STAR Curriculum Alignment Guide to Texas Essential Knowledge and Skills (TEKS):
Science

Note: STAR lesson numbers correspond to the essential lessons and prerequisite skills necessary to reach the grade level standard and essence statements.

Science Area of Focus: Matter and Energy

Matter and Energy: The student demonstrates understanding that objects have properties and patterns (K.5; 1.5). The student classifies matter and demonstrates understanding that matter has physical properties and those properties determine how it is described, classified, changed, and used (2.5). The student demonstrates understanding that matter has measurable physical properties and those properties determine how matter is classified, changed, and used (3.5; 4.5; 5.5). The student will use the scientific method to demonstrate an understanding of the properties of matter and energy and their interactions.

Aligned Essence Statements	**Identifies and classifies matter by its physical properties and determines how matter is changed (5.5, 3.5)**
Reporting Category	**STAR Reporting Category 1**

KEY: Receptive Language (R); Expressive Language (E); Spontaneous Language (S); Functional Routines (FR); Academic (A); Play and Social (P)

Prerequisite Vertical Alignment: Science Area of Focus: Matter and Energy			
Grade Level	**Prerequisite Skills**	**TEKS**	**STAR Curriculum Aligned Lessons**
5	• Classify matter based on measurable, testable, and observable physical properties, including mass, magnetism, physical state (solid, liquid, and gas), relative density (sinking and floating using water as a reference point), solubility in water, and the ability to conduct or insulate thermal energy or electric energy • Demonstrate that some mixtures maintain physical properties of their ingredients such as iron filings and sand and sand and water • Demonstrate that some mixtures maintain physical properties of their ingredients such as iron filings and sand and sand and water	**5.5 A-C**	**Level 3:** R1, R2, R3, R4, R7, E1, E2, E3, E4, E7, E9, E11, E12, E13, E14, E15 FR3, FR4, FR5, FR6, FR9, FR16, S1, S2, S3, A4, A8, A14, A15, A16, A17, P2 **Level 2:** R1, R2, R4, R5, R6, R8, R7, E1, E2, E3, E5, E7, FR3, FR6, FR11, FR12, S1, S2, S3, A2, A3, A5, A12, A14, P1, P2, P4, P5 **Level 1:** R2, R5, R6, R7, R8, R9, R10, R12, R14 E1,E2, E3, FR3, FR4, FR8, FR9, FR10, FR12, A2 A3, A4, P1, P2
4-3	• Measure, compare, and contrast physical properties of matter, including mass, volume, states (solid, liquid, gas), temperature, magnetism, and the ability to sink or float • Compare and contrast a variety of mixtures, including solutions • Measure, test, and record physical properties of matter, including temperature, mass, magnetism, and the ability to sink or float • 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 • Predict, observe, and record changes in the state of matter caused by heating or cooling such as ice becoming liquid water, condensation forming on the outside of a glass of ice water, or liquid water being heated to the point of becoming water vapor • Explore and recognize that a mixture is created when two materials are combined such as gravel and sand or metal and plastic paper clips	**4.5 A-D; 3.5 A-D**	
2-1	• Classify matter by physical properties, including relative temperature, texture, flexibility, and whether material is a solid or liquid • Compare changes in materials caused by heating and cooling • Demonstrate that things can be done to materials such as cutting, folding, sanding, and melting to change their physical properties • Combine materials that, when put together, can do things that they cannot do by themselves such as building a tower or a bridge and justify the selection of those materials based on their physical properties • Classify objects by observable properties such as larger and smaller, heavier and lighter, shape, color, and texture • Predict and identify changes in materials caused by heating and cooling	**2.5 A-D; 1.5 A-C**	

KEY: Receptive Language (R); Expressive Language (E); Spontaneous Language (S); Functional Routines (FR); Academic (A); Play and Social (P)

Prerequisite Vertical Alignment: Science Area of Focus: Matter and Energy			
Grade Level	**Prerequisite Skills**	**TEKS**	**STAR Curriculum Aligned Lessons**
K	• Observe and record properties of objects, including bigger or smaller, heavier or lighter, shape, color, and texture • Observe, record, and discuss how materials can be changed by heating or cooling	**K.5 A-B**	(See previous page)
PK	• Observe, investigate, describe, and discuss properties and characteristics of common objects	**Pre.K.VI.A.1**	

Science Area of Focus: Force, Motion, and Energy

Force, Motion, and Energy: The student explores and demonstrates understanding that force, motion and energy are related and are a part of everyday life (K.6; 1.6). The student demonstrates an understanding that forces cause change and that energy exists in many forms (2.6; 3.6). The student demonstrates an understanding that energy exists in many forms and can be observed in cycles, patterns, and systems (4.6). The student demonstrates an understanding that energy occurs in many forms and can be observed in cycles, patterns, and systems (5.6). Using the scientific method, the student will demonstrate an understanding of force, motion, and energy and their relationships.

Aligned Essence Statements	**Recognizes force, motion, and energy and their relationships**
Reporting Category	**STAR Reporting Category 2**

Prerequisite Vertical Alignment: Science Area of Focus: Force, Motion, and Energy			
Grade Level	**Prerequisite Skills**	**TEKS**	**STAR Curriculum Aligned Lessons**
5	**Force and Motion** • Explore the uses of energy, including mechanical, light, thermal, electrical, and sound energy • Demonstrate that the flow of electricity in closed circuits can produce light, heat, or sound • Demonstrate that light travels in a straight line until it strikes an object and is reflected or travels through one medium to another and is refracted • Design a simple experimental investigation that tests the effect of force on an object	**5.6 A-D**	**Level 3:** R1, R2, R3, R4, E1, E2, E3, E4, E7, E8, E9, E11, E 12, E15, S1, S2, S3, FR5, FR6, FR10, FR16, A14, A15, A16, A17, P1, P2 **Level 2:** R1, R2, R4, R5, R6, R7, R8, E1, E2, E3, E5, E6, E7, S1, S2, S3, FR10, FR11, FR12, A12, A13, A14, P1, P2, P3, P4, P5 **Level 1:** R1, R2, R3, R4, R5, R6, R7, R8, R9, R10, R11, R12 R14, E1, E2, E3, FR7, FR8, FR9, FR10, FR11, FR12, A2, A3, A4, P1, P2
4	**Force and Motion** • Design a descriptive investigation to explore the effect of force on an object such as a push or a pull, gravity, friction, or magnetism • Differentiate between conductors and insulators of thermal and electrical energy **Energy in Its Many Forms** • Differentiate among forms of energy, including mechanical, sound, electrical, light, and thermal **Electricity and Magnetism** • Demonstrate that electricity travels in a closed path, creating an electrical circuit	**4.6 A-D**	
3	**Force and Motion** • Observe forces such as magnetism and gravity acting on objects • Demonstrate and observe how position and motion can be changed by pushing and pulling objects such as swings, balls, and wagons **Energy in Its Many Forms** • Explore different forms of energy, including mechanical, light, sound, and thermal in everyday life	**3.6 A-C**	

KEY: Receptive Language (R); Expressive Language (E); Spontaneous Language (S); Functional Routines (FR); Academic (A); Play and Social (P)

Prerequisite Vertical Alignment: Science Area of Focus: Force, Motion, and Energy			
Grade Level	**Prerequisite Skills**	**TEKS**	**STAR Curriculum Aligned Lessons**
2	**Force and Motion** • Trace and compare patterns of movement of objects such as sliding, rolling, and spinning over time • Observe and identify how magnets are used in everyday life **Energy in Its Many Forms** • Investigate the effects on objects by increasing or decreasing amounts of light, heat, and sound energy such as how the color of an object appears different in dimmer light or how heat melts butter	**2.6 A-C**	(See previous page)
1	**Force and Motion** • Predict and describe how a magnet can be used to push or pull an object • 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 **Energy in Its Many Forms** • Identify and discuss how different forms of energy such as light, thermal, and sound are important to everyday life	**1.6 A-C**	
K	**Force and Motion** • Predict and describe how a magnet can be used to push or pull an object • Observe and describe the ways that objects can move such as in a straight line, zigzag, up and down, back and forth, round and round, and fast and slow • Observe and describe the location of an object in relation to another such as above, below, behind, in front of, and beside • Use the senses to explore different forms of energy such as light, thermal, and sound	**K.6 A-D**	
PK	**Physical Science Skills** • Observe, investigate, describe, and discuss position and motion of objects • Observe, investigate, describe, and discuss sources of energy including light, heat, and electricity	**Pre.K.VI.A.2**	

KEY: Receptive Language (R); Expressive Language (E); Spontaneous Language (S); Functional Routines (FR); Academic (A); Play and Social (P)

Science Area of Focus: Organisms and Environments

Organisms and Environments: The student knows that there are relationships, systems, and cycles within environments (5.9). The student knows and can describe patterns, cycles, systems, and relationships within the environments (3.9). The student will demonstrate an understanding of the structures and functions of living organisms and their interdependence on each other and on their environment.

Aligned Essence Statements	**Knows that there are relationships and characteristics within environments that support organisms**
Reporting Category	**STAAR Reporting Category 4**

Prerequisite Vertical Alignment: Science Area of Focus: Organisms and Environments			
Grade Level	**Prerequisite Skills**	**TEKS**	**STAR Curriculum Aligned Lessons**
5	**Environment: How Organisms Depend on Each Other and Their Environment** • Observe the way organisms live and survive in their ecosystem by interacting with living and nonliving components • Describe the flow of energy within a food web, including the roles of the sun, producers, consumers, and decomposers • Predict the effects of changes in ecosystems caused by living organisms, including humans, such as the overpopulation of grazers or the building of highways • Identify fossils as evidence of past living organisms and the nature of the environments at the time using models	**5.9 A-D**	**Level 3:** R2, R3, R4, R5, R6, R7, E2, E3, E4, E5, E6, E7, E9, E10, E11, E12, E13, E14, E15, S1, S2, S3, FR16, A9, A10, A12, A13, A14, A15, A16, A17, P2 **Level 2:** R1, R2, R3, R4, R5, R6, R7, R8, R9, R10, E1, E2, E3, E4, E5, E6, E7, E8, E9, S1, S2, S3, FR12, A7, A8, A10, A11, A12, A13, A14, P1 **Level 1:** R2, R5, R6, R7, R8, R9, R10, R11, R12, R13, R14, E1, E2, E3, FR10, FR11, A2, A3, A4, P1, P2, P3, P4
4	**Environment: How Organisms Depend on Each Other and Their Environment** • Describe the flow of energy through food webs, beginning with the sun, and predict how changes in the ecosystem affect the food web • Investigate that most producers need sunlight, water, and carbon dioxide to make their own food, while consumers are dependent on other organisms for food	**4.9 A-B**	
3	**Environment: How Organisms Depend on Each Other and Their Environment** • Describe environmental changes such as floods and droughts where some organisms thrive, and others perish or move to new locations • 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 • Observe and describe the physical characteristics of environments and how they support populations and communities of plants and animals within an ecosystem	**3.9 A-C**	

KEY: Receptive Language (R); Expressive Language (E); Spontaneous Language (S); Functional Routines (FR); Academic (A); Play and Social (P)

Prerequisite Vertical Alignment: Science Area of Focus: Organisms and Environments			
Grade Level	**Prerequisite Skills**	**TEKS**	**STAR Curriculum Aligned Lessons**
2-1	**Environment: How Organisms Depend on Each Other and Their Environment** • Compare the ways living organisms depend on each other and on their environments such as through food chains • Gather evidence of interdependence among living organisms such as energy transferred through food chains or animals using plants for shelter • Analyze and record examples of interdependence found in various situations such as terrariums and aquariums or pet and caregiver **Environment: Identify How Organisms Meet Their Basic Needs** • Observe, record, and compare how the physical characteristics of plants help them meet their basic needs such as stems carry water throughout the plant • Observe, record, and compare how the physical characteristics and behaviors of animals help them meet their basic needs • Identify factors in the environment, including temperature and precipitation, that affect growth and behavior such as migration, hibernation, and dormancy of living things • Identify the basic needs of plants and animals • Identify and compare the parts of plants • Sort and classify living and nonliving things based upon whether they have basic needs and produce offspring	**2.10 A-B; 2.9 A-C; 1.10 A; 1.9 A-C**	(See previous page)
K	**Environment: Identify How Organisms Meet Their Basic Needs** • Identify basic parts of plants and animals • Sort plants and animals into groups based on physical characteristics such as color, size, body covering, or leaf shape • Examine evidence that living organisms have basic needs such as food, water, and shelter for animals and air, water, nutrients, sunlight, and space for plants • Differentiate between living and nonliving things based upon whether they have basic needs and produce offspring	**K.10 A-B; K.9 A-B**	

KEY: Receptive Language (R); Expressive Language (E); Spontaneous Language (S); Functional Routines (FR); Academic (A); Play and Social (P)

Prerequisite Vertical Alignment: Science Area of Focus: Organisms and Environments			
Grade Level	**Prerequisite Skills**	**TEKS**	**STAR Curriculum Aligned Lessons**
PK	**Life Sciences Skills** • Observe, investigate, describe, and discuss the relationship of organisms to their environments • Observe, investigate, describe, and discuss the characteristics of organisms • Describes color, size, and shape of organisms • Describes animals' needs for food, water, air, and shelter or plants' needs for water, nutrients, air, and light • Compares differences and similarities of animals (fish live in water, dogs and cats have fur, all birds have feathers, etc.) • Uses the tools of science (hand lens and measurement tools) to observe and discuss plants and animals	**Pre-K.VI.B.1**	(See previous page)

KEY: Receptive Language (R); Expressive Language (E); Spontaneous Language (S); Functional Routines (FR); Academic (A); Play and Social (P)

Science Area of Focus: Organisms and Environments

Organisms and Environments: The student will demonstrate an understanding that organisms resemble their parents and have structures and processes that help them survive within their environments (K.10; 1.10). The student will demonstrate an understanding that organisms undergo similar life processes and have structures that help them survive within their environments (3.10; 4.10; 5.10). The student will demonstrate an understanding of the structures and functions of living organisms and their interdependence on each other and on their environment.

Aligned Essence Statements	**Knows that organisms undergo similar life processes and have structures and behaviors that help them survive within their environments**
Reporting Category	**STAAR Reporting Category 4**

Prerequisite Vertical Alignment: Science Area of Focus: Organisms and Environments

Grade Level	Prerequisite Skills	TEKS	STAR Curriculum Aligned Lessons
5	**Environment: Adaptations and Biological Evolution** • Compare the structures and functions of different species that help them live and survive in a specific environment such as hooves on prairie animals or webbed feet in aquatic animals	5.10 A	**Level 3:** R2, R3, R4, R6, R7, E2, E3, E4, E6, E7, E9, E10, E11, E13, E14, E15, S1, S2, S3, FR16, A9, A10, A12, A13, A14, A15, A16, A17, P2 **Level 2:** R1, R2, R4, R5, R6, R7, R8, R9, R10, E1, E2, E3, E5, E7, E8, E9, S1, S2, S3, FR11, FR12, A7, A8, A10, A11, A12, A13, A14, P1, P2 **Level 1:** R2, R5, R6, R7, R8, R9, R10, R11, R12, R14, E1, E2, E3, FR10, FR11, FR12, A2, A3, A4, P1, P2
4	**Environment: Adaptations and Biological Evolution** • Explore how structures and functions enable organisms to survive in their environment **Organisms: Inherited Traits and Learned Behaviors** • Explore and describe examples of traits that are inherited from parents to offspring such as eye color and shapes of leaves and behaviors that are learned such as reading a book and a wolf pack teaching their pups to hunt effectively **Organisms: Life Cycles** • Explore, illustrate, and compare life cycles in living organisms such as beetles, crickets, radishes, or lima beans	4.10 A-C	
3	**Environment: Adaptations and Biological Evolution** • Explore how structures and functions of plants and animals allow them to survive in a particular environment **Organisms: Life Cycles** • 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 beetles	3.10 A-B	
2-1	**Environment: Adaptations and Biological Evolution** • Investigate how the external characteristics of an animal are related to where it lives, how it moves, and what it eats **Organisms: Inherited Traits and Learned Behaviors** • Compare ways that young animals resemble their parents **Organisms: Life Cycles** • Investigate and record some of the unique stages that insects such as grasshoppers and butterflies undergo during their life cycle • Observe and record life cycles of animals such as a chicken, frog, or fish	2.10 C; 1.10 A; 1.10 C-D	

KEY: Receptive Language (R); Expressive Language (E); Spontaneous Language (S); Functional Routines (FR); Academic (A); Play and Social (P)

Prerequisite Vertical Alignment: Science Area of Focus: Organisms and Environments			
Grade Level	**Prerequisite Skills**	**TEKS**	**STAR Curriculum Aligned Lessons**
K	**Organisms: Inherited Traits and Learned Behaviors** • Identify ways that young plants resemble the parent plant **Organisms: Life Cycles** • Observe changes that are part of a simple life cycle of a plant: seed, seedling, plant, flower, and fruit	**K.10 C-D**	(See previous page)
PK	**Life Sciences Skills** • Describe life cycles of organisms • Observe, investigate, describe, and discuss the relationship of organisms to their environments • Observe, investigate, describe, and discuss the characteristics of organisms	**Pre-K.VI.B.2**	

Science Area of Focus: Science Investigation and Reasoning

Scientific Investigation and Reasoning: The student conducts classroom and outdoor investigations following home and school safety procedures and uses environmentally appropriate and responsible practices (K.1; 1.1). The student conducts classroom and outdoor investigations following home and school safety procedures (2.1). The student conducts classroom and outdoor investigations following home and school safety procedures and environmentally appropriate practices (3.1). The student knows how to use a variety of tools and methods to conduct science inquiry (3.4; 4.4; 5.4). The student conducts classroom and outdoor investigations, following home and school safety procedures and environmentally appropriate and ethical practices (4.1; 5.1). These standards will be incorporated into assessment tasks in reporting categories 1-4 and identified along with content standards.

Aligned Essence Statements	**The Science Investigation and Reasoning standards are embedded with in reporting categories 1-4; use this document along with other STAAR Science Alignment documents to address specific science skills**
Reporting Category	**Scientific investigation and reasoning standards will not be listed under a separate reporting category**

Prerequisite Vertical Alignment: Science Area of Focus: Science Investigation and Reasoning			
Grade Level	**Prerequisite Skills**	**TEKS**	**STAR Curriculum Aligned Lessons**
5	**Demonstrate Home and School Safety Practices** • Demonstrate safe practices and the use of safety equipment as outlined in Texas Education Agency approved safety standards during classroom and outdoor investigations using safety equipment, including safety goggles or chemical splash goggles, as appropriate, and gloves, as appropriate **Use and Conservation of School Resources and Laboratory Materials** • Make informed choices in the conservation, disposal, and recycling of materials	**5.1 A-B**	**Level 3:** R1, R2, R3, R4, R5, R6, R7, E1, E2, E3, E4, E5, E6, E7, E8, E9, E11, E12, E13, E14, E15, S1, S2, S3, FR12, FR16, A1, A2, A3, A4, A5, A6, A7, A8, A9, A10, A12, A13, A14, A15, A16, A17, P1, P2, P3 **Level 2:** R1, R2, R3, R4, R5, R6, R7, R8, R9, R10, E1, E2, E3, E4, E5, E6, E7, E8, E9, E11, S1, S2, S3, FR1, FR2, FR3, FR4, FR5, FR6, FR7, FR8, FR9, FR10, FR11, FR12, A1, A2, A3, A4, A5, A6, A7, A8, A9, A10, A11, A12, A13, A14, P1, P2, P3, P4, P5 **Level 1:** R1, R2, R3, R4, R5, R6, R7, R8, R9, R10, R11, R12, R13, R14, E1, E2, E3, FR1, FR2, FR3, FR4, FR5, FR6, FR7, FR8, FR9, FR10, FR11, FR12, FR13, A1, A2, A3, A4, P1, P2, P3, P4
4-3	**Demonstrate Home and School Safety Practices** • Demonstrate safe practices and the use of safety equipment as described in Texas Education Agency-approved safety standards during classroom and outdoor investigations using safety equipment, including safety goggles or chemical splash goggles, as appropriate, and gloves, as appropriate • Demonstrate safe practices as described in Texas Education Agency-approved safety standards during classroom and outdoor investigations using safety equipment as appropriate, including safety goggles or chemical splash goggles, as appropriate, and gloves **Use and Conservation of School Resources and Laboratory Materials** • Make informed choices in the use and conservation of natural resources and reusing and recycling of materials such as paper, aluminum, glass, cans, and plastic	**4.1 A-B; 3.1 A-B**	
2	**Demonstrate Home and School Safety Practices** • Identify, describe, and demonstrate safe 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 **Use and Conservation of School Resources and Laboratory Materials** • Identify and demonstrate how to use, conserve, and dispose of natural resources and materials such as conserving water and reuse or recycling of paper, plastic, and metal	**2.1 A-B**	

KEY: Receptive Language (R); Expressive Language (E); Spontaneous Language (S); Functional Routines (FR); Academic (A); Play and Social (P)

Prerequisite Vertical Alignment: Science Area of Focus: Science Investigation and Reasoning			
Grade Level	**Prerequisite Skills**	**TEKS**	**STAR Curriculum Aligned Lessons**
K-1	**Demonstrate Home and School Safety Practices** • 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 **Use and Conservation of School Resources and Laboratory Materials** • Identify and learn how to use natural resources and materials, including conservation and reuse or recycling of paper, plastic, and metals • Demonstrate how to use, conserve, and dispose of natural resources and materials such as conserving water and reusing or recycling paper, plastic, and metal	**1.1 A-B; K.1 A-B**	(See previous page)
PK	**Demonstrate Home and School Safety Practices** • Practice good habits of personal safety and health	**Pre-K.IX.C.1**	

KEY: Receptive Language (R); Expressive Language (E); Spontaneous Language (S); Functional Routines (FR); Academic (A); Play and Social (P)

Science Area of Focus: Science Investigation and Reasoning

Scientific Investigation and Reasoning: The student develops abilities to ask questions and seek answers in classroom and outdoor investigations (K.2; 1.2). The student develops abilities necessary to do scientific inquiry in classroom and outdoor investigations (2.2). The student uses scientific inquiry methods during laboratory and outdoor investigations (3.2; 4.2). The student uses scientific methods during laboratory and outdoor investigations (5.2). These standards will be incorporated into assessment tasks in reporting categories 1-4 and identified along with content standards.

Aligned Essence Statements	**The Science Investigation and Reasoning standards are embedded with in reporting categories 1-4; use this document along with other STAAR Science Alignment documents to address specific science skills**
Reporting Category	**Scientific investigation and reasoning standards will not be listed under a separate reporting category**

Prerequisite Vertical Alignment: Science Area of Focus: Science Investigation and Reasoning			
Grade Level	**Prerequisite Skills**	**TEKS**	**STAR Curriculum Aligned Lessons**
5	**Plan and Conduct Investigations** • Describe, plan, and implement simple experimental investigations testing one variable • Ask well defined questions, formulate testable hypotheses, and select and use appropriate equipment and technology **Analyze Evidence and Communicate Conclusions** • Analyze, evaluate, and critique scientific explanations by using evidence, logical reasoning, and experimental and observational testing • Demonstrate that repeated investigations may increase the reliability of results	**5.2 A-B, E; 5.3 A**	**Level 3:** R1, R2, R3, R4, R5, R6, R7, E1, E2, E3, E4, E5, E6, E7, E9, E11, E13, E14, E15, S1, S2, S3, FR12, FR16, A1, A2, A3, A4, A5, A6, A7, A8, A9, A10, A12, A13, A14, A15, A16, A17, P1, P2, P3 **Level 2:** R1, R2, R4, R5, R6, R7, R8, R9, R10, E1, E2, E3, E5, E6, E7, E8, E9, S1, S2, S3, FR12, A1, A2, A3, A4, A5, A6, A7, A8, A11, A12, A13, A14, P1, P2 **Level 1:** R2, R3, R4, R5, R6, R7, R8, R9, R10, R11, R12, R13, R14, E1, E2, E3, FR10, FR11, A2, A3, A4, P1, P2
4-3	**Plan and Conduct Investigations** • Plan and implement descriptive investigations, including asking well-defined questions, making inferences, and selecting and using appropriate equipment or technology to answer their questions • 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 **Gather Information** • Collect, record, and analyze information using tools, including calculators, microscopes, cameras, computers, hand lenses, metric rulers, Celsius thermometers, mirrors, spring scales, balances, graduated cylinders, beakers, hot plates, meter sticks, magnets, collecting nets, and notebooks; timing devices; and materials to support observation of habitats of organisms such as terrariums and aquariums • Collect and record data by observing and measuring, using the metric system, and using descriptive words and numerals such as labeled drawings, writing, and concept maps • Collect, record, and analyze information using tools, including cameras, computers, hand lenses, metric rulers, Celsius thermometers, wind vanes, rain gauges, pan balances, graduated cylinders, beakers, spring scales, hot plates, meter sticks, magnets, collecting nets, notebooks, and sun, Earth, and moon system models; timing devices; and materials to support observation of habitats of organisms such as terrariums and aquariums • Collect and record data by observing and measuring using the metric system and recognize differences between observed and measured data	**4.2 A-F; 4.4;** **3.2 A-F; 4.4**	

KEY: Receptive Language (R); Expressive Language (E); Spontaneous Language (S); Functional Routines (FR); Academic (A); Play and Social (P)

Prerequisite Vertical Alignment: Science Area of Focus: Science Investigation and Reasoning			
Grade Level	**Prerequisite Skills**	**TEKS**	**STAR Curriculum Aligned Lessons**
4-3	**Organize Information** • Construct simple tables, charts, bar graphs, and maps using tools and current technology to organize, examine, and evaluate data • Construct maps, graphic organizers, simple tables, charts, and bar graphs using tools and current technology to organize, examine, and evaluate measured data **Analyze Evidence and Communicate Conclusions** • Communicate valid oral and written results supported by data • Perform repeated investigations to increase the reliability of results • Analyze data and interpret patterns to construct reasonable explanations from data that can be observed and measured • Analyze, evaluate, and critique scientific explanations by using evidence, logical reasoning, and experimental and observational testing • Demonstrate that repeated investigations may increase the reliability of results • Communicate valid conclusions supported by data in writing, by drawing pictures, and through verbal discussion • Analyze and interpret patterns in data to construct reasonable explanations based on evidence from investigations	**4.2 A-F; 4.4; 3.2 A-F; 4.4**	(See previous page)

Prerequisite Vertical Alignment: Science Area of Focus: Science Investigation and Reasoning			
Grade Level	**Prerequisite Skills**	**TEKS**	**STAR Curriculum Aligned Lessons**
2	**Plan and Conduct Investigations** • Plan and conduct descriptive investigations • Ask questions about organisms, objects, and events during observations and investigations **Gather Information** • Measure and compare organisms and objects • Collect, record, and compare information using tools, including computers, hand lenses, rulers, plastic beakers, magnets, collecting nets, notebooks, and safety goggles or chemical splash goggles, as appropriate; timing devices; weather instruments such as thermometers, wind vanes, and rain gauges; and materials to support observations of habitats of organisms such as terrariums and aquariums • Collect data from observations using scientific tools • Record and organize data using pictures, numbers, and words **Organize Information** • Compare results of investigations with what students and scientists know about the world **Analyze Evidence and Communicate Conclusions** • Communicate observations and justify explanations using student-generated data from simple descriptive investigations	**2.2 B-F; 2.4 A-B**	(See previous page)

Prerequisite Vertical Alignment: Science Area of Focus: Science Investigation and Reasoning			
Grade Level	**Prerequisite Skills**	**TEKS**	**STAR Curriculum Aligned Lessons**
K-1	**Plan and Conduct Investigations** • Plan and conduct simple descriptive investigations • Ask questions about organisms, objects, and events observed in the natural world **Gather Information** • Record and organize data using pictures, numbers, and words • Measure and compare organisms and objects using non-standard units • 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 • Collect data and make observations using simple tools • Use the senses as a tool of observation to identify properties and patterns of organisms, objects, and events in the environment • Collect information using tools, including computing devices, hand lenses, primary balances, cups, bowls, magnets, collecting nets, and notebooks; timing devices; non-standard measuring items; weather instruments such as demonstration thermometers; and materials to support observations of habitats of organisms such as terrariums and aquariums • Record and organize data and observations using pictures, numbers, and words **Organize Information** • Generate data from simple descriptive investigations • Communicate observations about simple descriptive investigations	**1.2 A-D; 1.4 A-B; K.2 A-E; K.4 A**	(See previous page)
PK	**Physical Science Skills** • Use simple measuring devices to learn about objects	**Pre-K.VI.A.3**	

KEY: Receptive Language (R); Expressive Language (E); Spontaneous Language (S); Functional Routines (FR); Academic (A); Play and Social (P)

Science Area of Focus: Science Investigation and Reasoning

Scientific Investigation and Reasoning: The student develops abilities to ask questions and seek answers in classroom and outdoor investigations (K.2; 1.2). The student uses age-appropriate tools and models to investigate the natural world (K.4; 1.4; 2.4). The student develops abilities necessary to do scientific inquiry in classroom and outdoor investigations (2.2). The student uses scientific practices during laboratory and outdoor investigations (3.2; 4.2; 5.2). The student knows that information, critical thinking, scientific problem solving, and the contributions of scientists are used in making decisions (3.3). The student knows how to use a variety of tools and methods to conduct science inquiry (3.4; 5.4). The student uses critical thinking and scientific problem solving to make informed decisions (4.3; 5.3). The student knows how to use a variety of tools, materials, equipment, and models to conduct science inquiry (4.4). These standards will be incorporated into assessment tasks in reporting categories 1-4 and identified along with content standards.

Aligned Essence Statements	**The Science Investigation and Reasoning standards are embedded with in reporting categories 1-4; use this document along with other STAAR Science Alignment documents to address specific science skills**
Reporting Category	**Scientific investigation and reasoning standards will not be listed under a separate reporting category**

Prerequisite Vertical Alignment: Science Area of Focus: Science Investigation and Reasoning

Grade Level	Prerequisite Skills	TEKS	STAR Curriculum Aligned Lessons
5	**Gather Information** • Collect and record information by detailed observations and accurate measuring • Collect, record, and analyze information using tools, including calculators, microscopes, cameras, computers, hand lenses, metric rulers, Celsius thermometers, prisms, mirrors, balances, spring scales, graduated cylinders, beakers, hot plates, meter sticks, magnets, collecting nets, notebooks, timing devices, and materials to support observations of habitats of organisms such as terrariums and aquariums **Organize Information** • Construct appropriate simple graphs, tables, maps, and charts using technology, including computers, to organize, examine, and evaluate information **Analyze Evidence and Communicate Conclusions** • Analyze and interpret information to construct reasonable explanations from direct (observable) and indirect (inferred) evidence • Communicate valid conclusions in both written and verbal forms	**5.4; 5.3 A; 5.2 C-D; 5.2 G-F**	**Level 3:** R1, R2, R3, R4, R5, R6, R7, E1, E2, E3, E4, E5, E6, E7, E9, E11, E13, E14, E15, S1, S2, S3, FR12, FR16, A1, A2, A3, A4, A5, A6, A7, A8, A9, A10, A12, A13, A14, A15, A16, A17, P1, P2, P3 **Level 2:** R1, R2, R4, R5, R6, R7, R8, R9, R10, E1, E2, E3, E5, E6, E7, E8, E9, S1, S2, S3, FR12, A1, A2, A3, A4, A5, A6, A7, A8, A11, A12, A13, A14, P1, P2 **Level 1:** R2, R3, R4, R5, R6, R7, R8, R9, R10, R11, R12, R13, R14, E1, E2, E3, FR10, FR11, A2, A3, A4, P1, P2
4-3	**Gather Information** • Collect, record, and analyze information using tools, including calculators, microscopes, cameras, computers, hand lenses, metric rulers, Celsius thermometers, mirrors, spring scales, balances, graduated cylinders, beakers, hot plates, meter sticks, magnets, collecting nets, notebooks, timing devices, and materials to support observation of habitats of organisms such as terrariums and aquariums • Collect and record data by observing and measuring, using the metric system, and using descriptive words and numerals such as labeled drawings, writing, and concept maps • Collect, record, and analyze information using tools, including cameras, computers, hand lenses, metric rulers, Celsius thermometers, wind vanes, rain gauges, pan balances, graduated cylinders, beakers, spring scales, hot plates, meter sticks, magnets, collecting nets, notebooks, sun, Earth, and moon system model, timing devices, and materials to support observation of habitats of organisms such as terrariums and aquariums **Organize Information** • Construct simple tables, charts, bar graphs, and maps using tools and current technology to organize, examine, and evaluate data • Construct maps, graphic organizers, simple tables, charts, and bar graphs using tools and current technology to organize, examine, and evaluate measured data	**4.4; 4.3 A-B; 4.2 B-F; 3.4; 3.3 A-B; 3.2 B-F**	

KEY: Receptive Language (R); Expressive Language (E); Spontaneous Language (S); Functional Routines (FR); Academic (A); Play and Social (P)

Prerequisite Vertical Alignment: Science Area of Focus: Science Investigation and Reasoning			
Grade Level	**Prerequisite Skills**	**TEKS**	**STAR Curriculum Aligned Lessons**
4-3	**Analyze Evidence and Communicate Conclusions** • Communicate valid oral and written results supported by data • Perform repeated investigations to increase the reliability of results • Analyze data and interpret patterns to construct reasonable explanations from data that can be observed and measured • Analyze, evaluate, and critique scientific explanations by using evidence, logical reasoning, and experimental and observational testing • Demonstrate that repeated investigations may increase the reliability of results • Communicate valid conclusions supported by data in writing, by drawing pictures, and through verbal discussion • Analyze and interpret patterns in data to construct reasonable explanations based on evidence from investigations **Use Models** • Represent the represent the natural world using models such as the water cycle and stream tables and identify their limitations, including accuracy and size • Represent the natural world using models such as volcanoes or Earth, the sun, and the moon systems and identify their limitations, including size, properties, and materials **History and Impact of Scientific Research** • Connect grade-level appropriate science concepts with the history of science, science careers, and contributions of scientists	**4.4; 4.3 A-B; 4.2 B-F; 3.4; 3.3 A-B; 3.2 B-F**	(See previous page)

KEY: Receptive Language (R); Expressive Language (E); Spontaneous Language (S); Functional Routines (FR); Academic (A); Play and Social (P)

Prerequisite Vertical Alignment: Science Area of Focus: Science Investigation and Reasoning			
Grade Level	**Prerequisite Skills**	**TEKS**	**STAR Curriculum Aligned Lessons**
2-1	**Application of Science** • Identify and explain a problem and propose a task and solution for the problem • Make predictions based on observable patterns **Gather Information** • Measure and compare organisms and objects • Collect, record, and compare information using tools, including computers, hand lenses, primary balances, rulers, plastic beakers, magnets, collecting nets, notebooks, and safety goggles or chemical splash goggles, as appropriate; timing devices; non-standard measuring items; weather instruments such as thermometers, wind vanes, and rain gauges; and materials to support observations of habitats of organisms such as terrariums and aquariums • Collect data from observations using scientific and simple tools • Record and organize data using pictures, numbers, and words • Measure and compare organisms and objects using non-standard units **Organize Information** • Compare results of investigations with what students and scientists know about the world **Analyze Evidence and Communicate Conclusions** • Communicate observations and justify explanations using student-generated data from simple descriptive investigations **History and Impact of Scientific Research** • Identify what a scientist is and explore and describe what different scientists do	**2.4 A-B; 2.3 A-B; 2.2 C-F; 1.4 A-B; 1.3 A-B; 1.2 C-D**	(See previous page)

KEY: Receptive Language (R); Expressive Language (E); Spontaneous Language (S); Functional Routines (FR); Academic (A); Play and Social (P)

Prerequisite Vertical Alignment: Science Area of Focus: Science Investigation and Reasoning			
Grade Level	**Prerequisite Skills**	**TEKS**	**STAR Curriculum Aligned Lessons**
K	**Application of Science** • Make predictions based on observable patterns in nature • Identify and explain a problem such as the impact of littering and propose a solution **Gather Information** • Collect data and make observations using simple tools • Use the senses as a tool of observation to identify properties and patterns of organisms, objects, and events in the environment • Collect information using tools, including computing devices, hand lenses, primary balances, cups, bowls, magnets, collecting nets, and notebooks; timing devices; non-standard measuring items; weather instruments such as demonstration thermometers; and materials to support observations of habitats of organisms such as terrariums and aquariums • Record and organize data and observations using pictures, numbers, and words **Analyze Evidence and Communicate Conclusions** • Communicate observations about simple descriptive investigations **History and Impact of Scientific Research** • Explore that scientists investigate different things in the natural world and use tools to help in their investigations	**K.4 A-B; K.3 A-C; K.2 C-E**	(See previous page)
PK	**Physical Science Skills** • Use simple measuring devices to learn about objects	**Pre.K.VI.A.3**	

Science Area of Focus: Science Investigation and Reasoning

Scientific Investigation and Reasoning: The student knows that information and critical thinking are used in scientific problem solving (K.3; 1.3). The student knows that information and critical thinking, scientific problem solving, and the contributions of scientists are used in making decisions (2.3). The student knows that information, critical thinking, scientific problem solving, and the contributions of scientists are used in making decisions (3.3). The student uses critical thinking and scientific problem solving to make informed decisions (4.3; 5.3). These standards will be incorporated into assessment tasks in reporting categories 1-4 and identified along with content standards.

Aligned Essence Statements	**The Science Investigation and Reasoning standards are embedded with in reporting categories 1-4; use this document along with other STAAR Science Alignment documents to address specific science skills**
Reporting Category	**Scientific investigation and reasoning standards will not be listed under a separate reporting category**

Prerequisite Vertical Alignment: Science Area of Focus: Science Investigation and Reasoning			
Grade Level	**Prerequisite Skills**	**TEKS**	**STAR Curriculum Aligned Lessons**
5	**Use Models** • Draw or develop a model that represents how something that cannot be seen such as Earth, the sun, and the moon system and formation of sedimentary rock works or looks	**5.3 B**	**Level 3:** R1, R2, R3, R4, R6, R7, E1, E2, E3, E4, E6, E7, E9, E8E11, E13, E14, E15 S1, S2, S3, F1, F2, F2, F4, F10, FR12, FR16, A1, A2, A3, A4, A5, A6, A7, A8, A9, A10, A12, A13, A14, A15, A16, A17, P1, P2 **Level 2:** R1, R2, R4, R5, R6, R7, R8, R9, R10, E1, E2, E3, E5, E6, E7, E8, E9, E11, S1, S2, S3, FR1, FR2, FR3, FR4, FR5, FR6, FR7, FR8, FR9, FR10, FR11, FR12, A1, A2, A3, A4, A5, A6, A7, A8, A9, A10, A12, A13, A14, P1, P2 **Level 1:** R1, R2, R3, R4, R5, R6, R7, R8, R9, R10, R11, R12, R13, R14, E1, E2, E3, FR1, FR2, FR3, FR4, FR6, FR7, FR8, FR9, FR10, FR11, FR12, A2, A3, A4, P1
4-3	**Gather Information** • Collect, record, and analyze information using tools, including calculators, microscopes, cameras, computers, hand lenses, metric rulers, Celsius thermometers, mirrors, spring scales, balances, graduated cylinders, beakers, hot plates, meter sticks, magnets, wind vanes, rain gauges, pan balances, spring scales, collecting nets, and notebooks; timing devices; and materials to support observation of habitats of organisms such as terrariums and aquariums • Collect and record data by observing and measuring, using the metric system, and using descriptive words and numerals such as labeled drawings, writing, and concept maps • Recognize differences between observed and measured data **Demonstrate Home and School Safety Practices** • Demonstrate safe practices and the use of safety equipment as described in Texas Education Agency-approved safety standards during classroom and outdoor investigations using safety equipment, including safety goggles or chemical splash goggles, as appropriate, and gloves, as appropriate **Organize Information** • Construct simple tables, charts, bar graphs, and maps using tools and current technology to organize, examine, and evaluate data • Construct maps, graphic organizers, simple tables, charts, and bar graphs using tools and current technology to organize, examine, and evaluate measured data (3) **Analyze Evidence and Communicate Conclusions** • Communicate valid oral and written results supported by data • Perform repeated investigations to increase the reliability of results • Analyze data and interpret patterns to construct reasonable explanations from data that can be observed and measured • Analyze, evaluate, and critique scientific explanations by using evidence, logical reasoning, and experimental and observational testing	**4.4; 4.3; 4.2 B-F; 4.1 A; 3.4; 3.3 A; 3.2 B-F; 3.1 A**	

KEY: Receptive Language (R); Expressive Language (E); Spontaneous Language (S); Functional Routines (FR); Academic (A); Play and Social (P)

Prerequisite Vertical Alignment: Science Area of Focus: Science Investigation and Reasoning			
Grade Level	**Prerequisite Skills**	**TEKS**	**STAR Curriculum Aligned Lessons**
4-3	• Demonstrate that repeated investigations may increase the reliability of results • Communicate valid conclusions supported by data in writing, by drawing pictures, and through verbal discussion • Analyze and interpret patterns in data to construct reasonable explanations based on evidence from investigations	**4.4; 4.3; 4.2 B-F; 4.1 A; 3.4; 3.3 A; 3.2 B-F; 3.1 A**	(See previous page)
2-1	**Gather Information** • Measure and compare organisms and objects • Collect, record, and compare information using tools, including computers, hand lenses, rulers, plastic beakers, magnets, primary balances, cups, bowls, collecting nets, notebooks, and safety goggles or chemical splash goggles, as appropriate; timing devices; non-standard measuring items; weather instruments such as thermometers, wind vanes, and rain gauges; and materials to support observations of habitats of organisms such as terrariums and aquariums • Collect data from observations using scientific and simple tools • Record and organize data using pictures, numbers, and words • Measure and compare organisms and objects using non-standard units **Demonstrate Home and School Safety Practices** • Identify, discuss, describe, 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 **Organize Information** • Compare results of investigations with what students and scientists know about the world **Analyze Evidence and Communicate Conclusions** • Communicate observations and justify explanations using student-generated data from simple descriptive investigations • Communicate observations and provide reasons for explanations using student-generated data from simple descriptive investigations	**2.4 A-B, 2.3 A, 2.2 C-F; 2.1 A; 1.4 A-B; 1.2 D-E; 1.1 A**	

Prerequisite Vertical Alignment: Science Area of Focus: Science Investigation and Reasoning			
Grade Level	**Prerequisite Skills**	**TEKS**	**STAR Curriculum Aligned Lessons**
K	**Gather Information** • Collect data and make observations using simple tools • Use the senses as a tool of observation to identify properties and patterns of organisms, objects, and events in the environment • Collect information using tools, including computing devices, hand lenses, primary balances, cups, bowls, magnets, collecting nets, and notebooks; timing devices; non-standard measuring items; weather instruments such as demonstration thermometers; and materials to support observations of habitats of organisms such as terrariums and aquariums • Record and organize data and observations using pictures, numbers, and words **Demonstrate Home and School Safety Practices** • 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 **Analyze Evidence and Communicate Conclusions** • Communicate observations about simple descriptive investigations	**K.4 A-B; K.2 C-E; K.1 A**	(See previous page)
PK	**Personal Safety and Health Skills** • Practice good habits of personal safety • Use simple measuring devices to learn about objects	**Pre-K.IX.C.1; Pre-K.VI.A.3**	

KEY: Receptive Language (R); Expressive Language (E); Spontaneous Language (S); Functional Routines (FR); Academic (A); Play and Social (P)

Science Area of Focus: Earth and Space

Earth and Space: The student learns about Earth and space (Pre-K.VI.C). The student knows that the natural world includes Earth materials (K.7; 2.7). The student knows that the natural world includes rocks, soil, and water that can be observed in cycles, patterns, and systems (1.7). The student knows that Earth consists of natural and useful resources and its surface is constantly changing (3.7; 4.7; 5.7). The student will demonstrate an understanding of components, cycles, patterns, and natural events of Earth and space systems.

Aligned Essence Statements	**Knows that Earth's surface is constantly changing and consists of useful resources**
Reporting Category	**STAAR Reporting Category 3**

Prerequisite Vertical Alignment: Science Area of Focus: Earth and Space

Grade Level	Prerequisite Skills	TEKS	STAR Curriculum Aligned Lessons
5	**Earth: Formation of Earth's Surface and Earth's Resources** • Explore the processes that led to the formation of sedimentary rocks and fossil fuels • Recognize how landforms such as deltas, canyons, and sand dunes are the result of changes to Earth's surface by wind, water, or ice	5.7 A-B	**Level 3:** R3, R4, R7, E2, E3, E4, E7, E9, E11, E13, E14, E15, S1, S2, S3, FR16, A2, A3, A4, A12, A13, A14, A15, A16, A17 **Level 2:** R1, R2, R6, R7, R8, R9, R10, E1, E2, E3, E5, E6, E7, E8, E9, S1, S2, S3, FR12, A7, A8, A11, A12, A13, A14 **Level 1:** R2, R5, R6, R7, R8, R9, R10, R11, R12, R14, E1, E2, E3, FR10, FR11, A2, A3, A4, P1
4	**Earth: Rock, Soil, and Water** • Identify and classify Earth's renewable resources, including air, plants, water, and animals, and nonrenewable resources, including coal, oil, and natural gas, and the importance of conservation • Examine properties of soils, including color and texture, capacity to retain water, and ability to support the growth of plants **Earth: Formation of Earth's Surface and Earth's Resources** • Observe and identify slow changes to Earth's surface caused by weathering, erosion, and deposition from water, wind, and ice	4.7 A-C	
3	**Earth: Rock, Soil, and Water** • 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 **Earth: Formation of Earth's Surface and Earth's Resources** • Investigate rapid changes in Earth's surface such as volcanic eruptions, earthquakes, and landslides • Explore and record how soils are formed by weathering of rock and the decomposition of plant and animal remains	3.7 A-C	
2-1	**Earth: Rock, Soil, and Water** • Distinguish between natural and manmade resources • Identify and compare the properties of natural sources of freshwater and saltwater • Observe, describe, and compare rocks by size, texture, and color • Identify how rocks, soil, and water are used to make products • Identify and describe a variety of natural sources of water, including streams, lakes, and oceans • Observe, compare, describe, and sort components of soil by size, texture, and color	2.7 A-C; 1.7 A-C	

KEY: Receptive Language (R); Expressive Language (E); Spontaneous Language (S); Functional Routines (FR); Academic (A); Play and Social (P)

Prerequisite Vertical Alignment: Science Area of Focus: Earth and Space			
Grade Level	**Prerequisite Skills**	**TEKS**	**STAR Curriculum Aligned Lessons**
K	**Earth: Rock, Soil, and Water** • Give examples of ways rocks, soil, and water are useful • Observe and describe physical properties of natural sources of water, including color and clarity • Observe, describe, and sort rocks by size, shape, color, and texture	**K.7 A-C**	(See previous page)
PK	**Earth and Space Science Skills** • Observe, investigate, describe, and discuss Earth's materials, and their properties and uses • Observes, discusses, and compares Earth's materials (rocks, soil, and sand) using hand lenses, sieves, water, and balances • Identifies the importance of soil, sunlight, air, temperature, and water to plant growth. • Discusses and explains ways Earth's materials are used for building houses, road construction, and decorative purposes (the uses of rocks)	**Pre-K.VI.C.1.**	

Science Area of Focus: Earth and Space

Earth and Space: The student learns about Earth and space (Pre-K.VI.C). The student knows that there are recognizable patterns in the natural world and among objects in the sky (K.8; 2.8; 3.8). The student knows that the natural world includes the air around us and objects in the sky (1.8). The student knows that there are recognizable patterns in the natural world and among the sun, earth, and moon systems (4.8; 5.8). The student will demonstrate an understanding of components, cycles, patterns, and natural events of Earth and space systems.

Aligned Essence Statements	**Recognizes patterns in the natural world and among the sun, earth, and moon systems**
Reporting Category	**STAAR Reporting Category 3**

Prerequisite Vertical Alignment: Science Area of Focus: Earth and Space			
Grade Level	**Prerequisite Skills**	**TEKS**	**STAR Curriculum Aligned Lessons**
5	**Earth: Seasons, Climate, and Weather** • Differentiate between weather and climate • Explain how the sun and the ocean interact in the water cycle	**5.8**	**Level 3:** R3, R4, R7, E1, E2, E3, E4, E7, E8, E9, E11, E12, E13, S1, S2, S3, FR5, FR6, FR11, FR12, FR16, A2, A3, A4, A12, A13, A14, A15, A16, A17 **Level 2:** R1, R2, R6, R7, R8, R9, R10, E1, E2, E3, E5, E6, E7, E8, E9, S1, S2, S3, FR6, FR12, A11, A12, A13, A14 **Level 1:** R2, R5, R6, R7, R8, R9, R10, R11, R12, R14, E1, E2, E3, FR8, FR9, FR10, FR11, A2, A3, A4
4	**Earth: Seasons, Climate, and Weather** • Collect and analyze data to identify sequences and predict patterns of change in shadows, seasons, and the observable appearance of the moon over time • 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 • Measure, record, and predict changes in weather	**4.8**	
3	**Earth: Seasons, Climate, and Weather** • Describe and illustrate the sun as a star composed of gases that provides light and thermal energy • Observe, measure, record, and compare day-to-day weather changes in different locations at the same time, including air temperature, wind direction, and precipitation **Space: The Solar System and the Universe** • Identify the planets in Earth's solar system and their position in relation to the sun • Construct models that demonstrate the relationship of Earth, the sun, and moon, including orbits and positions	**3.8**	

KEY: Receptive Language (R); Expressive Language (E); Spontaneous Language (S); Functional Routines (FR); Academic (A); Play and Social (P)

Prerequisite Vertical Alignment: Science Area of Focus: Earth and Space			
Grade Level	**Prerequisite Skills**	**TEKS**	**STAR Curriculum Aligned Lessons**
1-2	**Earth: Seasons, Climate, and Weather** • Identify the importance of weather and seasonal information to make choices in clothing, activities, and transportation • Measure, record, and graph weather information, including temperature, wind conditions, precipitation, and cloud coverage, in order to identify patterns in the data • Demonstrate that air is all around us and observe that wind is moving air • Identify characteristics of the seasons of the year and day and night • Record weather information, including relative temperature such as hot or cold, clear or cloudy, calm or windy, and rainy or icy **Space: The Solar System and the Universe** • Observe, describe, and record patterns of objects in the sky, including the appearance of the moon • Observe and record changes in the appearance of objects in the sky such the moon and stars, including the sun	**1.8; 2.8**	(See previous page)
K	**Earth: Seasons, Climate, and Weather** • Identify events that have repeating patterns, including seasons of the year and day and night • Observe and describe weather changes from day to day and over season **Space: The Solar System and the Universe** • Observe, describe, and illustrate objects in the sky such as the clouds, moon, and stars, including the sun	**K.8**	

Prerequisite Vertical Alignment: Science Area of Focus: Earth and Space			
Grade Level	**Prerequisite Skills**	**TEKS**	**STAR Curriculum Aligned Lessons**
PK	**Earth and Space Science Skills** • Observe and describe what happens during changes in the earth and sky • Identify, observe, and discuss objects in the sky • Observe and describe how different items (rock, metal) respond to the warmth of the sun outside on a sunny day or a cold/cloudy day • Explain what happens after a weather event (erosion after a rainstorm, movements of leaves after a windstorm) • Observe, record, and predict daily weather changes (weather charts) • Investigates with objects to observe what happens during a windy day (flying a kite) • Observe shadows and describe the relationship between the shadow and a light source (sun, flashlight, lamp) • Investigate and draw conclusions about shadows • Observe seasonal changes	**Pre-K.VI.C.3**	(See previous page)