Observe, investigate, describe, and discuss earth materials, and their properties and uses. • PK4.VI.C.4: Demonstrate an understanding of the importance of caring for our environment and our planet. 	

Strand 4 - Organisms and Environments	
TEKS Knowledge and Skills Statement/ STAAR-Tested Student Expectations	STAAR Alternate 2 Essence Statement
<p>(5.12) Organisms and environments. The student describes patterns, cycles, systems, and relationships within environments. The student is expected to:</p> <p style="padding-left: 40px;">(A) observe and describe how a variety of organisms survive by interacting with biotic and abiotic factors in a healthy ecosystem. Readiness Standard</p> <p>(4.12) Organisms and environments. The student describes patterns, cycles, systems, and relationships within environments. The student is expected to:</p> <p style="padding-left: 40px;">(B) describe the cycling of matter and flow of energy through food webs, including the roles of the Sun, producers, consumers, and decomposers. Supporting Standard</p> <p>(3.12) Organisms and environments. The student describes patterns, cycles, systems, and relationships within environments. The student is expected to:</p> <p style="padding-left: 40px;">(B) identify and describe the flow of energy in a food chain and predict how changes in a food chain such as removal of frogs from a pond or bees from a field affect the ecosystem; Supporting Standard</p> <p style="padding-left: 40px;">(D) identify fossils as evidence of past living organisms and environments, including common Texas fossils. Supporting Standard</p>	<p>Describes/Identifies how living systems interact with their environment to create a healthy ecosystem.</p>

5.12**Prerequisite Skills Linked to Assessed Curriculum**

- 4.12.A: Investigate and explain how most producers can make their own food using sunlight, water, and carbon dioxide through the cycling of matter.
- 4.12.B: Describe the cycling of matter and flow of energy through food webs, including the roles of the Sun, producers, consumers, and decomposers.
- 4.12.C: Identify and describe past environments based on fossil evidence, including common Texas fossils.
- 3.12.A: Explain how temperature and precipitation affect animal growth and behavior through migration and hibernation and plant responses through dormancy.
- 3.12.B: Identify and describe the flow of energy in a food chain and predict how changes in a food chain such as removal of frogs from a pond or bees from a field affect the ecosystem.
- 3.12.C: Describe how natural changes to the environment such as floods and droughts cause some organisms to thrive and others to perish or move to new locations.
- 3.12.D: Identify fossils as evidence of past living organisms and environments, including common Texas fossils.
- 2.12.A: Describe how the physical characteristics of environments, including the amount of rainfall, support plants and animals within an ecosystem.
- 2.12.B: Create and describe food chains identifying producers and consumers to demonstrate how animals depend on other living things.
- 2.12.C: Explain and demonstrate how some plants depend on other living things, wind, or water for pollination and to move their seeds around.
- 1.12.A: Classify living and nonliving things based upon whether they have basic needs and produce young.
- 1.12.B: Describe and record examples of interactions and dependence between living and nonliving components in terrariums or aquariums.
- 1.12.C: Identify and illustrate how living organisms depend on each other through food chains.
- K.12.A: Observe and identify the dependence of plants on air, sunlight, water, nutrients in the soil, and space to grow.
- K.12.B: Observe and identify the dependence of animals on air, water, food, space, and shelter.
- PK4.VI.B.1: Observe, investigate, describe, and discuss the characteristics of organisms.
- PK4.VI.B.2: Observe, describe, and discuss the life cycles of organisms.
- PK4.VI.B.3: Observe, investigate, describe, and discuss the relationship of organisms in their environments.

Strand 4 - Organisms and Environments	
TEKS Knowledge and Skills Statement/ STAAR-Tested Student Expectations	STAAR Alternate 2 Essence Statement
<p>(5.13) Organisms and environments. The student knows that organisms undergo similar life processes and have structures and behaviors that help them survive within their environments. The student is expected to:</p> <p style="padding-left: 20px;">(A) analyze the structures and functions of different species to identify how organisms survive in the same environment. Readiness Standard</p>	<p>Knows that organisms have structures and functions that help them survive within their environments.</p>
5.13 Prerequisite Skills Linked to Assessed Curriculum	
<ul style="list-style-type: none"> • 4.13.A: Explore and explain how structures and functions of plants such as waxy leaves and deep roots enable them to survive in their environment. • 4.13.B: Differentiate between inherited and acquired physical traits of organisms. • 3.13.A: Explore and explain how external structures and functions of animals such as the neck of a giraffe or webbed feet on a duck enable them to survive in their environment. • 3.13.B: Explore, illustrate, and compare life cycles in organisms such as beetles, crickets, radishes, or lima beans. • 2.13.A: Identify the roots, stems, leaves, flowers, fruits, and seeds of plants and compare how those structures help different plants meet their basic needs for survival. • 2.13.B: Record and compare how the structures and behaviors of animals help them find and take in food, water, and air. • 2.13.C: Record and compare how being part of a group helps animals obtain food, defend themselves, and cope with changes. • 2.13.D: Investigate and describe some of the unique life cycles of animals where young animals do not resemble their parents, including butterflies and frogs. • 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.B: Record observations of and describe basic life cycles of animals, including a bird, a mammal, and a fish. • 1.13.C: Compare ways that young animals resemble their parents. 	

Continued

5.13**Prerequisite Skills Linked to Assessed Curriculum**

- K.13.A: Identify the structures of plants, including roots, stems, leaves, flowers, and fruits.
- K.13.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.C: Identify and record the changes from seed, seedling, plant, flower, and fruit in a simple plant life cycle.
- K.13.D: Identify ways that young plants resemble the parent plant.
- K.12.A: Observe and identify the dependence of plants on air, sunlight, water, nutrients in the soil, and space to grow.
- K.12.B: Observe and identify the dependence of animals on air, water, food, space, and shelter.
- PK4.VI.B.3: Observe, investigate, describe, and discuss the relationship of organisms in their environments.