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Course Description
Grades 3-5 Science
Streamlined TEKS
2019



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Grade 3

Scientific Investigation and Reasoning

Scientific Investigation and Reasoning - 3-5 1A, B; 2A, B, C, D, E; 3A, B, C

Science Concepts TEKS

Grades 3-5 1A, B; 2A, B, C, D, E; 3A, B, C, D; 4A, B

Instruction Module

Safety and Scientific Processes: In this Instruction Module, students learn how to successfully conduct safe, appropriate science investigations using scientific processes and that it is as important as the science content knowledge gained from the experience.

Interactivity/ Simulation

Tess' Pulley Experiment: In this interactivity, students conduct a virtual experimental investigation to test a hypothesis that a pulley system with two pulleys will decrease the force required to lift a mass by half.

Glossary

Safety and Scientific Processes

Quiz

The questions in the assessment section test students' understanding of the following concepts: steps used while conducting scientific investigations, safety equipment, tools used for measuring physical quantities, and data and conclusions. The additional questions test students' ability to match quantitative data to graphical representations, identify dependent and independent variables, and identify patterns in data collected during experimentation.

Journals

Journal #1 – Safety and Scientific Processes
Journal #2 – Steps in an Experiment

Activities

Collecting, Recording, and Analyzing Information Using Tools

Expository text passages/ activities

Evaluating the Accuracy of Advertisements for Products and Services - TEKS 3.2 B
Evaluating Claims for Products and Services – TEKS: 3.1(A), (B); 3.2(A), (B), (C), (D), (E), (F); 3.3(C); 3.4 (A); 4.1(A), (B); 4.2(A), (B), (C), (D), (E), (F); 4.3 (C); 4.4 (A); 5.1(A), (B); 5.2(A), (B), (C), (D), (E),(F) 5.3 (B), (D); 5.4 (A)
Microscopes – 5.1(A), (B), (D), (F); 5.2 (B); 5.3 (D); 5.4 (A); 5.7 (B).



Matter and Energy 3.5

Unit 1: Observing Physical Properties - 3.5 A

Science Concepts TEKS : 3.5 A

Instruction Module **Identifying Matter:** In this Instruction Module students are introduced to matter. They learn that matter is anything that has mass and takes up space. They also learn that characteristics or properties can be used to identify matter.

Instruction Module **Understanding Mass:** In this Instruction Module students are introduced to mass, a physical property of matter. They learn that mass is the amount of matter in an object and can be measured using tools such as a pan balance or a triple beam balance. Students also learn that objects of different sizes may have the same mass.

Instruction Module **Hot or Cold:** In this Instruction Module students are introduced to temperature. They learn that temperature is a physical property of matter. They also learn how a thermometer can be used to measure and compare the temperature of two objects.

Instruction Module **Magnets:** In this Instruction Module students are introduced to magnetism, a physical property of matter. Students observe and recognize that magnets attract and exert a force on some objects while having no effect on other objects.

Instruction Module **Hardness of Matter:** In this Instruction Module students are introduced to hardness, a physical property of matter. Students learn how to use the scratch test to compare the hardness of objects made of different kinds of matter.

Instruction Module **Float or Sink – Density:** In this Instruction Module students are introduced to density, a physical property of matter. Students learn how density can determine whether an object will float or sink in water.

Instruction Module **Float and Sink – Buoyancy:** In this Instruction Module students are introduced to buoyancy, a physical property of matter. Students observe the relationship between the weight of the water displaced by an object and the buoyant force exerted by water. They learn that an object floats in water if its weight is less than the weight of the water it displaces.

Student Review **Understanding Mass:** Students assess and review their understanding of the concept of mass using objects of different sizes.

Student Review **Temperature:** Students assess and review their understanding of the concept of temperature and its measurement using a thermometer.



Student Review	Magnetic Property of Matter: Students assess and review their understanding of the concept of magnetism by testing it on different types of objects.
Student Review	Float or Sink: Students assess and review their understanding of the concept of density and how it is used to explain why an object floats or sinks in water.
Interactivity/ Simulation	Physical Properties Interactivity: In the interactive section of the module, students first identify the tools or measuring devices used to measure temperature and mass. Then, they read the temperature or compare masses. Matter and Mass Simulation: In this Simulation, students conduct an experiment to determine the mass of various cubes that have the same volume but are made of different materials.
Glossary	Observing Physical Properties
Quiz	The questions in the assessment section test students' understanding of the following concepts: tools used to measure physical properties, materials that are attracted to magnets, hardness of materials, reading thermometers, and relative masses. The additional questions test students' understanding of density and buoyancy.
Journals	Journal #1 – TEKS 3.5A Journal #2 – TEKS 3.5A
Activities	Observing Physical Properties: Sink or Float – TEKS 3.1A, B; 3.2A, B, C, D, F; 3.4A; 3.5A Measuring Water Temperature (Experimental Investigation) – TEKS 3.1A, B; 3.2A, B, C, D, F; 3.4A; 3.5A
Teacher Resources	Observing Physical Properties

Unit 2: States of Matter - 3.5 B, C

Science Concepts TEKS: 3.5 B, C

Instruction Module **Matter:** In this Instruction Module students learn that matter is anything that has mass and takes up space. They learn how a pan balance can be used to compare and measure mass. They also learn how to measure the volume of matter, including how to use a graduated cylinder to measure the volume of irregularly shaped objects.

Instruction Module **Solids, Liquids, and Gases:** In this Instruction Module students are introduced to the three states of matter: solids, liquids, and gases.



	<p>They compare how the physical properties of shape and volume define each state of matter. They also learn that differences in state are a result of differences in the arrangement of particles within solids, liquids and gases.</p>
Instruction Module	<p>Changing States of Water: In this Instruction Module students observe changes in the state of matter. They learn how adding or removing heat affects the particles that make up water and results in a change of state.</p>
Student Review	<p>Solids, Liquids, and Gases: Students assess and review their understanding of the physical properties of solids, liquids, and gases, such as shape and volume. They also review how the arrangements of particles of matter determine their states.</p>
Student Review	<p>Changing States of Water: Students assess and review their understanding of how the addition and removal of heat affect the particles of matter and its state, using water as an example.</p>
Interactivity/ Simulation	<p>Matter Sorter: In the interactive section of the module, students identify and classify given materials as solids, liquids, or gases, based on their physical properties.</p>
Glossary	States of Matter
Quiz	<p>The questions in the assessment section test students' understanding of the following concepts: properties of solids, liquids, and gases, and the arrangement of particles of matter in each of them. The additional questions test students' ability to recognize the properties of solids, liquids, and gases, the tools used to measure mass and volume, and the processes of melting, freezing, and evaporation.</p>
Journals	Journal #1 – TEKS 3.5B Journal #2 – TEKS 3.2F; 3.5C
Activities	States of Matter Chart and Venn Diagram – TEKS 3.2B, C, D; 3.5B Matter and Energy: Dissolving a Sugar Cube – TEKS 3.1A, B; 3.2A, B, C, D, F; 3.4A; 3.5C
Teacher Resources	States of Matter



Unit 3: Mixtures - 3.5 D

Science Concepts TEKS : 3.5 D

Instruction Module **What is a Mixture?** In this Instruction Module, students are introduced to mixtures. Students observe various examples of mixtures and recognize that a mixture is made of two or more substances that are physically combined. They learn that the components of a mixture retain most of their physical properties and no new substance is formed.

Instruction Module **Separating Mixtures:** In this Instruction Module, students observe how mixtures can be separated based on the physical properties of the substances that make up the mixtures. Students are also introduced some of the tools used to separate mixtures.

Student Review **What is a Mixture?:** Students assess and review their understanding of how a mixture is formed when two or more substances are physically combined.

Interactivity/ Simulation **In The Mix!:** In the interactive section of the module, students identify mixtures and sort given materials into two groups - "mixture" and "not a mixture" (pure substances).

Glossary Mixtures

Quiz The questions in the assessment section test students' understanding of the following concepts: mixtures and pure substances, and tools and techniques used to separate mixtures based on the physical properties of the ingredients. The additional questions test students' ability to identify the properties of the ingredients in a mixture and suggest the most suitable tools and techniques to separate them.

Journals Journal #1 – TEKS 3.2F; 3.5D
Journal #2 – TEKS 3.2A, B, F; 3.5D

Teacher Resources Mixtures

Force, motion, and energy 3.6

Unit 1: Energy - 3.6 A

Science Concepts TEKS : 3.6 A

Instruction Module **What is Energy?:** In this Instruction Module, students are introduced to energy. They observe examples where energy is used and begin to gain an understanding of the meaning of energy. They also learn that energy exists in different forms.



Instruction Module	Energy Forms – Light and Thermal: In this Instruction Module, students are introduced to thermal and light as forms of energy. They learn that light energy helps us see and helps plants make food. They observe what can happen to light as it passes through objects. In addition, they learn that heat or thermal energy warms things up and can cause matter to change states.
Instruction Module	Energy of Moving Objects: In this Instruction Module, students are introduced to mechanical energy. Through various examples, students infer that moving objects have mechanical energy. They also recognize that objects can have stored mechanical energy because of their position.
Instruction Module	What is Sound?: In this Instruction Module, students are introduced to sound. Students learn how sound energy is produced, how it travels, and how our ears help us to hear sound. They also discover that sound can travel through solids, liquids, and gases but cannot travel through space.
Student Review	Energy Forms – Light and Thermal: Students assess and review their understanding of the properties and some uses of thermal and light energy.
Student Review	Energy of Moving Objects: Students assess and review their understanding of properties and some uses of mechanical energy.
Student Review	What is Sound?: Students assess and review their understanding of properties and some uses of sound energy.
Interactivity/ Simulation	Jamie In The Maze: In the interactive section of the module, students identify the correct form of energy that they need to use to perform a task, as they move through a maze.
Glossary	Energy
Quiz	The questions in the assessment section test students' understanding of the following concepts: the Sun as the main source of energy on Earth, and the different forms of energy used for different purposes. The additional questions test students' ability to identify the different forms of energy used for different purposes and recognize the importance of the energy from the Sun to life on Earth.
Journals	Journal #1 – TEKS 3.6A Journal #2 – TEKS 3.6A
Activities	Energy: Observing Sound (Descriptive Investigation) – TEKS 3.1A, B; 3.2A, B, C, D, F; 3.4A; 3.6A Sound Energy: Make a Speaker Activity – TEKS 3.1A, B; 3.2 B, F; 3.4A; 3.6A
Teacher Resources	Energy



Unit 2: Force. - 3.6 B, C

Science Concepts TEKS: 3.6 B, C

Instruction Module

Force: In this Instruction Module, students are introduced to force as a push or pull. Students observe how force can make an object at rest move, bring a moving object to rest, and change the direction an object is moving.

Instruction Module

Gravity and Magnetic Force: In this Instruction Module, students are introduced to gravitational and magnetic forces. They compare and contrast the two forces, learning that gravitational force pulls on all objects while magnetic force only pulls on certain materials. They also learn that magnets can exert a pushing force on other magnets.

Student Review

Force: Students assess and review their understanding of how pushes and pulls change the position and motion of objects in relation to work, such as in a pulley.

Student Review

Gravity and Magnetic Force: Students assess and review their understanding of the effects of magnetism and gravity on objects and the differences between them.

Simulation

Force and Distance: In this Simulation, students conduct an experiment to investigate the motion and positions of four carts filled with different loads and then infer which cart has the greatest mass.

Glossary

Force

Quiz

The questions in the assessment section test students' understanding of the following concepts: pushes and pulls, changes in position and motion, effects of force, direction of gravity, identification of forces that cause changes in an objects position or motion, and the similarities between gravity and magnetism.

Journals

Journal #1 – TEKS 3.2B; 3.6B
Journal #2 – TEKS 3.2B; 3.6B

Activities

Force STEM Activity – TEKS 3.2A, B, D, F; 3.4A; 3.6B
Force – Push or Pull? – TEKS 3.2C; 3.6B, C

Teacher Resources

Force



Earth and space 3.7

Unit 1: Soil Formation - 3.7 A

Science Concepts TEKS : 3.7 A

Instruction Module **What is soil made of?:** In this Instruction Module, students learn that soil is made up of sand, silt, clay and the remains of plants and animals called humus. They also understand that different soil types contain varying amounts of sand, silt and clay.

Instruction Module **How is Soil Formed?:** In this Instruction Module students are introduced to the processes that result in the formation of soil. Students learn that soil is formed as a result of weathering of rock. They observe and recognize how differences in temperature and the forces of air, water, and ice can cause weathering.

Student Review **How is Soil Formed?:** Students assess and review their understanding of the processes of weathering or rock and decomposition of plant and animal matter that result in the formation of soil.

Glossary Soil Formation

Quiz The questions in the assessment and additional assessment section test students' understanding of the following concepts: formation of soil, the different components of soil, and the physical properties of soil including color, texture, and particle size.

Journals Journal #1 – TEKS 3.2B, F; 3.3B; 3.7A
Journal #2 – TEKS 3.2B, D, F; 3.7A

Teacher resources Soil Formation



Unit 2: Earth's Ever-changing Surface - 3.7 B

Science Concepts TEKS : 3.7 B

Instruction Module **Tectonic Plates and Earthquakes:** In this Instruction Module, students are introduced to earthquakes, what causes them to occur, and how they can change Earth's surface rapidly. They learn about the different types of faults caused by earthquakes. They also recognize that earthquakes can occur on land and underwater.

Instruction Module **Volcanic Eruptions:** In this Instruction Module, students learn how volcanic eruptions can quickly change Earth's surface. They learn the difference between magma and lava, and recognize some of the positive and negative effects of volcanic eruptions.

Instruction Module **Glaciers – A Natural Force:** In this Instruction Module, students learn what a glacier is and how a glacier's movement affects the shape of Earth's surface.

Student Review **Tectonic Plates and Earthquakes:** Students assess and review their understanding of the different types of earthquakes and how they change Earth's surface on land and underwater.

Student Review **Volcanic Eruptions:** Students assess and review their understanding of what happens during a volcanic eruption and how volcanoes affect Earth's surface, both positively and negatively.

Interactivity/ Simulation **Earth's Ever-Changing Surface:** In the interactive section of this module, students are presented with “before” and “after” pictures of landforms changed by earthquakes, volcanoes, and glaciers. The students identify the natural forces that changed them.

How Volcanoes Change Earth's Surface: In this Simulation, students conduct an experiment to investigate how the type of magma affects what kind of volcano will form.

Glossary Earth's Ever-Changing Surface

Quiz The questions in the assessment and additional assessment section test students' understanding of the following concepts: the various natural forces that change the surface of the Earth and the features that they form, including earthquakes, landslides, avalanches, and tsunamis.

Journals Journal #1 – TEKS 3.7B
Journal #2 – TEKS 3.7B

Activities Earth's Changing Surface: Changes that Occur Quickly – TEKS 3.2B, D, F; 3.7B



Teacher resources Earth's Ever – Changing Surface

Unit 4: Earth's Natural Resources - 3.7 C

Science Concepts TEKS : 3.7 C

Instruction Module	Conserving Earth's Resources: In this Instruction Module, students are introduced to some of Earth's natural resources. They learn how these resources can be conserved by reducing, reusing, and recycling products.
Student Review	Using And Conserving Resources: Students assess and review their understanding of the usefulness of natural resources and how to conserve them.
Interactivity/ Simulation	Identify the Resources: In the interactive section of this module, students identify the different natural resources that are used in order to make a boot.
Glossary	Earth's Natural Resources
Quiz	The questions in the assessment test students' understanding of the following concepts: renewable and nonrenewable resources, resources that can be recycled and reused, and different ways to conserve resources. The additional questions tests students' ability to identify renewable and nonrenewable resources, and recognize ways of conserving resources.
Journals	Journal #1 – TEKS 3.2B, F; 3.7C Journal #2 – TEKS 3.2 F; 3.7C

Teacher Resources Earth's Natural Resources

Earth and space 3.8

Unit 1: Weather - 3.8 A

Science Concepts TEKS : 3.8 A

Instruction Module	What is Weather?: In this Instruction Module, students are introduced to weather. They learn what weather is and how it affects their daily lives. Students also learn that the Sun warms the surface of Earth and the air above it, which can cause the weather to change.
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Instruction Module	Air Temperature: In this Instruction Module, students are introduced to air temperature. They also learn how a thermometer is used to measure air temperature.
Instruction Module	Wind: In this Instruction Module, students are introduced to wind. They learn that temperature differences cause wind. They observe how a wind sock can be used to find out the direction from which the wind blows. They also learn how wind speeds can be described as calm, light, moderate, or strong.
Instruction Module	Precipitation: In this Instruction Module, students learn about the different forms of precipitation such as rain, hail, sleet, and snow. They observe how tools such as a rain gauge and snow gauge help to measure the amount of precipitation in an area. They also learn how too much or too little precipitation can lead to floods or droughts.
Instruction Module	Patterns in Weather: In this Instruction Module, students learn that meteorologists use information from satellite images and data collected over time to study weather patterns and predict weather conditions.
Student Review	What is Weather?: Students assess and review their understanding of the concept of weather, its causes, and effects on daily activities.
Student Review	Air Temperature: Students assess and review their understanding of air temperature and its measurement.
Student Review	Wind: Students assess and review their understanding of how wind, rain, snow, and sleet are formed and the tools used for the measurement of wind and rain.
Interactivity/ Simulation	Watch Out for the Weather! In the interactive section of this module, students observe and record weather conditions such as temperature, precipitation, and wind speeds for three different cities.
Glossary	Weather
Quiz	The questions in the assessment section and the additional questions test students' understanding of the following concepts: thermometers and temperature, precipitation, weather patterns, changes in weather, tools and equipment used to measure weather conditions, weather information using charts and tables.
Journals	Journal #1 – TEKS 3.8A Journal #2 – TEKS 3.8A Measuring the Weather – TEKS 3.1 B; 3.2C, E, F; 3.3 A, C; 3.4A; 3.8A
Activities	Constructing a Weather Map of My City – TEKS 3.2B, C, D, F; 3.4A; 3.8A



Expository text passage/ activities	Weather: Measuring the Wind: TEKS 3.1A, B; 3.2B, C, D, F; 3.3C; 3.4 A; 3.8 A
Teacher Resources	Weather

Unit 2: Earth, Moon, and Sun - 3.8 B, C

Science Concepts TEKS : 3.8 B, C

Instruction Module **The Sun—Our Star:** In this Instruction Module, students are introduced to the Sun as the largest object in our solar system. Students learn that the Sun is a star and is made of up mostly of hydrogen and helium. They compare the relative sizes of the Sun, Earth, and the Moon and understand that the Sun appears to be the same size as the Moon because it is much farther away from Earth than the Moon.

Instruction Module **The Physical Sun:** In this Instruction Module, students are introduced to some of the Sun's features such as the corona, the photosphere, and sunspots. Students understand that the Sun is the main source of energy on Earth, providing light and thermal energy.

Instruction Module **Orbits and Rotation:** In this Instruction Module, students learn that Earth rotates on its axis, causing the day and night cycle. They also understand that the Sun's gravitational pull holds Earth and the other planets in their orbits around the Sun.

Instruction Module **The Moon:** In this Instruction Module, students learn that the Moon rotates on its axis and orbits Earth. They also learn that the Moon appears to change shape because of its position in relation to the Sun and Earth.

Student Review **The Sun—Our Star:** Students assess and review their understanding of the Sun as a star and its role in the water cycle on Earth.

Student Review **Orbits and Rotation:** Students assess and review their understanding of Earth's rotation, the Moon's phases, and the orbital positions of Earth and the Moon from the Sun.

Interactivity/ Simulation **Orbiting Spheres!** In the interactive section of this module, students “place” the Sun, the Moon, and Earth in their correct orbital positions in the solar system. Then, they identify the correct object based on the characteristics of the Sun, the Moon, and Earth.

Glossary Earth, Moon, and Sun



Quiz	The questions in the assessment and additional assessment section test students' understanding of the following concepts: the physical characteristics of the Sun, orbits and rotations of the Earth and the Moon, and characteristics features of the Moon.
Journals	Journal #1 – TEKS 3.2D, F; 3.8B Journal #2 – TEKS 3.8B
Activities	The Sun, Earth and Moon as a System – TEKS 3.1A, B; 3.2 A, B, C, D, F; 3.3 A, B, C; 3.4A; 3.8C
Teacher Resources	Earth, Moon, and Sun

Unit 3: The Solar System - 3.8 D

Science Concepts TEKS : 3.8 D

Instruction Module	The Planets: In this Instruction Module, students are introduced to the eight planets of our solar system—Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, and Neptune. Students are encouraged to use mnemonics to help recall all the names of the planets.
Instruction Module	Inner Planets: In this Instruction Module, students learn about the inner planets - Mercury, Venus, Earth, and Mars. They compare and contrast the planet's distinctive features, such as nature of surface, atmosphere, size, and position in relation to the Sun.
Instruction Module	Outer Planets: In this Instruction Module, students learn about the outer planets - Jupiter, Saturn, Uranus, and Neptune. They compare and contrast the planet's distinctive features, such as size, atmosphere, rings, and position in relation to the Sun. Students also learn that the asteroid belt separates the inner planets from the outer planets and understand why Pluto is no longer considered a planet.
Instruction Module	The Sun: In this Instruction Module, students are introduced to the Sun as the object in the center of our solar system. Students learn about the composition of the Sun, its different layers, and the process of fusion that makes the Sun the main source of energy on Earth. Students are also introduced to sunspots.
Student Review	Planets in Our Solar System: Students assess and review their understanding of the distinctive features of the planets in the solar system and their positions in relation to the Sun.
Interactivity/ Simulation	The Solar System!: In the Solar System interactivity, students identify the planets in our solar system and match them with their names.



Glossary The Solar System

Quiz The questions in the assessment and additional assessment section test students' understanding of the following concepts: planets and their positions in relation to the Sun, and the characteristics of the Sun.

Journals Journal #1 – TEKS 3.8D
Journal #2 – TEKS 3.8D

Activities The Solar System: Order of the Planets – TEKS : 3.2B, D, F; 3.8D
The Solar System – Planet Identification – TEKS 3.2C, D, F; 3.8D

Teacher Resources The Solar System

Organisms and environments 3.9

Unit 1: Habitats and Organisms - 3.9 A

Science Concepts TEKS : 3.9 A

Instruction Module **Components of an Ecosystem:** In this Instruction Module, students learn that an ecosystem is made up of all the living and nonliving components that interact with one another in a particular area.

Instruction Module **Population and Habitat:** In this Instruction Module, students examine a pond environment to learn about populations and habitats.

Instruction Module **Basic Needs of Organisms:** In this Instruction Module, students are introduced to the basic needs plants and animals must meet in order to survive. They learn basic needs are best met in an organism's habitat. They also understand why the natural habitat of one organism may be unsuitable for an organism from a different habitat.

Instruction Module **Competing for Habitat Resources:** In this Instruction Module, students study a pond habitat to understand that organisms compete with each other to fulfill their basic needs. They also learn how overpopulation in a habitat impacts the resources available and ultimately causes changes in the habitat.

Student Review **Population and Habitat:** Students assess and review their understanding of how the physical characteristics of an environment support populations and communities within its ecosystem.

Interactivity/ Simulation **Pond Dwellers:** In the interactive section of this module, students apply their understanding of the type of organisms that make up a



	pond community to identify which organisms belong to a pond ecosystem and which ones do not.
Glossary	Habitats and Organisms
Quiz	The questions in the assessment and additional assessment sections test student understanding of the following concepts: organisms found in different ecosystems, basic needs of organisms, populations, and communities, components of an ecosystem, and interactions between organisms in an ecosystem.
Journals	Journal #1 – TEKS 3.2B, F; 3.9A Journal #2 – TEKS 3.2F; 3.9A
Activities	Habitats and Organisms – TEKS 3.2B, F; 3.9A Observing Organisms in a Water Sample Using a Microscope- TEKS 3.1A, B; 3.2B; 3.4A; 3.9A Organisms and Their Environments – TEKS 3.1 B; 3.2 B, C, D, F; 3.3B, C; 3.9 A
Expository text passage/ activities	The Brown Tree Snake TEKS 3.1A, B; 3.2 A, B, F; 3.4 A; 3.9 A Animals Need Homes TEKS: 3.1 A, B, C; 3.2 A; 3.3 A; 3.4 A; 3.9 A, B, C
Teacher Resources	Habitats and Organisms

Unit 2: Food Chains - 3.9 B

Science Concepts TEKS : 3.9 B

Instruction Module	Food Chains and Food Webs: In this Instruction Module, students are introduced to how energy flows through ecosystems in food chains and food webs. They learn that the Sun is the ultimate source of energy on Earth and that plants use the Sun's energy to produce their own food. They learn that animals can indirectly get the Sun's energy by eating organisms that eat plants. Students also recognize factors that can disrupt the energy flow in ecosystems and evaluate the impacts of these disruptions.
Instruction Module	Types of Consumers: In this Instruction Module, students learn consumers are organisms that depend on other organisms for food. Students also learn that consumers are classified as herbivores, carnivores, omnivores, scavengers, or decomposers based on what the consumers eat.



Student Review	Changes in a Food Chain: Students assess and review their understanding of the flow of energy in food chain and how changes in a food chain affect an ecosystem.
Interactivity/ Simulation	Build a Food Chain: In the interactive section of this module, students apply their understanding of food chains. They arrange organisms in the correct order of who eats what and also identify which organisms are producers, herbivores, carnivores, omnivores and decomposers.
Glossary	Food Chains
Quiz	The questions in the assessment and additional assessment sections test student understanding of the following concepts: components of food chains and food webs, impacts of adding to or removing organisms from ecosystems, and types of organisms in food chains and food webs.
Journals	Journal #1 – TEKS 3.2 B, C, D, F; 3.9B Journal #2 – TEKS 3.2 B, C, D, F; 3.9B
Teacher Resources	Food Chains

Unit 3: Environmental Changes - 3.9 C

Science Concepts TEKS : 3.9 C

Instruction Module	Organisms Changing their Environment: In this Instruction Module, students observe and learn how organisms like beavers change their environment. They also understand how these changes affect other organisms living in the same environment.
Instruction Module	Factors Affecting an Environment: In this Instruction Module, students examine how natural changes to the environment, such as droughts and forest fires, affect an ecosystem. They also learn how some human activities impact the environment. They observe examples and evaluate the positive and negative impacts of such changes.
Student Review	Organisms Changing their Environment: Students assess and review their understanding of how organisms, such as beavers, change their environment and affect other organisms.
Student Review	Factors Affecting an Environment: Students assess and review their understanding of the effects of environmental changes, such as floods and droughts, on organisms living in the environment.
Interactivity/ Simulation	Pick the Change: In the interactive section of this module, students study visuals representing different environmental changes and identify the factors responsible for causing those changes.
Glossary	Environmental Changes



Quiz	The questions in the assessment and additional assessment sections test student understanding of the following concepts: factors that cause changes in ecosystems, effects of droughts, floods, and fires on ecosystems, effects of human activities on ecosystems.
Journals	Journal #1 – TEKS 3.2D, F; 3.9C Journal #2 – TEKS 3.2D, F; 3.9C
Teacher Resources	Environmental Changes

Organisms and environments 3.10

Unit 1: Adaptations - 3.10A

Science Concepts TEKS : 3.10 A

Instruction Module	What is an Adaptation?: In this Instruction Module, students are introduced to adaptations. They learn about structural and behavioral adaptations by examining the features that help a kangaroo rat survive in the desert.
Student Review	What is an Adaptation?: Students assess and review their understanding of the structural and behavioral adaptations of organisms of some plants and animals that help them live in a particular environment.
Interactivity/ Simulation	Sonoran Desert Organisms: In the interactive section of this module, students select organisms that belong in the desert environment from a group of organisms, by studying their adaptations.
Glossary	Adaptations
Quiz	The questions in the assessment and additional assessment sections test student understanding of the following concepts: physical adaptations of plants and animals, behavioral adaptations of plants and animals, how adaptations help organisms survive in their environments.
Journals	Journal #1 – TEKS 3.2F; 3.10A Journal #2 – TEKS 3.2F; 3.10A
Expository text passage/ activities	Organisms and Environments – TEKS 3.1A, B; 3.2 A, B, C, D, F; 3.4A; 3.10 A
Teacher Resources	Adaptations



Unit 3: Growth and Change - 3.10 B

Science Concepts TEKS : 3.10 B

Instruction Module **Simple Life Cycles:** In this Instruction Module, students learn how the life cycle of an organism includes its birth, growth, and reproduction. They understand what a simple life cycle is and are shown examples of organisms that have simple life cycles.

Instruction Module **Metamorphosis:** In this Instruction Module, students observe and learn about the different stages in the life cycle of a lady beetle and a frog, two organisms that undergo metamorphosis. They recognize the structural differences between the juvenile and adult stages during metamorphosis.

Instruction Module **Plant Growth Cycles:** In this Instruction Module, students learn about the life cycles of plants. They learn that plants can be classified as annuals, biennials, or perennials depending on whether they complete their life cycle in one, two, or many growing seasons respectively.

Student Review **Simple Life Cycles:** Students assess and review their understanding of the simple life cycle of organisms that include the stages of birth, growth, and reproduction.

Student Review **Metamorphosis:** Students assess and review their understanding of the different stages of metamorphosis in the life cycles of a lady beetle and frog.

Student Review **Plant Growth Cycles:** Students assess and review their understanding of why plants are classified as annuals, biennials, or perennials based on their life cycles.

Interactivity/ Simulation **Try Cycles!:** In the interactive section of this module, students apply their understanding of plant and animal life cycles to identify the types of life cycles that different organisms undergo.
Comparing Life Cycles of Plants: In this Simulation, students conduct an experiment to compare the length of time it takes for different plants to complete one life cycle.

Glossary Growth and Change

Quiz The questions in the assessment and additional assessment sections test student understanding of the following concepts: simple life cycles in animals, metamorphosis in animals, plant life cycles and classification of plants into annuals, biennials and perennials, based on the number of growing seasons in their life cycles.

Journals Journal #1 – TEKS 3.2B, D, F; 3.10B
Journal #2 – TEKS 3.2B, D, F; 3.10B



Expository text passages/ activities Lifecycles: Fireflies - TEKS 3.1A, B; 3.2 B, C, D, F; 3.4 A, B; 3.9 A; 3.10 A, 3.10 B

Teacher Resources Growth and Change

Grade 4

Scientific Investigation and Reasoning

Scientific Investigation and Reasoning - Grades 3-5 1A, B; 2A, B, C, D, E; 3A, B, C

Science Concepts TEKS *Grades 3-5 1A, B; 2A, B, C, D, E; 3A, B, C, D; 4A, B*

Instruction Module **Safety and Scientific Processes:** In this Instruction Module, students learn how to successfully conduct safe, appropriate science investigations using scientific processes and that it is as important as the science content knowledge gained from the experience.

Interactivity/ Simulation **Tess' Pulley Experiment:** In this interactivity, students conduct a virtual experimental investigation to test a hypothesis that a pulley system with two pulleys will decrease the force required to lift a mass by half.

Glossary Safety and Scientific Processes

Quiz The questions in the assessment section test students' understanding of the following concepts: steps used while conducting scientific investigations, safety equipment, tools used for measuring physical quantities, and data and conclusions. The additional questions test students' ability to match quantitative data to graphical representations, identify dependent and independent variables, and identify patterns in data collected during experimentation.

Journals Journal #1 – Safety and Scientific Processes
Journal #2 – Steps in an Experiment

Activities Collecting, Recording, and Analyzing Information Using Tools
Evaluating the Accuracy of Advertisements for Products and Services - TEKS 3.2 B

Expository text passages/ activities Evaluating Claims for Products and Services – TEKS: 3.1(A), (B); 3.2(A), (B), (C), (D), (E), (F); 3.3(C); 3.4 (A); 4.1(A), (B); 4. 2(A), (B), (C), (D), (E), (F); 4.3 (C); 4.4 (A); 5.1(A), (B); 5.2(A), (B), (C), (D), (E),(F) 5.3 (B), (D); 5.4 (A)
Microscopes – 5.1(A), (B), (D), (F); 5.2 (B); 5.3 (D); 5.4 (A); 5.7 (B).



Matter and energy 4.5 A

Unit 1: Measuring Physical Properties - 4.5 A

Science Concepts TEKS : 4.5 A

Instruction Module **What is Matter?:** In this Instruction Module, students are introduced to “Matter”. Students learn that matter can be classified into solids, liquids, and gases. They compare the physical properties of the three states of matter. They also observe and learn how matter can change states.

Instruction Module **Measuring Mass:** In this Instruction Module, students learn that mass is the amount of matter in an object. They also learn how to measure the mass of an object using a triple beam balance.

Instruction Module **Volume:** In this Instruction Module, students learn that the volume of an object is the amount of space it occupies. They observe and infer that two objects cannot occupy the same space at the same time and learn how this property is used to measure the volume of irregular shaped solids using a graduated cylinder. They also learn how to determine the volume of a rectangular prism.

Instruction Module **Magnetic Properties:** In this Instruction Module, students are introduced to the magnetic properties of matter. They learn that magnets attract objects made of certain metals like iron. They observe and understand that like poles of magnets repel while unlike poles attract each other.

Instruction Module **Density:** In this Instruction Module, students observe and understand the meaning of density. They learn that density is a measure of the mass of an object compared to its volume. They also learn that an object sinks or floats in water depending on whether its density is greater than or less than the density of water.

Student Review **States of Matter:** Students assess and review their understanding of matter, its classification based on its states, and how the states transform on heating or cooling using water as an example.

Student Review **Measuring Mass:** Students assess and review their understanding of the definition and measurement of mass and volume.

Student Review **Density:** Students assess and review their understanding of density and how it determines whether objects float on or sink in water

Student Review **Magnetic Properties:** Students assess and review their understanding of the magnets and the magnetic properties of some types of matter.

Interactivity/ Simulation **Float or Sink:** In the Interactive section of the module, students “drop” various objects in water and observe them as they float or sink. Based on their observations, they decide whether or not the object is denser than water.



Glossary	Measuring Physical Properties
Quiz	The questions in the assessment section test students' understanding of the following concepts: floating and sinking, relative density, measurement of volume, and states of matter. The additional questions test students' ability to identify the correct tools and units to measure mass, read temperatures, and identify the states of matter.
Journals	Journal #1 – TEKS 4.2D, F; 4.5A Journal #2 – TEKS 4.F; 4.5A
Activities	Measuring the Temperature of Pure Water and Salt Water- TEKS 4.1A, B; 4.2A, B, C, E, F; 4.3 A; 4.4 A; 4.5 A
Teacher Resources	Measuring Physical Properties

Unit 3: Separating Mixtures - 4.5 B

Science Concepts TEKS : 4.5 B

Instruction Module	The Mixed and the Pure: In this Instruction Module, students are introduced to pure substances and mixtures. They observe various examples of mixtures, identify the substances that make up each mixture and recognize that mixtures can be made up of different combinations of solids, liquids, and gases.
Instruction Module	Identifying Solutions: In this Instruction Module, students observe examples of different types of mixtures and understand how they differ from one another. They also learn that solutions are a special type of mixtures.
Instruction Module	Separate the Mixtures: In this Instruction Module, students learn how mixtures can be separated. They identify different tools that can be used to separate mixtures based on the physical properties of the substances in the mixture. They are also introduced to the process of chromatography.
Student Review	Identifying Solutions: Students assess and review their understanding of mixtures and solutions and their differences.
Student Review	Separate the Mixtures: Students assess and review their understanding of the different tools that can be used to separate mixtures based on the physical properties of the ingredients.
Glossary	Separating Mixtures
Quiz	The questions in the assessment section test students' understanding



of the following concepts: mixtures, solutions, and separation of mixtures using tools and techniques.

Journals	TEKS – 4.2D, F; 4.5B TEKS - 4.2D, F; 4.5B
Activity	Comparing Mixtures and Solutions – TEKS 4.1A, B; 4.2A, B, C, D, F; 4.4A, B; 4.5 C Identifying Mixtures and Solutions – TEKS 4.2D, F; 4.5B
Teacher Resources	Separating Mixtures

Force, motion, and energy 4.6

Unit 1: Forms of Energy - 4.6 A, B

Science Concepts TEKS : 4.6 A, B

Instruction Module **Mechanical Energy:** In this Instruction Module, students learn that kinetic energy and potential energy are forms of mechanical energy. They also observe and recognize how kinetic and potential energy change from one form to another.

Instruction Module **Sound Energy:** In this Instruction Module, students observe how sound is produced by vibrations and travels as sound waves. They learn that sound needs matter to travel through and travels fastest through solids. They also learn that echoes are a result of the bouncing of sound waves.

Instruction Module **Electrical Energy:** In this Instruction Module, students are introduced to electrical energy and its two forms: static electricity and current electricity. They compare and contrast static and current electricity.

Instruction Module **Light Energy:** In this Instruction Module, students learn about light energy and observe how it travels in straight lines. They compare what happens to light when it interacts with transparent, translucent, and opaque materials.

Instruction Module **Thermal Energy:** In this Instruction Module, students are introduced to thermal energy. They learn that temperature is a measure of thermal energy and compare how conduction, convection, and radiation transfer thermal energy. They also gain an understanding of the difference between conductors and insulators.

Student Review **Mechanical Energy:** Students assess and review their understanding of kinetic energy and potential energy as mechanical energy and their transformation from one to the other.

Student Review **Sound Energy:** Students assess and review their understanding of the



properties of sound energy.

Student Review

Electrical Energy: Students assess and review their understanding of the properties of electrical energy.

Student Review

Light Energy: Students assess and review their understanding of the properties of light energy.

Student Review

Thermal Energy: Students assess and review their understanding of the properties of thermal energy.

**Interactivity/
Simulation**

Energy to Unpack: In this interactivity, students are presented with various situations and are required to identify the different forms of energy.

Conductor or Insulator?: In this simulation students will test different materials to find out whether they are electrical conductors or insulators.

Glossary

Forms of Energy

Quiz

The questions in the assessment section test students' understanding of the following concepts: meaning of energy, sound waves, transparent, translucent, and opaque materials, and conductors and insulators. The additional questions test students' ability to recognize the units of measurement of energy, interpret information from charts, and recognize that sound travels fastest through solids.

Journals

Journal #1 – question 1 – TEKS 4.2B, D, F; 4.6B , question 2 – TEKS 4.2F; 4.6A

Journal #2 – TEKS 4.2F; 4.6A

Activities

Forms of Energy (Descriptive Investigation) – TEKS 4.1B; 4.2A, B, D, F; 4.4A, 4.6A

Thermal Conductors and Insulators (Descriptive Investigation) – TEKS 4.1A, B; 4.2A, B, C, D, F; 4.3A; 4.4A 4.6B

Teacher Resources

Forms Of Energy

Unit 2: Electrical Circuits - 4.6 C

Science Concepts TEKS : 4.6 C

Instruction Module

Electrical Circuits: In this Instruction Module, students are introduced to electrical circuits. Students learn that the flow of electricity requires a closed path and a source of energy such as a battery. They understand how a switch helps to make or break a circuit. They also learn the difference between electrical conductors and insulators.



Student Review	Electrical Circuits: Students assess and review their understanding of static electricity, current electricity, and the requirements for current electricity to flow on a circuit.
Interactivity/ Simulation	Send A Morse Code: In the Interactive section, students are “given” a set of items that include electrical conductors and insulators, a switch, a battery, and a light bulb. The students are required to select the correct items to construct an electric circuit. They also identify and select words that are related to current electricity from a list of words. Electromagnets - An Investigation: In this Simulation, students conduct an experiment to investigate how the number of turns in the coil wrapped around a nail affects the strength of an electromagnet.
Glossary	Electrical Circuits
Quiz	The questions in the assessment section test students’ understanding of the following concepts: Electrical conductors and insulators, components of an electrical circuit, electric current, and open and closed circuits.
Journals	Journal #1 – TEKS 4.2F; 4.6C Journal #2 – TEKS 4.2B, F; 4.6C
Teacher Resources	Electrical Circuits

Unit 3: Forces on an Object - 4.6 D

Science Concepts TEKS : 4.6 D

Instruction Module **What Can Force Do?:** In this Instruction Module, students are introduced to force and its effects on objects. They learn that pushes and pulls are called forces. They recognize that force can move an object, stop a moving object, and change the direction and speed of a moving object. They also learn that forces are represented by arrows.

Instruction Module **Balanced and Unbalanced Forces:** In this Instruction Module, students learn that forces have size and direction. They observe examples of balanced and unbalanced forces and learn that an object at rest will move only when the forces acting on it are unbalanced.

Instruction Module **Mass, Weight, and Gravity:** In this Instruction Module, students are introduced to the difference between mass and weight. They learn that weight is a measure of gravitational force on an object while mass is a measure of the amount of matter in an object. They also learn the standards units used to measure both mass and weight.



Instruction Module	Friction: In this Instruction Module, students learn that friction is a force that opposes motion. They observe an experiment and recognize how the type surfaces in contact with each other affects friction.
Instruction Module	A Magnet's Force: In this Instruction Module, students observe examples and understand that magnets exert a force of attraction on certain materials such as iron. They also learn that like of poles of two magnets repel each other while unlike poles attract each other.
Student Review	What Can Force Do?: Students assess and review their understanding of force and its effects on an object, such as causing movement, stopping a moving object, or changing its direction.
Student Review	Gravity and Magnetism: Students assess and review their understanding of the effects of gravity on mass and weight, and of magnets on other magnets as well as on iron.
Student Review	Friction: Students assess and review their understanding of friction and how it is affected by changes in a surface's roughness.
Interactivity/ Simulation	Types of Forces: In the Interactive section of the module, students observe the movement of an object and identify the force that causes the changes in motion. Temperature's Effect On Magnetic Force: In this Simulation, students conduct an experiment to investigate how temperature affects the force of a magnet.
Glossary	Forces on an Object
Quiz	The questions in the assessment section test students' understanding of the following concepts: balanced and imbalanced forces, direction of frictional forces, gravity and weight, and the units of measuring force. The additional questions test students' ability to identify objects that are attracted to magnets, recognize surfaces on which friction is the least, recognize positions of magnets when they attract or repel each other, and identify the effects of force on an object.
Journals	Journal #1 – TEKS 4.2D, F; 4.6D Journal #2 – TEKS 4.6D
Activities	Testing the Effects of Force on an Object (Descriptive Investigation) – TEKS 4.1A, B; 4.2A, B, C, D, E, F; 4.3C; 4.4A; 4.6D
Teacher Resources	Forces On An Object



Earth and space 4.7

Unit 1: Soil Properties and Experiments - 4.7 A

Science Concepts TEKS : 4.7 A

Instruction Module **Properties of Soil:** In this Instruction Module, students learn about the different components that make up soil. They compare how the properties of color, texture, and composition are used to identify soil types. They also investigate and determine the soil best suited for the growth of a tomato plant.

Instruction Module **Soil Water Retention:** In this Instruction Module, students observe an experiment and compare the water retention capacities of different soil types such as sand, silt, clay, and loam. They learn about the steps of the scientific method used when performing an experiment.

Student Review **Properties of Soil:** Students assess and review their understanding of properties of soils that include color, texture, capacity to retain water, and the ability to support plant growth.

Interactivity/ Simulation **Soil Properties: How Much Air Is In There?:** In this Simulation, students conduct an experiment that investigates the volume of air bubbles displaced by different soil samples.

Glossary Soil Properties and Experiments

Quiz The questions in the assessment and additional assessment section test students' understanding of the following concepts: properties of soil such as color, texture, water retention, amount of humus, sizes of soil particles, types of soils, organisms present in the soil, and experiments to demonstrate the different soil properties.

Journals Journal #1 – TEKS 4.2F; 4.7A
Journal #2 – TEKS 4.2F; 4.7A

Activities Activity 1: Soil Properties and Experiments – TEKS 4.2D, F; 4.3A; 4.7A
Activity 2: Soil Properties and Experiments (Descriptive Investigation) – TEKS 4.1A, B; 4.2A, B, C, D, F; 4.4A; 4.7A
Activity 3: Observing the Properties of Sand Using a Microscope (Descriptive Investigation) – TEKS 4.1A, B; 4.2B; 4.4A; 4.7A

Expository text passages/ activities Tools Scientists Use: Microscopes – TEKS 4.1A, B; 4.2B, C, D, F; 4.4A; 4.7A

Teacher Resources Soil Properties And Experiments



Unit 2: Observing Change - 4.7 B

Science Concepts TEKS : 4.7 B

Instruction Module **Changes on the Earth's Surface:** In this Instruction Module, students learn how natural processes such as weathering, erosion, deposition and dissolving can slowly change Earth's surface and create new landforms.

Instruction Modules **Using Tables and Charts:** In this Instruction Module, students are introduced to tables and charts. They gain an understanding of how the information represented in both can help them identify patterns of change over time. They examine information about wave erosion in tables and charts to identify patterns of change.

Student Review **Changes on the Earth's Surface:** Students assess and review their understanding of how weathering, erosion, deposition caused by wind, water, and glaciers cause slow changes to Earth's surface.

Glossary Observing Change

Quiz The questions in the assessment section test students' understanding of the following concepts: changes to the Earth's surface, weathering, erosion, dissolving, deposition, use of data in charts and tables to identify and understand changes.

Journals
Journal #1 – TEKS 4.7B
Journal #2 – TEKS 4.2B, D, F; 4.7B

Activities Changes on the Earth's Surface – TEKS 4.2F; 4.7B

Teacher Resources Observing Change



Unit 3: Conserving Resources - 4.7 C

Science Concepts TEKS : 4.7 C

Instruction Module **Renewable Resources:** In this Instruction Module, students learn that renewable resources are natural resources plentiful in nature. They identify examples of renewable resources and gain an understanding of why these resources are essential for the survival of life on Earth.

Instruction Module **Nonrenewable Resources:** In this Instruction Module, students learn that nonrenewable resources are natural resources that exist in limited quantities in nature. They identify examples of nonrenewable resources and learn how these resources are used in everyday life.

Instruction Modules **Conservation of Natural Resources:** In this Instruction Module, students learn what happens when natural resources are depleted and recognize the importance of conservation. They also examine different ways to conserve these resources.

Student Review **Renewable Resources:** Students assess and review their understanding of renewable resources that include air, plants, water, and animals.

Student Review **Nonrenewable Resources:** Students assess and review their understanding of nonrenewable resources that include coal, oil, and natural gas.

Student Review **Conservation of Natural Resources:** Students assess and review their understanding of the importance of conserving natural resources and some ways to conserve them.

Interactivity/ Simulation **Conserving Resources:** In the Interactive section of this module, students classify and group resources as renewable and nonrenewable resources. Then, they identify which nonrenewable resource is used the most for a certain purpose that is mentioned.

Glossary Conserving Resources

Quiz The questions in the assessment and additional assessment section test students' understanding of the following concepts: renewable and nonrenewable resources, properties of renewable and nonrenewable resources, conservation and actions that help conserve natural resources. The additional questions also test students' ability to recognize the importance of replacing fossil fuels with renewable energy resources.

Journals Journal #1 – TEKS 4.7C
Journal #2 – TEKS 4.7C

Teacher Resources Conserving Resources



Earth and space 4.8

Unit 1: Energy from the Sun and Weather - 4.8 A, B

Science Concepts TEKS : 4.8 A, B

Instruction Module **Sun's Energy In Food:** This Instruction Module, students learn that the main source of energy they need to grow and survive comes from the Sun. They observe the path of the Sun's energy through plants and animals into our food.

Instruction Module **Sun's Energy and the Water Cycle:** In this Instruction module, students learn how heat energy from the Sun drives the water cycle on Earth.

Instruction Module **Weather Maps:** In this Instruction Module, students are introduced to the information meteorologist's record on weather maps. They learn that symbols on a weather map represent high pressure, low pressure, and cold, warm, and stationary fronts. They also learn how each of these conditions affects the weather of a place.

Student Review **Sun's Energy and the Water Cycle:** Students assess and review their understanding of the water cycle and the role of the Sun as a major source of energy in this process.

Student Review **Weather Maps:** Students assess and review their understanding of how weather is measured, recorded, and presented on weather maps using symbols and keys.

Interactivity/ Simulation **The Vital Sun:** In the Interactive section of this module, students arrange pictures in the correct sequence to depict how the Sun's energy is responsible for the weather, formation of fossil fuels, and the food we eat.

Glossary Energy from the Sun and Weather

Quiz The questions in the assessment and additional assessment section test students' understanding of the following concepts: the Sun as the primary source of energy on Earth, responsible for the formation of fossil fuels and the food we eat. The additional questions also test students' understanding of symbols used on weather maps, cold and warm fronts, high and low pressures, and the forms of precipitation.

Journals Journal #1 – TEKS 4.8B
Journal #2 – TEKS 4.2B, D; 4.8A

Activities Using Weather Maps to Predict Weather – TEKS 4.2B, C, D; 4.3B, C;



	4.8A Energy from the Sun and Weather (Descriptive Investigation) – TEKS 4.1A, B; 4.2B, C, D, F; 4.3B; 4.4A; 4.8B Creating a Weather Map – TEKS 4.2B, C, D; 4.3B; 4.4A; 4.8A
Expository text passages/ activities	The Rainiest Place in the United States
Teacher Resources	Energy From The Sun And Weather

Unit 2: Recognizing Patterns in Changes - 4.8 C

Science Concepts TEKS : 4.8 C

Instruction Module	Seasonal Patterns, Weather, and Climate: In this Instruction Module, students observe seasonal patterns. They recognize that seasons are accompanied by changes in weather. They also learn that climate is the pattern of weather in a place over several years.
Instruction Module	Patterns of the Sun: In this Instruction Module, students are introduced to the daily patterns of Sun including sunrise and sunset, its apparent movement across the sky during a day, and how it causes patterns in shadows. They also observe how the position of the Sun in the sky changes during the different seasons and affects the length of the day and night.
Instruction Module	Patterns Caused by the Moon: In this Instruction Module, students learn about the lunar cycle and understand what causes the different phases of the Moon.
Student Review	Seasonal Patterns, Weather, and Climate: Students assess and review their understanding of the patterns of the seasons and of weather over time, which forms the climate of a particular place.
Student Review	The Sun and Shadows: Students assess and review their understanding of the change in the Sun's position in the sky during different seasons and the effects of the Sun's movement on shadows during daytime.
Student Review	Patterns Caused by the Moon: Students assess and review their understanding of the phases of the lunar cycle and how the Moon's gravity causes tides.
Interactivity/ Simulation	Recognizing Patterns in Changes: In the Interactive section of this module, students arrange pictures in the correct sequence to depict patterns in the seasons, patterns in the apparent movement of the



	<p>Sun based on the observation of shadows at different times of the day, and patterns in the lunar cycle.</p> <p>Shadows And Seasons: In this Simulation, students conduct an experiment to investigate if the length of a shadow follows a pattern throughout the year.</p>
Glossary	Recognizing Patterns in Changes
Quiz	The questions in the assessment section test students' understanding of the following concepts: patterns in weather, day and night, and lunar cycle. The additional questions test students' ability to interpret and draw conclusions from data given in the form of graphs, tables, and chart.
Journals	Journal #1 – TEKS 4.2A, F; 4.8C Journal #2 – TEKS4.2F; 4.8C
Activities	Recognizing Patterns in Changes – TEKS 4.1A; 4.2B, C, D, F; 4.4A; 4.8C
Teacher Resources	Recognizing Patterns Of Change

Organisms and environments 4.9

Unit 1: Producers and Consumers - 4.9A

Science Concepts TEKS : 4.9 A

Instruction Module **Ecosystems:** In this Instruction Module, students learn about ecosystems and why they are important. They identify suitable ecosystems for different animals and recognize that ecosystems can be large or small.

Instruction Module **Role of Producers:** In this Instruction Module, students understand that plants are called producers because they can make their own food through photosynthesis. They also learn how plants make the Sun's energy available to all other organisms in an ecosystem.

Instruction Module **Consumers:** In this Instruction Module, students will learn that all animals are consumers because they depend on other organisms for their energy. They learn to identify, describe, and give examples of the different types of consumers such as herbivores, carnivores, omnivores, predators, prey, and scavengers.

Instruction Module **Decomposers:** In this Instruction Module, students learn about the role of decomposers in an ecosystem and give examples of some common decomposers. They also learn how decomposers recycle nutrients in an ecosystem, making those nutrients available again for plants.



Student Review **Producers, Consumers, and Decomposers:** Students assess and review their understanding of what producers, consumers, and decomposers need to survive and the roles they play in food chains.

Interactivity/ Simulation **Got the Munchies!:** In the Interactive section of the module, students apply their understanding of consumers, and decomposers and sort organisms as herbivores, carnivores, omnivores, or decomposers, based on their food preferences.

Glossary Producers and Consumers

Quiz The questions in the assessment and additional assessment sections test student understanding of the following concepts: relationships between organisms in an environment, types of organisms in an environment, and classification of organisms based on the type of food consumed by them.

Journals Journal #1 – TEKS 4.2B, D, F; 4.9A
Journal #2 – TEKS 4.9A

Teacher Resources Producers And Consumers

Unit 2: Food Webs - 4.9B

Science Concepts TEKS : 4.9 B

Instruction Module **Food Chains:** In this Instruction Module, students learn how energy from the Sun is converted to chemical energy by producers and passed on to consumers. They learn how a food chain is used to represent this flow of energy from organism to organism. Students also recognize that some consumers can be classified as herbivores and omnivores.

Instruction Module **Food Webs:** In this Instruction Module, students understand how food chains are interconnected to form food webs. They learn how food webs are used to recognize the many different relationships between organisms in an ecosystem.

Instruction Module **Factors Affecting Populations:** In this Instruction Module, students are introduced to the effects a forest fire might have on the different populations of organisms living in an ecosystem. They recognize how a change in the number of producers or consumers can affect an entire food web.

Student Review **Food Chains:** Students assess and review their understanding of the energy flow starting from the sun through food webs in an ecosystem.



Student Review **Food Webs:** Students assess and review their understanding of food chains forming food webs and relationships of the organisms within an ecosystem.

Student Review **Factors Affecting Populations:** Students assess and review their understanding of effects of a forest fire on the different populations of organisms living in it.

Interactivity/ Simulation **Go with the Energy Flow:** In this interactivity, students apply their understanding of food chains to identify the roles of organisms in a food chain and the correct order of energy flow.

Glossary Food Webs

Quiz The questions in the assessment and additional assessment sections test student understanding of the following concepts: flow of energy through food chains and food webs, role of producers, consumers, and decomposers in an ecosystem, and factors affecting populations of organisms in food chains and food webs.

Journals Journal #1 – TEKS 4.9B
Journal #2 – TEKS 4.9B

Expository text passage/ activities The Brown Tree Snake and Descriptive Investigation – TEKS 4.1A, B; 4.2A, B, C, D, F; 4.4A; 4.9B

Teacher Resources Food Webs

Organisms and environments 4.10

Unit 1: Organisms and Environments - 4.10 A

Science Concepts TEKS : 4.10 A

Instruction Module **Structures and Functions of Organisms:** In this Instructional Module, students are introduced to structural characteristics that help organisms survive. They examine some structures and their functions in camels and chimpanzees.

Instruction Module **Structures and their Functions:** In this Instructional Module, students recognize how camouflage and mimicry help organisms survive in their environment.

Student Review **Structures and their Functions:** Students assess and review their understanding of how different structures enable organisms to survive in their environment.



Glossary	Organisms and Environments
Quiz	The questions in the assessment and additional assessment sections test student understanding of the following concepts: structural adaptations of organisms in different environments including mimicry and camouflage, behavioral adaptations such as migration, and effects of changing environments on organisms.
Journals	Journal #1 – TEKS 4.10A Journal #2 – TEKS 4.2B, D, F; 4.10A
Expository text passages/ activities	Insect Adaptations (Descriptive Field Investigation) – TEKS 4.1A, B; 4.2A, B, D, F; 4.3C; 4.4A; 4.10A
Teacher resources	Organisms and Environments

Unit 2: Traits and Characteristics – 4.10 B

Science Concepts TEKS : 4.10 B

Instruction Module **Inherited Traits and Survival:** In this Instruction Module, students learn that inherited traits are characteristics passed on from parents to offspring. They are introduced to some examples of inherited traits. They also learn how the inherited traits of some organisms help them survive in their environment.

Instruction Module **What is Learned Behavior?:** In this Instruction Module, students are introduced to the difference between learned behaviors and inherited traits. They also gain knowledge about how some learned behaviors helps organisms survive in their environment.

Student Review **Inherited Traits and Learned Behavior:** Students assess and review their understanding of inherited traits and learned behavior and they are different from each other.

Interactivity/ Simulation **Sort The Pictures:** In this Interactive section, students learn to distinguish between inherited traits and learned characteristics by identifying whether different pictures show inherited traits or learned characteristics of organisms.

Glossary Traits and Characteristics

Quiz The questions in the assessment and additional assessment sections test student understanding of the following concepts: inherited traits of organisms and learned characteristics in humans and animals.

Journals Journal #1 – TEKS 4.2F; 4.10B
Journal #2 – TEKS 4.2F; 4.10B



Teacher Resources

Traits And Characteristics

Unit 3: Comparing Life Cycles – 4.10 C

Science Concepts TEKS : 4.10 C

Instruction Module

Life Cycles of Animals: In this Instruction Module, students compare and contrast simple life cycles and complex life cycles in organisms.

Instruction Module

Life Cycle of a Butterfly: In this Instruction Module, students learn about and observe the different stages in the life cycle of a butterfly. They understand that a butterfly undergoes metamorphosis, or a complete change, during its life cycle.

Instruction Module

Incomplete Metamorphosis: In this Instruction Module, students learn that some insects such as grasshoppers go through incomplete metamorphosis, where the larval stage resembles the adult. They learn to identify and describes the various stages in the incomplete metamorphosis of a grasshopper. They will also learn to compare incomplete metamorphosis with complete metamorphosis.

Instruction Module

Plant Life Cycles: In this Instruction Module, students learn that plants have a complex life cycle. They examine the different stages in the life cycle of an oak tree and a radish plant.

Student Review

Life Cycles of Animals: Students assess and review their understanding of life cycles and the different types seen in some animals.

Student Review

Life Cycle of a Butterfly: Students assess and review their understanding of the main feature of the four stages in a butterfly's life cycle.

Student Review

Plant Life Cycles: Students assess and review their understanding of the life cycles of plants using the examples of a bean plant and an oak tree.

Glossary

Comparing Life Cycles

Quiz

The questions in the assessment and additional assessment sections test student understanding of the following concepts: simple and complex life cycles, metamorphosis in animals with complex life cycles such as frogs and butterflies, comparison of life cycles of different organisms.

Journals

Journal #1 – TEKS 4.2B, F; 4.10C
Journal #2 – TEKS 4.2B, D, F; 4.10C



Activities	Life Cycle of a Dandelion (Descriptive Field Investigation) - TEKS 4.1A, B; 4.2A, B, C, D, F; 4.4A; 4.10C
Teacher Resources	Comparing Life Cycles

Grade 5

Scientific Investigation and Reasoning Skills

Unit 1: Scientific Investigation and Reasoning Grades 5.1A, 1B, 2A, 2B, 2C, 2D, 2E, 2F, 2G, 3A, 4A

Science Concepts TEKS : 5.1A, 1B, 2A, 2B, 2C, 2D, 2E, 2F, 2G, 3A, 4A

Instruction Module **Safety and Scientific Processes:** In this Instruction Module, students learn how to successfully conduct safe, appropriate science investigations using scientific processes and that it is as important as the science content knowledge gained from the experience.

Interactivity/ Simulation **Tess' Pulley Experiment:** In this interactivity, students conduct a virtual experimental investigation to test a hypothesis that a pulley system with two pulleys will decrease the force required to lift a mass by half.

Glossary Safety and Scientific Processes

Quiz The questions in the assessment section test students' understanding of the following concepts: steps used while conducting scientific investigations, safety equipment, tools used for measuring physical quantities, and data and conclusions. The additional questions test students' ability to match quantitative data to graphical representations, identify dependent and independent variables, and identify patterns in data collected during experimentation.

Journals Journal #1 – Safety and Scientific Processes
Journal #2 – Steps in an Experiment

Activities Collecting, Recording, and Analyzing Information Using Tools
Evaluating the Accuracy of Advertisements for Products and Services - TEKS 3.2 B

Expository text passages/ activities Evaluating Claims for Products and Services – TEKS: 3.1(A), (B); 3.2(A), (B), (C), (D), (E), (F); 3.3(C); 3.4 (A); 4.1(A), (B); 4. 2(A), (B), (C), (D), (E), (F); 4.3 (C); 4.4 (A); 5.1(A), (B); 5.2(A), (B), (C), (D), (E),(F) 5.3 (B), (D); 5.4 (A)
Microscopes – 5.1(A), (B), (D), (F); 5.2 (B); 5.3 (D); 5.4 (A); 5.7 (B).



Reporting Category 1: Matter and Energy

Unit 1: Physical Properties of Matter - 5.5 (A)

Science Concepts TEKS : 5.5 (A)

Instruction Module **Classification of Matter:** In this Instruction Module, students compare and contrast the properties of solids, liquids, and gases, and recognize that matter can be classified based on these physical properties.

Instruction Module **Mass:** In this Instruction Module, students learn that mass is the amount of matter in an object and can be measured using a triple beam balance. They observe and measure the mass of substances before and after a physical change to recognize that mass is conserved.

Instruction Module **Density, Solubility, and Magnetism:** In this Instruction Module, students learn that density, solubility, and magnetism are physical properties that can be used to classify matter.

Instruction Module **Thermal Conductors and Insulators:** In this Instruction Module, students learn that matter can be classified according to whether or not it transfers heat. They observe various examples of thermal conductors and insulators and recognize some of the ways they are used in everyday life.

Instruction Module **Conductors and Insulators of Electricity:** In this Instruction Module, students learn that matter can be classified according to whether or not it transfers electricity. They observe various examples of electrical conductors and insulators and recognize some of the ways they are used in everyday life.

Student Review **Classification of Matter:** Students assess and review their understanding of the physical properties of matter and the classification of matter based on their states.

Student Review **Mass:** Students assess and review their understanding of mass of an object, its measurement using a triple beam balance, and its conservation after a physical change.

Student Review **Density, Solubility, and Magnetism:** Students assess and review their understanding of the physical properties of solubility of matter in water, magnetism, and relative density that determines why objects sink or float.



Student Review	Thermal Conductors and Insulators: Students assess and review their understanding of some examples and uses of conductors and insulators of thermal energy.
Student Review	Conductors and Insulators of Electricity: Students assess and review their understanding of some examples and uses of conductors and insulators of electrical energy.
Interactivity/ Simulation	Thermal Energy - Conductor Or Insulator?: In this simulation students will classify materials as thermal insulators or thermal conductors by conducting a simple investigation.
Glossary	Physical Properties of Matter
Quiz	The questions in the assessment section test students' understanding of the following concepts: conductors and insulators, properties of solids, liquids, and gases, and attraction to magnets.
Journals	Journal 1 – TEKS 5.5A Journal 2 – TEKS 5.5A
Activities	Classifying Matter (STEM Activity) – TEKS 5.1B; 5.2A, B, C, D, F; 5.4A; 5.5A Using Physical Properties to Classify Matter – TEKS 5.1A, B; 5.2A, B, C, D, F; 5.4A; 5.5A
Teacher resources	Physical Properties Of Matter

Unit 2: Mixtures and Solutions - 5.5 (B) (C)

Science Concepts TEKS : 5.5 B, C

Instruction Module **Solutions:** In this Instruction Module, students learn that solutions are homogeneous mixtures. They observe how size, a physical property of salt, changes in a salt water solution. They also learn that alloys are solutions made up of two or more metals.

Instruction Module **Using Properties to Separate Mixtures:** In this Instruction Module, students learn how some mixtures can be separated based on the physical properties of their components. They observe how magnetism, filtration, and evaporation can be used to separate some mixtures.

Instruction Module **Mixtures:** In this Instruction Module, students learn about mixtures and recognize that the ingredients in such mixtures maintain their physical properties.



Student Review	Mixtures: Students assess and review their understanding of how the ingredients of some mixtures retain their physical properties.
Student Review	Solutions: Students assess and review their understanding of how the physical properties, such as size, of one or more ingredients can change in solutions.
Interactivity/ Simulation	Properties Of Mixtures: In this Simulation, students conduct an experimental investigation to determine if different materials, when mixed with water, will maintain their size (which is a physical property) or dissolve.
Glossary	Mixtures and Solutions
Quiz	The questions in the assessment section test students' understanding of the following concepts: mixtures, tools and techniques used to separate mixtures based on the physical properties of the ingredients, and solutions, properties that change when a solution is formed, and recognize that the mass of the ingredients does not change when a mixture is created.
Journals	Journal 1 – TEKS 5.5C, D Journal 2 – TEKS 5.5D
Activities	The Ingredients of Solutions – TEKS 5.5 D
Teacher Resources	Mixtures And Solutions

Unit 3: States of Matter - 3.5 (B) (C)

Science Concepts TEKS : 3.5 (B) (C)

Instruction Module	Matter: In this Instruction Module students learn that matter is anything that has mass and takes up space. They learn how a pan balance can be used to compare and measure mass. They also learn how to measure the volume of matter, including how to use a graduated cylinder to measure the volume of irregularly shaped objects.
Instruction Module	Solids, Liquids, and Gases: In this Instruction Module students are introduced to the three states of matter: solids, liquids, and gases. They compare how the physical properties of shape and volume define each state of matter. They also learn that differences in state are a result of differences in the arrangement of particles within solids, liquids and gases.



Instruction Module **Changing States of Water:** In this Instruction Module students observe changes in the state of matter. They learn how adding or removing heat affects the particles that make up water and results in a change of state.

Student Review **Solids, Liquids, and Gases:** Students assess and review their understanding of the physical properties of solids, liquids, and gases, such as shape and volume. They also review how the arrangements of particles of matter determine their states.

Student Review **Changing States of Water:** Students assess and review their understanding of how the addition and removal of heat affect the particles of matter and its state, using water as an example.

Interactivity/ Simulation **Matter Sorter:** In this interactivity, students identify and classify given materials as solids, liquids, or gases, based on their physical properties.

Glossary States of Matter

Quiz The questions in the assessment section test students' understanding of the following concepts: properties of solids, liquids, and gases, and the arrangement of particles of matter in each of them. The additional questions test students' ability to recognize the properties of solids, liquids, and gases, the tools used to measure mass and volume, and the processes of melting, freezing, and evaporation.

Journals Journal #1 – TEKS 3.5B
Journal #2 – TEKS 3.2F; 3.5C

Activities States of Matter Chart and Venn Diagram – TEKS 3.2B, C, D; 3.5B

Matter and Energy: Dissolving a Sugar Cube – TEKS 3.1A, B; 3.2A, B, C, D, F; 3.4A; 3.5C

Teacher Resources States of Matter

Reporting Category 2: Force, Motion, and Energy

Unit 1: Energy Conversions - 5.6 (A)

Science Concepts TEKS : 5.6 (A)

Instruction Module **Heat, Light, and Electrical Energy:** In this Instruction Module, students are introduced to different forms of energy. They learn that the Sun provides us with heat and light energy. They identify other sources of heat and light energy and recognize that both can be generated by electrical energy. Students also observe some ways heat, light, and electrical energy are used in everyday life.



Instruction Module	Mechanical Energy and Sound: In this Instruction Module, students are introduced to mechanical energy. Through observations, they learn that objects have mechanical energy due to their motion or position. They also learn that sound is a form of mechanical energy produced by vibrations of matter, and can travel through solids, liquids, and gases.
Instruction Module	Energy Transformations: In this Instruction Module, students are introduced to energy transformations. They learn that energy is neither created or destroyed but can change from one form to another. They observe various examples of common energy transformations that take place in their everyday lives.
Student Review	Heat, Light, and Electrical Energy: Students assess and review their understanding of the sources and uses of thermal, light, and electrical energy in daily life.
Student Review	Mechanical Energy and Sound: Students assess and review their understanding of what mechanical and sound energy are and how they help us in daily life.
Interactivity/ Simulation	Exploring The Uses Of Mechanical Energy: In this Simulation, students conduct an experimental investigation to explore how the energy in a twisted rubber band used in a spool racer is transformed into mechanical energy.
Glossary	Energy Conversions
Quiz	The questions in the assessment section test students' understanding of the following concepts: sources of energy, different forms of energy, thermal energy as the energy of the moving particles of matter, and transformations of energy. The additional questions test students' ability to recognize the form of energy that plants need for photosynthesis, and identify energy transformations.
Journals	Journal #1 – TEKS 5.6A Journal #2 – TEKS 5.2D; 5.6A
Activities	Exploring Uses of Energy – TEKS 5.2G; 5.6A Converting Thermal Energy to Motion (Descriptive Investigation) – TEKS 5.1A, B; 5.2B, C, D, F; 4.4A; 5.6A
Teacher Resources	Energy Conversions



Unit 2: Electricity- 5.6 (B)

Science Concepts TEKS : 5.6 (B)

Instruction Module **What is Electricity?:** In this Instruction Module, students learn that electrical devices work on electric current. They understand that the flow of electric current requires a source of energy and a closed continuous path called an electric circuit. They recognize how electrical energy is converted to other useful forms of energy such as light, heat, and sound.

Instruction Module **Electromagnets:** In this Instruction Module, students learn that an electromagnet is a temporary magnet that uses an electric current to produce a magnetic field. They observe how a simple electromagnet is made. They also examine how an electromagnet is used in a junkyard.

Student Review **What is Electricity?:** Students assess and review their understanding of the importance of a closed path for electrical energy and how an electric current can produce light, heat, and sound.

Student Review **Electromagnets:** Students assess and review their understanding of electromagnets, their construction, and use in junkyard cranes.

Interactivity/ Simulation **Investigating Circuits:** In this Simulation, students conduct an experimental investigation to compare how electric current flows through a series and parallel circuit.

Glossary Electricity

Quiz The questions in the assessment section test students' understanding of the following concepts: essential components of an electrical circuit and an electromagnet, open and closed circuits, uses of electricity, and the role of switches in an electrical circuit. The additional questions test students' ability to compare and contrast the energy transformations taking place in a light bulb and a radio, recognize energy conversions in an electric toaster, and recognize how an electromagnet works.

Journals Journal #1 – TEKS 5.2F; 5.6B
Journal #2 – TEKS 5.2D; 5.6B

Activities Design a Switch for an Electric Circuit (Experimental Investigation) – TEKS 5.1A, B; 5.2A, B, C, D, F; 5.3B; 5.4A; 5.6B

Using an Electrical Circuit to Pop a Balloon (Observational Investigation) – TEKS 5.1A, B; 5.2B, C, D, F; 5.4A, B; 5.4A, B; 5.6B

Teacher Resources Electricity



Unit 3: Light - 5.6 (C)

Science Concepts TEKS : 5.6 C

Instruction Module **Light and Matter:** In this Instruction Module students learn about light as a form of energy, its sources, and how it travels. They observe various examples of sources of light. They also compare what happens to light when it interacts with transparent, translucent, and opaque materials.

Instruction Module **Reflection and Refraction of Light:** In this Instruction Module, students are introduced to the reflection and refraction of light. They learn the difference between regular and diffuse reflection, and gain an understanding of how reflection helps us to see objects. They also learn that light is refracted, causing it to change speed and direction, when it travels from one medium into another.

Instruction Module **Lenses and Their Uses:** In this Instruction Modules, students observe what happens to light when it travels through concave and convex lenses. They learn how lenses are used in common objects such as eye glasses, magnifiers, and telescopes. They also understand the role of the lens in the human eye and a camera.

Student Review **Light and Matter:** Students assess and review their understanding of the sources of light energy and that it travels through transparent and translucent materials.

Student Review **Reflection and Refraction of Light:** Students assess and review their understanding of how light energy is reflected by shiny surface and refracted when it travels from one medium into another.

Glossary Light

Quiz The questions in the assessment section test students' understanding of the following concepts: reflection, refraction, refraction through lenses and its uses, and transparent, translucent, and opaque objects. The additional questions test students' ability to identify examples of refraction and reflection, and translucent objects.

Journals Journal #1 – TEKS 5.2D; 5.6C
Journal #2 – TEKS 5.6C

The Properties of Light – TEKS 5.1B; 5.2C, D, F; 5.3B; 5.4A; 5.6C

Activities Light Reflection and Different Surfaces (Descriptive Investigation) – TEKS 5.2B, C, D, F, G; 5.3A; 5.6A

Why Rainbows Form – TEKS 5.1A; 5.2B, C, D, F, G; 5.3B; 5.4A; 5.6C

Exploring the Properties of Light – TEKS 5.2C, D, F, G; 5.4A; 5.6C



Teacher Resources Light

Unit 4: Effects of Force - 5.6 (D)

Science Concepts TEKS : 5.6 (D)

Instruction Module **Force and Motion:** In this Instruction Module, students observe and identify the various forces that can act on a ball during a baseball game. They recognize the effects of these forces.

Instruction Module **Speed and Acceleration:** In this Instruction Module, students are introduced to speed and acceleration. Students learn that speed is the distance traveled by an object in a unit of time. They understand that acceleration refers to a change in speed and/or direction of motion and is caused by force acting on the object.

Instruction Module **Effects of Force and Mass on Motion:** In this Instruction Module, students observe how the size of the force exerted to move an object affects the distance it will travel. They also learn that an object of greater mass requires a greater force to move it a certain distance.

Instruction Module **Gravity and Weight:** In this Instruction Module, students learn that the gravitational force between two objects depends on the mass of the objects. They learn that weight is a measure of the force of gravity and compare the weights of an object on Earth, the Moon, and Jupiter.

Instruction Module **Friction – An Opposing Force:** In this Instruction Module, students learn that friction is a force that opposes the motion of an object. They observe an experiment and understand that friction depends on the nature of surfaces in contact.

Student Review **Force and Motion:** Students assess and review their understanding of how various forces act on the motion of a ball during a baseball game.

Student Review **Speed and Acceleration:** Students assess and review their understanding of speed and acceleration, which is the change in speed and/or direction of motion of a moving object.

Student Review **Effects of Force and Mass on Motion:** Students assess and review their understanding of how changes in force and mass affect the motion of a moving object.

Student Review **Gravity and Weight:** Students assess and review their understanding of the gravitational force and it affects the weight of an object on Earth, on the Moon, and on Jupiter.



Student Review **Friction – An Opposing Force:** Students assess and review their understanding of friction and how it is affected by the nature of surfaces in contact.

Interactivity/ Simulation **Testing The Effects Of Force – Friction:** In this Simulation, students conduct an experiment that investigates the effect of friction on the speed of a car rolling down a ramp.

Glossary Effects of Force

Quiz The questions in the assessment section test students’ understanding of the following concepts: gravity and weight, friction, and other forces that affect the motion of an object. The additional questions test students’ ability to identify the relation between speed and acceleration, recognize the tools used to measure force, and recognize the effect of the surface on frictional forces.

Journals Journal #1 – TEKS 5.2D, F; 5.6D
Journal #2 – TEKS 5.1A, B; 5.2A, B, C, D, E, F, G; 5.4A; 5.6D

Activities The Effect of Force on an Object (Experimental Investigation) – TEKS 5.1A, B; 5.2A, B, C, D, E, F, G; 5.3A; 5.4A; 5.6D

How the Direction of the Force Affects the Motion of an Object (Experimental Investigation) – TEKS 5.1A, B; 5.2A, B, C, D, E, F, G; 5.3A; 5.4A; 5.6D

The Effect of Mass on the Motion of an Object (Experimental Investigation) – TEKS 5.1A, B; 5.2A, B, C, D, E, F, G; 5.3A; 5.4A; 5.6D

Teacher Resources Effects Of Force

Unit 5: Force - 3.6 (B, C)

Science Concepts TEKS: 3.6 (B, C)

Instruction Module **Force:** In this Instruction Module, students are introduced to force as a push or pull. Students observe how force can make an object at rest move, bring a moving object to rest, and change the direction an object is moving.

Instruction Module **Gravity and Magnetic Force:** In this Instruction Module, students are introduced to gravitational and magnetic forces. They compare and contrast the two forces, learning that gravitational force pulls on all objects while magnetic force only pulls on certain materials. They also learn that magnets can exert a pushing force on other magnets.

Student Review **Force:** Students assess and review their understanding of how



	pushes and pulls change the position and motion of objects .
Student Review	Gravity and Magnetic Force: Students assess and review their understanding of the effects of magnetism and gravity on objects and the differences between them.
Interactivity/ Simulation	Force and Distance: In this Simulation, students conduct an experiment to investigate the motion and position of four carts filled with different loads and then infer which cart has the greatest mass.
Glossary	Force
Quiz	The questions in the assessment section test students' understanding of the following concepts: pushes and pulls, changes in position and motion, effects of force, direction of gravity, identification of forces that cause changes in an objects position or motion, and the similarities between gravity and magnetism.
Journals	Journal #1 – TEKS 3.2B; 3.6B Journal #2 – TEKS 3.2B; 3.6B
Activities	Force STEM Activity – TEKS 3.2A, B, D, F; 3.4A; 3.6B Force – Push or Pull? – TEKS 3.2C; 3.6B, C
Teacher Resources	Force

Reporting Category 3: Earth and Space

Unit 1: Fossil Fuels and Sedimentary Rocks - 5.7 (A)

Science Concepts TEKS :5.7 (A)

Instruction Module	Sedimentary Rock Formation: In this Instruction Module, students learn about the processes that lead to the formation of sedimentary rocks. They also learn what leads to differences in sedimentary rocks.
Instruction Module	Formation Of Fossil Fuels: In this Instruction Module, students learn about fossil fuels and the processes that lead to their formation.
Student Review	Formation of Fossil Fuels: Students assess and review their understanding of how fossil fuels were formed.
Student Review	Sedimentary Rocks: Students assess and review their understanding of the formation of the various types of sedimentary rock.



Glossary	Fossil Fuels and Sedimentary Rocks
Quiz	The questions in the assessment and additional assessment section test students' understanding of the following concepts: formation of sedimentary rocks and formation of fossil fuels.
Journals	Journal #1 – TEKS 5.7A Journal #2 – TEKS 5.7A Journal #3 – TEKS 5.2C, D, F, G; 5.7A
Activities	Processes that Lead to the Formation of Fossil Fuels and Sedimentary Rocks – TEKS 5.2C, D, G; 5.7A Alternative Energy Sources at Home – TEKS 5.2G; 5.4A; 5.7A
Teacher Resources	Fossil Fuels and Sedimentary Rocks

Unit 2: Changes on Earth’s Surface - 5.7 (B)

Science Concepts TEKS : 5.7 (B)

Instruction Module	Erosion by Water: In this Instruction Module, students observe how water can erode Earth's surface. They conduct an experiment to determine how the slope of a surface affects erosion.
Instruction Module	Water as a Force: In this Instruction Module, students examine how water can change Earth's surface. They observe how water can be a destructive force when it weathers and erodes Earth's surface. They learn that water can also be a constructive force when deposits sediments to form new landforms such as deltas and beaches.
Instruction Module	Changes on the Earth's Surface: In this Instruction Module, students learn how natural processes such as weathering, erosion, deposition and dissolving can slowly change Earth's surface and create new landforms.
Student Review	Water as a Force: Students assess and review their understanding of how water changes Earth's surface through weathering, erosion, and deposition.
Student Review	Changes on the Earth's Surface: Students assess and review their understanding of how weathering, erosion, deposition caused by wind, water, and glaciers cause slow changes to Earth's surface.
Glossary	Changes on Earth’s Surface
Quiz	The questions in the assessment and additional assessment section test students' understanding of the following concepts: weathering, erosion, and deposition as processes that continually change the



surface of the Earth and the landforms formed by these processes.

Journals

Journal #1 – TEKS 5.2D, G; 5.7B

Journal #2 – TEKS 5.2G; 5.7B

A Changing Earth – TEKS 5.2C, D, F, G; 5.3A; 5.7B

Activities

Observing Erosion and Deposition (Observational Investigation) – TEKS 5.1A, B; 5.2A, B, C, D, F, G; 5.3C; 5.4A; 5.7B

Expository text passages/ activities

Our Earth’s Changing Surface – TEKS 5.1A, B; 5.2C, D, F, G; 5.4A; 5.7B

Teacher Resources

Changes On Earth’s Surface

Unit 4: Weather or Climate? - 5.8 (A)

Science Concepts TEKS : 5.8 (A)

Instruction Module

The Sun and Weather: In this Instruction Module, students learn how uneven heating of the Earth’s surface results in variation of temperatures in the different parts of Earth. They learn that the Earth's tilted axis is the cause of the uneven heating.

Instruction Module

Humidity: In this Instruction Module, students are introduced to humidity. They learn that humidity refers to the amount of water vapor in the air. They understand that humidity depends on the climate of a place and on temperature.

Instruction Module

Air Pressure and Weather: In this Instruction Module, students are introduced to air pressure. They learn about the effects of temperature on air pressure and identify regions of high and low pressures on a weather map. They understand that air moves from a region of high pressure to a region of low pressure and recognize the effects of air pressure on weather.

Instruction Module

Climate: In this Instruction Module, student learns the difference between climate and weather. They learn how meteorologists collect weather data over several years to determine the climate of a place. They are also introduced to global warming and some of the possible consequences.

Student Review

The Sun and Weather: Students assess and review their understanding of how Earth's tilt causes uneven heating of the surface and variation in temperature on different parts of Earth.



Student Review	Weather and the Climate: Students assess and review their understanding of the difference between climate and weather, how meteorologists study them, and the effects of global warming.
Interactivity/ Simulation	Weather vs Climate!: In the interactive section of this module, students observe pictures of and classify them as 'weather' or 'climate' based on whether it is a short term or a long term condition.
Glossary	Weather or Climate?
Quiz	The questions in the assessment and additional assessment section test students' understanding of the following concepts: weather and climate, temperature, humidity, wind, and air pressure. Some of the questions also test students' ability to interpret data represented as a graph or a table.
Journals	Journal #1 – TEKS 5.2D, F; 5.8A Journal #2 – TEKS 5.2C, D, F; 5.8A Journal #3 – TEKS 5.2D, F; 5.8A Weather or Climate? (Field Investigation) – TEKS 5.1A; 5.2C, D, G; 5.4A; 5.8A
Activities	Determining Wind Direction (Observational Field Investigation) – TEKS 5.1A; 5.2C, D, F; 5.3C; 5.4A; 5.8A Benjamin Franklin: Meteorologist – TEKS 5.2D, F, G; 5.3C; 5.8A
Teacher Resources	Weather Or Climate

Unit 5: The Water Cycle - 5.8 (B)

Science Concepts TEKS : 5.8 (B)

Instruction Module	Water Cycle: In this Instruction Module, students are introduced to the water cycle. They identify and describe the different parts of the water cycle including evaporation, condensation, precipitation, infiltration, and transpiration.
Student Review	Water Cycle: Students assess and review their understanding of how the Sun and the ocean interact in the water cycle, through the processes of evaporation, condensation, precipitation, infiltration, and transpiration.
Glossary	The Water Cycle
Quiz	The questions in the assessment and additional assessment section test students' understanding and ability to identifying the different



	processes of the water cycle.
Journals	Journal #1 – TEKS 5.2C, D, F; 5.8B Journal #2 - TEKS 5.2.D, F; 5.8B
Activities	The Water Cycle (Descriptive Investigation) – TEKS 5.1A, B; 5.2 A, B, C, D, F; 5.3A; 5.4A; 5.8B
Expository text passages/ activities	The Rainiest Place in the United States – TEKS 5.1B; 5.3A, C; 5.4A; 5.8B
Teacher Resources	The Water Cycle

Unit 6: Earth Cycles - 5.8 (C)

Science Concepts TEKS : 5.8 (C)

Instruction Module	The Day and Night Cycle: In this Instruction Module, students are introduced to patterns in the natural world. They learn that one such pattern, the day and night cycle, is caused by the rotation of Earth on its axis.
Instruction Module	Cycle of the Seasons: In this Instruction Module, students learn that the cycle of seasons is a result of Earth revolving around the Sun on its tilted axis. They observe and understand that when the Northern hemisphere is tilted toward the Sun, it experiences summer and when it is tilted away from the Sun, it experiences winter.
Instruction Module	Phases of the Moon: In this Instruction Module, students are introduced to the phases of the Moon. They observe that the Moon's revolution around Earth causes us to see different parts of its lit surface. They learn the different names of each phase and also understand that waxing and waning are terms used to describe the apparent growing and shrinking of the lit parts of the Moon.
Student Review	The Day and Night Cycle: Students assess and review their understanding of how the Earth's rotation on its axis causes day and night, as well as the apparent movement of the Sun across the sky about every 24 hours.
Student Review	Cycle of the Seasons: Students assess and review their understanding of how Earth's tilted axis and its revolution around the Sun causes opposite seasons in the hemispheres.
Glossary	Earth Cycles
Quiz	The questions in the assessment and additional assessment section test students' understanding of the following concepts: phases of the Moon, the lunar cycle, and the effects of rotation and revolution of Earth.



Journals	Journal #1 – TEKS 5.2D, F; 5.8C Journal #2 – TEKS 5.2D, F; 5.8C Journal #3 – TEKS 5.2D, F; 5.8C
Activities	Day and Night and the Movement of the Sun Across the Sky – TEKS 5.2D, F, G; 5.3B; 5.4A; 5.8C
Teacher Resources	Earth Cycles

Unit 7: Characteristics of the Sun, Moon, & Earth - 5.8 (D)

Science Concepts TEKS : 5.8 (D)

Instruction Module	Characteristics of Earth: In this Instruction Module, students are introduced to the characteristics of Earth such as its core, its crust, the gases in its atmosphere, its gravitational pull, and the existence of water in all three states. Students recognize these characteristics help support life on Earth.
Instruction Module	Comparing the Moon to Earth: In this Instruction Module, students compare the size, mass, gravitational pull, and atmosphere of the Earth and the Moon. They compare and contrast the lunar surface to Earth's surface and understand that the forces that cause weathering and erosion on Earth do not exist on the Moon.
Instruction Module	Characteristics of the Sun: In this Instruction Module, students are introduced to the characteristics of the Sun such as its temperature, composition and surface features. They compare the Sun's mass and size with that of Earth and learn about sunspots, solar flares and the effect of the Sun's strong gravitational pull.
Student Review	Comparing the Moon to Earth: Students assess and review their understanding of the differences in the size, mass, gravitational pull, and atmosphere of Earth and the Moon.
Student Review	Characteristics of the Sun: Students assess and review their understanding of some of the features of the Sun and the difference in its mass compared to Earth.
Glossary	Characteristics of the Sun, Moon, and Earth
Quiz	The questions in the assessment and additional assessment section test students' understanding of the following concepts: characteristic features of the Sun, the Moon, and the Earth, comparisons of the three based on landforms, compositions of the atmosphere, and gravity. The additional questions also test students' ability to



interpret information from a graph.

Journals	Journal #1 – TEKS 5.2D, F; 5.8D Journal #2 – TEKS 5.2D, F; 5.8D
Activities	Characteristics of the Sun, Moon, and Earth – TEKS 5.2C, D, F; 5.8D
Teacher Resources	Characteristics Of The Sun Moon And Earth

Unit 8: Soil Properties and Experiments 4.7 (A)

Science Concepts TEKS : 4.7 A

Instruction Module	Properties of Soil: In this Instruction Module, students learn about the different components that make up soil. They compare how the properties of color, texture, and composition are used to identify soil types. They also investigate and determine the soil best suited for the growth of a tomato plant.
Instruction Module	Soil Water Retention: In this Instruction Module, students observe an experiment and compare the water retention capacities of different soil types such as sand, silt, clay, and loam. They learn about the steps of the scientific method used when performing an experiment.
Student Review	Properties of Soil: Students assess and review their understanding of properties of soils that include color, texture, capacity to retain water, and the ability to support plant growth.
Interactivity/ Simulation	Soil Properties: How Much Air Is In There?: In this Simulation, students conduct an experiment that investigates the volume of air bubbles displaced by different soil samples.
Glossary	Soil Properties and Experiments
Quiz	The questions in the assessment and additional assessment section test students' understanding of the following concepts: properties of soil such as color, texture, water retention, amount of humus, sizes of soil particles, types of soils, organisms present in the soil, and experiments to demonstrate the different soil properties.
Journals	Journal #1 – TEKS 4.2F; 4.7A Journal #2 – TEKS 4.2F; 4.7A
Activities	Activity 1: Soil Properties and Experiments – TEKS 4.2D, F; 4.3A; 4.7A Activity 2: Soil Properties and Experiments (Descriptive Investigation) – TEKS 4.1A, B; 4.2A, B, C, D, F; 4.4A; 4.7A



Activity 3: Observing the Properties of Sand Using a Microscope (Descriptive Investigation) – TEKS 4.1A, B; 4.2B; 4.4A; 4.7A

Expository text passages/ activities

Tools Scientists Use: Microscopes – TEKS 4.1A, B; 4.2B, C, D, F; 4.4A; 4.7A

Teacher Resources

Soil Properties And Experiments

Unit 9: Conserving Resources - 4.7 (C)

Science Concepts TEKS : 4.7 (C)

Instruction Module

Renewable Resources: In this Instruction Module, students learn that renewable resources are natural resources plentiful in nature. They identify examples of renewable resources and gain an understanding of why these resources are essential for the survival of life on Earth.

Instruction Module

Nonrenewable Resources: In this Instruction Module, students learn that nonrenewable resources are natural resources that exist in limited quantities in nature. They identify examples of nonrenewable resources and learn how these resources are used in everyday life.

Instruction Modules

Conservation of Natural Resources: In this Instruction Module, students learn what happens when natural resources are depleted and recognize the importance of conservation. They also examine different ways to conserve these resources.

Student Review

Renewable Resources: Students assess and review their understanding of renewable resources that include air, plants, water, and animals.

Student Review

Nonrenewable Resources: Students assess and review their understanding of nonrenewable resources that include coal, oil, and natural gas

Student Review

Conservation of Natural Resources: Students assess and review their understanding of the importance of conserving natural resources and some ways to conserve them.

Interactivity/ Simulation

Conserving Resources: In the Interactive section of this module, students classify and group resources as renewable and nonrenewable resources. Then, they identify which nonrenewable resource is used the most for a certain purpose that is mentioned.

Glossary

Conserving Resources

Quiz

The questions in the assessment and additional assessment section test students' understanding of the following concepts: renewable and nonrenewable resources, properties of renewable and



	nonrenewable resources, conservation and actions that help conserve natural resources. The additional questions also test students' ability to recognize the importance of replacing fossil fuels with renewable energy resources.
Journals	Journal #1 – TEKS 4.7C Journal #2 – TEKS 4.7C
Teacher Resources	Conserving Resources

Unit 10: Energy from the Sun and Weather 4.8 (A, B)

Science Concepts TEKS : 4.8 (A, B)

Instruction Module	Sun's Energy In Food: This Instruction Module, students learn that the main source of energy they need to grow and survive comes from the Sun. They observe the path of the Sun's energy through plants and animals into our food.
Instruction Module	Sun's Energy and the Water Cycle: In this Instruction module, students learn how heat energy from the Sun drives the water cycle on Earth.
Instruction Module	Weather Maps: In this Instruction Module, students are introduced to the information meteorologist's record on weather maps. They learn that symbols on a weather map represent high pressure, low pressure, and cold, warm, and stationary fronts. They also learn how each of these conditions affects the weather of a place.
Student Review	Sun's Energy and the Water Cycle: Students assess and review their understanding of the water cycle and the role of the Sun as a major source of energy in this process.
Student Review	Weather Maps: Students assess and review their understanding of how weather is measured, recorded, and presented on weather maps using symbols and keys.
Interactivity/ Simulation	The Vital Sun: In the Interactive section of this module, students arrange pictures in the correct sequence to depict how the Sun's energy is responsible for the weather, formation of fossil fuels, and the food we eat.
Glossary	Energy from the Sun and Weather
Quiz	The questions in the assessment and additional assessment section test students' understanding of the following concepts: the Sun as the primary source of energy on Earth, responsible for the formation of fossil fuels and the food we eat. The additional questions also test students' understanding of symbols used on weather maps, cold and



	warm fronts, high and low pressures, and the forms of precipitation.
Journals	Journal #1 – TEKS 4.8B Journal #2 – TEKS 4.2B, D; 4.8A
Activities	Using Weather Maps to Predict Weather – TEKS 4.2B, C, D; 4.3B, C; 4.8A Energy from the Sun and Weather (Descriptive Investigation) – TEKS 4.1A, B; 4.2B, C, D, F; 4.3C; 4.4A; 4.8B Creating a Weather Map – TEKS 4.2B, C, D; 4.3B; 4.4A; 4.8A
Expository text passages/ activities	The Rainiest Place in the United States
Teacher Resources	Energy From The Sun And Weather

Unit 11: Recognizing Patterns in Changes 4.8 (C)

Science Concepts TEKS : 4.8 (C)

Instruction Module	What are Patterns?: In this Instruction Module, students learn that a pattern is a set of events or design that repeats over and over again. They observe patterns in nature such as the design of a spider web, the day and night pattern, and seasonal weather patterns.
Instruction Module	Seasonal Patterns, Weather, and Climate: In this Instruction Module, students observe seasonal patterns. They recognize that seasons are accompanied by changes in weather. They also learn that climate is the pattern of weather in a place over several years.
Instruction Module	Patterns of the Sun: In this Instruction Module, students are introduced to the daily patterns of Sun including sunrise and sunset, its apparent movement across the sky during a day, and how it causes patterns in shadows. They also observe how the position of the Sun in the sky changes during the different seasons and affects the length of the day and night.
Instruction Module	Patterns Caused by the Moon: In this Instruction Module, students learn about the lunar cycle and understand what causes the different phases of the Moon.
Student Review	Seasonal Patterns, Weather, and Climate: Students assess and review their understanding of the patterns of the seasons and of weather over time, which forms the climate of a particular place.
Student Review	The Sun and Shadows: Students assess and review their understanding of the change in the Sun's position in the sky during different seasons and the effects of the Sun's movement on shadows



	during daytime.
Student Review	Patterns Caused by the Moon: Students assess and review their understanding of the phases of the lunar cycle.
Interactivity/ Simulation	Recognizing Patterns in Changes: In the Interactive section of this module, students arrange pictures in the correct sequence to depict patterns in the seasons, patterns in the apparent movement of the Sun based on the observation of shadows at different times of the day, and patterns in the lunar cycle. Shadows And Seasons: In this Simulation, students conduct an experiment to investigate if the length of a shadow follows a pattern throughout the year.
Glossary	Recognizing Patterns in Changes
Quiz	The questions in the assessment section test students' understanding of the following concepts: patterns in weather, day and night, and lunar cycle. The additional questions test students' ability to interpret and draw conclusions from data given in the form of graphs, tables, and chart.
Journals	Journal #1 – TEKS 4.2A, F; 4.8C Journal #2 – TEKS4.2F; 4.8C
Activities	Recognizing Patterns in Changes – TEKS 4.1A; 4.2B, C, D, F; 4.4A; 4.8C The Moon and Tides – TEKS 4.2B, C, D; 4.8C
Teacher Resources	Recognizing Patterns Of Change

Unit 12: Earth's Ever-changing Surface 3.7 (B)

Science Concepts TEKS : 3.7 (B)

Instruction Module	Tectonic Plates and Earthquakes: In this Instruction Module, students are introduced to earthquakes, what causes them to occur, and how they can change Earth's surface rapidly. They learn about the different types of faults caused by earthquakes. They also recognize that earthquakes can occur on land and underwater.
Instruction Module	Volcanic Eruptions: In this Instruction Module, students learn how volcanic eruptions can quickly change Earth's surface. They learn the difference between magma and lava, and recognize some of the positive and negative effects of volcanic eruptions.



Instruction Module **Glaciers – A Natural Force:** In this Instruction Module, students learn what a glacier is and how a glacier's movement affects the shape of Earth's surface.

Student Review **Tectonic Plates and Earthquakes:** Students assess and review their understanding of the different types of earthquakes and how they change Earth's surface on land and underwater.

Student Review **Volcanic Eruptions:** Students assess and review their understanding of what happens during a volcanic eruption and how volcanoes affect Earth's surface, both positively and negatively.

Interactivity/ Simulation **Earth's Ever-Changing Surface:** In the interactive section of this module, students are presented with “before” and “after” pictures of landforms changed by earthquakes, volcanoes, and glaciers. The students identify the natural forces that changed them.

How Volcanoes Change Earth's Surface: In this Simulation, students conduct an experiment to investigate how the type of magma affects what kind of volcano will form.

Glossary Earth's Ever-Changing Surface

Quiz The questions in the assessment and additional assessment section test students' understanding of the following concepts: the various natural forces that change the surface of the Earth and the features that they form, including earthquakes, landslides, avalanches, and tsunamis.

Journals Journal #1 – TEKS 3.7B
Journal #2 – TEKS 3.7B

Activities Earth’s Changing Surface: Changes that Occur Quickly – TEKS 3.2B, D, F; 3.7B

Teacher resources Earth’s Ever – Changing Surface

Unit 13: The Solar System 3.8 (D)

Science Concepts TEKS : 3.8 (D)

Instruction Module **The Planets:** In this Instruction Module, students are introduced to the eight planets of our solar system—Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, and Neptune. Students are encouraged to use mnemonics to help recall all the names of the planets.

Instruction Module **Inner Planets:** In this Instruction Module, students learn about the inner planets - Mercury, Venus, Earth, and Mars. They compare and contrast the planet's distinctive features, such as nature of surface, atmosphere, size, and position in relation to the Sun.



Instruction Module	Outer Planets: In this Instruction Module, students learn about the outer planets - Jupiter, Saturn, Uranus, and Neptune. They compare and contrast the planet's distinctive features, such as size, atmosphere, rings, and position in relation to the Sun. Students also learn that the asteroid belt separates the inner planets from the outer planets and understand why Pluto is no longer considered a planet.
Instruction Module	The Sun: In this Instruction Module, students are introduced to the Sun as the object in the center of our solar system. Students learn about the composition of the Sun, its different layers, and the process of fusion that makes the Sun the main source of energy on Earth. Students are also introduced to sunspots.
Student Review	Planets in Our Solar System: Students assess and review their understanding of the distinctive features of the planets in the solar system and their positions in relation to the Sun.
Interactivity/ Simulation	The Solar System!: In the Solar System interactivity, students identify the planets in our solar system and match them with their names.
Glossary	The Solar System
Quiz	The questions in the assessment and additional assessment section test students' understanding of the following concepts: planets and their positions in relation to the Sun, and the characteristics of the Sun.
Journals	Journal #1 – TEKS 3.8D Journal #2 – TEKS 3.8D
Activities	The Solar System: Order of the Planets – TEKS : 3.2B, D, F; 3.8D The Solar System – Planet Identification – TEKS 3.2C, D, F; 3.8D
Teacher Resources	The Solar System

Reporting Category 4: Organisms and Environments

Unit 1: Organisms and their Environment - 5.9 (A)

Science Concepts TEKS : 5.9 (A)

Instruction Module	Competition for Resources: In this Instruction Module, students observe and gain an understanding that organisms must compete with each other for resources within their ecosystem.
Instruction Module	Relationships Among Organisms: In this Instruction Module, students are introduced to some of the relationships between organisms in an ecosystem. They examine how organisms are linked to one another based on who eats what and observe how these relationships are



	represented in food chains and food webs. They evaluate how the decline of one population in an ecosystem affects the entire ecosystem. They also learn some of the ways that plants depend on animals for survival.
Student Review	Student Review - Competition for Resources: Students assess and review their understanding of how organisms in an ecosystem compete with each other for limited resources to survive.
Student Review	Relationships Among Organisms: Students assess and review their understanding of how organisms in an ecosystem are dependent on each other and the environment for their survival.
Interactivity/ Simulation	Build an Ecosystem!: In the interactive section of this module, students apply their understanding of the basic needs of organisms to construct artificial environments such as terrariums and aquariums. They select an organism and then select the components that the organism would need in order to survive.
Glossary	Organisms and their Environment
Quiz	The questions in the assessment and additional assessment sections test student understanding of the following concepts: the living and nonliving components of an ecosystem, food chains and food webs, and types of relationships between organisms in an ecosystem.
Journals	Journal #1 – TEKS 5.9A Journal #2 – TEKS 5.9A Journal #3 – TEKS 5.9A
Activities	Organisms’ Interactions within their Ecosystem (Observational Investigations) – TEKS 5.1A, B; 5.2B, C, D, F, G; 5.3A; 5.4A; 5.9A Predator vs. Prey (Observational Field Investigation) – TEKS 5.1A, B; 5.2B, C, D, E, F, G; 5.4A; 5.9A
Expository text passages/ activities	Animal Interactions: Sea Anemones and Clownfish – TEKS 5.1A, B; 5.2C; 5.4A; 5.9A; 5.10A
Teacher Resources	Organisms And Their Environments

Unit 2: Energy Flow through Food Webs - 5.9 (B)

Science Concepts TEKS : 5.9 (B)

Instruction Module **Energy from the Sun:** In this Instruction Module, students are



introduced to the importance of the Sun's energy in ecosystems. They learn how plants convert the Sun's energy into chemical energy during photosynthesis and that animals directly or indirectly depend on this chemical energy for food. They also learn that the Sun's energy drives the water cycle.

Instruction Module	Energy Flow in an Ecosystem: In this Instruction Module, students learn how food chains, food webs and energy pyramids are used to represent the flow of energy in an ecosystem.
Student Review	Energy Flow in an Ecosystem: Students assess and review their understanding of how energy from the Sun is transferred through a food chain or food web by the producers, consumers, and decomposers in an ecosystem.
Interactivity/ Simulation	Food Web Flow!: In the interactive section of the module, students arrange organisms of different food chains in the correct order of energy flow and form food webs by identifying the correct links between food chains.
Glossary	Energy Flow through Food Webs
Quiz	The questions in the assessment and additional assessment sections test student understanding of the following concepts: energy flow through food chains and food webs, different types of consumers based on food preferences, and energy pyramids.
Journals	Journal #1 – TEKS 5.2C, G; 5.9B Journal #2 – TEKS 5.2G; 5.9B Journal #3 – TEKS 5.2C, D, F, G; 5.9B
Activities	Energy Flow through Food Webs – TEKS 5.2D, F, G; 5.9B A Meadow Food Web – TEKS 5.2C, D, G; 5.9B
Expository text passages/ activities	Organisms and Environments: The Brown Tree Snake – TEKS 5.1A, B; 5.2C, D, F; 5.4A; 5.9B
Teacher Resources	Energy Flow Through Food Webs

Unit 3: Changes in Ecosystems - 5.9 (C)

Science Concepts TEKS : 5.9 (C)

Instruction Module **How Organisms Change Their Ecosystems:** In this Instruction Module, students learn that organisms can cause changes to their ecosystem.



They examine how changes made by the prairie dog in the Blackland Prairie Ecosystem can benefit other organisms. They also evaluate how an increase or decrease in populations within an ecosystem affects the entire ecosystem.

Instruction Module	Human Impacts on Ecosystems: In this Instruction Module, students understand how human activities can impact ecosystems. They examine how hunting, farming, and the construction of roadways affected the Blackland Prairie ecosystem. They also learn about some of the different steps humans can take to minimize damage and restore ecosystems.
Student Review	How Organisms Change Their Ecosystems: Students assess and review their understanding of how an organism can effect change in an ecosystem, such as the prairie dog in the Blackland Prairie ecosystem.
Student Review	Human Impacts on Ecosystems: Students assess and review their understanding of how human activities, such as hunting, farming, and the construction of roadways, affect ecosystems.
Interactivity/ Simulation	Ecosystem Harmony: In the interactive section of the module, students apply their understanding of factors affecting ecosystem stability to predict the impacts of different changes on an estuary ecosystem.
Glossary	Changes in Ecosystems
Quiz	The questions in the assessment and additional assessment sections test student understanding of the following concepts: types of organisms that make up a food chain, namely producers, primary consumers, secondary consumers and decomposers, impacts of introducing exotic species in an ecosystem, impacts of altering the composition of organisms in an ecosystem, negative and positive impacts of human activities on ecosystems.
Journals	Journal #1 – TEKS 5.9C Journal #2 – TEKS 5.9C Journal #3 – TEKS 5.2C, D, F; 5.9C
Activities	Predicting Effects of Changes to an Ant Farm Ecosystem – TEKS 5.1A, B; 5.2B, C, D, F, G; 5.4A; 5.9C
Teacher Resources	Changes In Ecosystems



Unit 3 : Learning from the Past - 5.9 (D)

Science Concepts TEKS : 5.9 (D)

Instruction Module

How are Fossils Formed?: In this Instruction Module, students learn how sedimentary rocks and the fossils found within them are formed over millions of years.

Instruction Module

Clues About Past Environments: In this Instruction Modules, students observe examples of trace fossils and make inferences about environmental conditions that existed in the past. They learn how such fossils provide evidence of changes to Earth's surface over time.

Instruction Module

Evidence of Pangaea: In this Instruction Module, students examine evidence that suggests that all the continents were joined to form one giant land mass called Pangaea in the past.

Student Review

How are Fossils Formed?: Students assess and review their understanding of how fossils are evidence of past living organisms and the nature of the environments through their formation.

Student Review

Clues About Past Environments: Students assess and review their understanding of how trace fossils can be used to make inferences about past environmental conditions.

Student Review

Evidence of Pangaea: Students assess and review their understanding of the evidence that suggests all present-day continents were once a giant landmass called Pangaea.

Glossary

Learning from the Past

Quiz

The questions in the assessment and additional assessment section test students' understanding of the following concepts: sequence of sedimentary rock layers, using fossils to understand past environmental conditions, types of fossils, and plate tectonics.

Journals

Journal #1 – TEKS 5.9D,
Journal #2 – TEKS 5.9D
Journal #3 – TEKS 5.9D

Activities

Fossils as Evidence of the Past– TEKS 5.9 D

Teacher Resources

Learning From The Past



Unit 5: Comparing Structures and Functions of Similar Organisms - 5.10 (A)

Science Concepts TEKS : 5.10 (A)

Instruction Module **Comparing Structures and Functions of Similar Organisms:** In this Instruction Module, students observe and compare the structures of similar organisms that inhabit different environments. They learn how different structures and their functions help an organism survive in its natural environment.

Student Review **Comparing Structures and Functions of Similar Organisms:** Students assess and review their understanding of various structures and their functions that will help different organism survive on land or in water.

Glossary Comparing Structures and Functions of Similar Organisms

Quiz The questions in the assessment and additional assessment sections test student understanding of the following concepts: structures and functions of similar organisms inhabiting different environments, how the structures help an organism survive in its environment.

Journals Journal #1 – TEKS 5.2D, F; 5.10A

Activities Structures and Functions of Organisms – TEKS 5.2D; 5.3D; 5.10A

Expository text passages/ activities Insect Structures and Functions – TEKS 5.1A, B; 5.2A, B, D, F; 5.3C; 5.4A; 5.10A

Teacher Resources Comparing Structures and Functions of Similar Organisms

Unit 6: Inherited Traits, Learned Characteristics - 5.10 (B)

Science Concepts TEKS : 5.10 (B)

Instruction Module **Inherited Traits:** In this Instruction Module, students learn about inherited traits. They examine different inherited traits in plants and animals. They also observe how these traits help organisms survive in their environment.



Instruction Module	Learned Characteristics: In this Instruction Module, students understand what learned behaviors are and how they differ from inherited traits. They observe and identify examples of learned behaviors in animals and humans.
Student Review	Inherited Traits: Students assess and review their understanding of inherited traits of plants and animals, and how they help an organism adapt to its environment.
Student Review	Learned Characteristics: Students assess and review their understanding of what learned characteristics are and how they are different from inherited traits.
Interactivity/ Simulation	Inherited or Learned? : In the interactive section of this module, students identify whether the different pictures that are presented show an inherited trait or a learned characteristic.
Glossary	Inherited Traits vs Learned Characteristics
Quiz	The questions in the assessment and additional assessment sections test student understanding of the following concepts: inherited traits in humans, plants and animals, learned characteristics in humans and animals, and differences between inherited traits and learned characteristics.
Journals	Journal #1 – TEKS 5.2D, F; 5.10B Journal #2 – TEKS 5.2D, F; 5.10B
Activities	Inherited vs. Acquired Traits – TEKS 5.1A, B; 5.2C, D, F, G; 5.10B
Teacher Resources	Inherited Traits VS Learned Characteristics

Unit 8: Habitats and Organisms - 3.9 (A)

Science Concepts TEKS : 3.9 (A)

Instruction Module	Components of an Ecosystem: In this Instruction Module, students learn that an ecosystem is made up of all the living and nonliving components that interact with one another in a particular area.
Instruction Module	Population and Habitat: In this Instruction Module, students examine a pond environment to learn about populations and habitats.



Instruction Module	Basic Needs of Organisms: In this Instruction Module, students are introduced to the basic needs plants and animals must meet in order to survive. They learn basic needs are best met in an organism's habitat. They also understand why the natural habitat of one organism may be unsuitable for an organism from a different habitat.
Instruction Module	Competing for Habitat Resources: In this Instruction Module, students study a pond habitat to understand that organisms compete with each other to fulfill their basic needs. They also learn how overpopulation in a habitat impacts the resources available and ultimately causes changes in the habitat.
Student Review	Population and Habitat: Students assess and review their understanding of how the physical characteristics of an environment support populations and communities within its ecosystem.
Interactivity/ Simulation	Pond Dwellers: In the interactive section of this module, students apply their understanding of the type of organisms that make up a pond community to identify which organisms belong to a pond ecosystem and which ones do not.
Glossary	Habitats and Organisms
Quiz	The questions in the assessment and additional assessment sections test student understanding of the following concepts: organisms found in different ecosystems, basic needs of organisms, populations, and communities, components of an ecosystem, and interactions between organisms in an ecosystem.
Journals	Journal #1 – TEKS 3.2B, F; 3.9A Journal #2 – TEKS 3.2F; 3.9A
Activities	Habitats and Organisms – TEKS 3.2B, F; 3.9A Observing Organisms in a Water Sample Using a Microscope- TEKS 3.1A, B; 3.2B; 3.4A; 3.9A Organisms and Their Environments – TEKS 3.1 B; 3.2 B, C, D, F; 3.3B, C; 3.9 A
Expository text passage/ activities	The Brown Tree Snake TEKS 3.1A, B; 3.2 A, B, F; 3.4 A; 3.9 A Animals Need Homes TEKS: 3.1 A, B, C; 3.2 A; 3.3 A; 3.4 A; 3.9 A, B, C
Teacher Resources	Habitats and Organisms



Unit 9: Growth and Change - 3.10 (B)

Science Concepts TEKS : 3.10 B

Instruction Module **Simple Life Cycles:** In this Instruction Module, students learn how the life cycle of an organism includes its birth, growth, and reproduction. They understand what a simple life cycle is and are shown examples of organisms that have simple life cycles.

Instruction Module **Metamorphosis:** In this Instruction Module, students observe and learn about the different stages in the life cycle of a lady beetle and a frog, two organisms that undergo metamorphosis. They recognize the structural differences between the juvenile and adult stages during metamorphosis.

Instruction Module **Plant Growth Cycles:** In this Instruction Module, students learn about the life cycles of plants. They learn that plants can be classified as annuals, biennials, or perennials depending on whether they complete their life cycle in one, two, or many growing seasons respectively.

Student Review **Simple Life Cycles:** Students assess and review their understanding of the simple life cycle of organisms that include the stages of birth, growth, and reproduction.

Student Review **Metamorphosis:** Students assess and review their understanding of the different stages of metamorphosis in the life cycles of a lady beetle and frog.

Student Review **Plant Growth Cycles:** Students assess and review their understanding of why plants are classified as annuals, biennials, or perennials based on their life cycles.

Interactivity/ Simulation **Try Cycles!:** In the interactive section of this module, students apply their understanding of plant and animal life cycles to identify the types of life cycles that different organisms undergo.
Comparing Life Cycles of Plants: In this Simulation, students conduct an experiment to compare the length of time it takes for different plants to complete one life cycle.

Glossary Growth and Change

Quiz The questions in the assessment section test student understanding of the following concepts: simple life cycles in animals, metamorphosis in animals, plant life cycles and classification of plants into annuals, biennials and perennials based on the number of growing seasons in their life cycles.

Journals Journal #1 – TEKS 3.2B, D, F; 3.10B
Journal #2 – TEKS 3.2B, D, F; 3.10B



**Expository text
passages/ activities**

Lifecycles: Fireflies - TEKS 3.1A, B; 3.2 B, C, D, F; 3.4 A, B; 3.9 A; 3.10 A,
3.10 C

Teacher Resources

Growth and Change