TX-Science 6		Scope and Sequence
Unit	**Lesson**	**Objectives**
The Scientific Process		
	Science and Society	
		Explain how science can influence decisions at community, state, national, and international levels.
		Explain how science affects social, political, economic, cultural, and environmental factors and vice versa.
		Describe the consequences of using technology.
	Scientific Inquiry	
		Describe the process of scientific inquiry using the three types of scientific investigations, including the benefits and limitations of each.
		Identify questions that can be answered through scientific investigation.
		Distinguish between variables and controls in a scientific investigation.
	Hypotheses, Theories, and Laws	
		Distinguish between hypotheses, theories, and laws.
		Identify examples of scientific theories and laws.
		Explain that theories may change as new areas of science and technology develop.
		Give examples of how hypotheses lead to new experimentation.
	Safety in Science	
		Describe safe practices to use during a scientific investigation.
		Identify examples of safety problems in the lab and describe the correct protocol for reporting those problems.
	Experimental Design Principles	
		Distinguish between accuracy and precision.
		Explain the difference between replication and repetition.

TX-Science 6		Scope and Sequence
Unit	**Lesson**	**Objectives**
		Write measurements in standard form and in scientific notation.
		Evaluate data to determine accuracy and reproducibility.
	Analyzing Data	
		Analyze data to determine validity and reliability.
		Examine charts and graphs to predict trends in the data.
		Use data to draw inferences and formulate conclusions.
	Evaluating Scientific Explanations	
		Analyze and evaluate scientific claims and explanations.
		Examine how claims are critiqued.
	Tools and Technology	
		Identify the use of technology in science.
		Describe the relationship between science and technology.
		Identify the function, advantages, and limitations of models in science.
	Unit Test	
Properties of Matter		
	Metals	
		Describe the characteristic properties of metals.
		Identify the location of metals in the periodic table.
		Explain how and why the reactivity of metals changes in the periodic table.
	Nonmetals	
		Describe the characteristic properties of nonmetals.
		Identify the location of nonmetals in the periodic table.

TX-Science 6		Scope and Sequence
Unit	**Lesson**	**Objectives**
		Explain how and why the reactivity of nonmetals changes in the periodic table.
	Metalloids	
		Describe the characteristic properties of metalloids.
		Identify the location of metalloids in the periodic table.
		Explain why most metalloids are used as semiconductors.
	Physical Properties	
		Describe and give examples of physical properties of matter.
		Explain what happens during a physical change.
		Identify examples of physical changes.
		Explain how and why matter is conserved during a physical change.
	Density	
		Explain density and state the SI units used to measure it.
		Calculate the mass, volume, or density of an object given the other two measurements.
		Determine whether an object will sink or float relative to the density of the surrounding liquid.
	Lab: Density of Solids	
		Measure the mass and volume of various solid objects.
		Calculate the density of several solid objects.
		Use density to identify an unknown substance.
	States of Matter	
		Describe the arrangement and motion of atoms in the different states of matter.
		Discriminate the characteristics of solids, liquids, and gases.
	Chemical Changes	

TX-Science 6		Scope and Sequence
Unit	**Lesson**	**Objectives**
		Describe and give examples of chemical properties of matter.
		Explain what happens during a chemical change.
		Describe the evidence that shows a chemical change has occurred.
		Compare and contrast the properties of a new substance with the original substance after a chemical change.
	Unit Test	
Introduction to Motion and Forces		
	Introduction to Motion	
		Describe the position of an object.
		Explain how an object's motion is relative to a reference point or frame.
		Distinguish between distance and displacement.
	Lab: Motion	
		Measure distance and time to determine speed.
		Graph changes in motion.
		Interpret data to determine acceleration.
	Introduction to Forces	
		Describe the concept of force.
		Explain how to determine the net force on an object.
		Distinguish between balanced and unbalanced forces and their effect on motion.
	Newton's Laws of Motion	
		Describe Newton's first law of motion and how it relates to inertia.
		Use Newton's second law of motion to calculate force, mass, and acceleration.
		Explain Newton's third law of motion and how it relates to action and reaction forces.

TX-Science 6		Scope and Sequence
Unit	**Lesson**	**Objectives**
		Identify applications of Newton's three laws of motion.
	Lab: Newton's Laws of Motion	
		Demonstrate Newton's first law.
		Verify Newton's second law by changing the variables F, m, or a.
	Unit Test	
Energy		
	Introduction to Energy	
		Define energy.
		Explain how energy and work are related.
		Identify and describe the different forms of energy.
	Potential and Kinetic Energy	
		Distinguish between potential and kinetic energy.
		Calculate the potential energy in a system.
		Calculate the kinetic energy in a system.
		Explain how energy is transferred in a moving system.
	Lab: Kinetic Energy	
		Calculate the kinetic energy of objects of different mass.
		Determine the kinetic energy of objects at different speeds.
		Graph data to illustrate changes in kinetic energy.
	Energy Transformations	

TX-Science 6		Scope and Sequence
Unit	**Lesson**	**Objectives**
		Explain how energy changes form.
		Identify examples of energy transformations.
		Summarize the law of conservation of energy.
	Introduction to Waves	
		Define waves and explain how they carry energy.
		Distinguish between mechanical waves and electromagnetic waves.
		Compare and contrast transverse waves and longitudinal waves.
	Properties of Waves	
		Describe how a wave's amplitude is related to the energy the wave carries.
		Describe the relationship between the frequency and wavelength of a wave.
		Calculate the speed of a transverse wave.
		Explain why waves travel at different speeds.
		Use mathematical representations to show relationships among the frequency, wavelength, and speed of waves traveling in various media.
	Unit Test	
Cumulative Exam		
	Cumulative Exam Review	
	Cumulative Exam	
Earth's Structures		
	Introduction to Earth Science	
		Describe the three big ideas of Earth science.
		Distinguish the five branches of Earth science.
	Spheres of Earth	

TX-Science 6		Scope and Sequence
Unit	**Lesson**	**Objectives**
		Distinguish the four major parts of the Earth system.
		Explain how Earth’s four spheres interact.
	Earth's Interior	
		Explain how geologists learn about Earth’s interior.
		Compare and contrast the three main layers of Earth.
	Ocean Circulation	
		Identify causes of waves, currents, and tides.
		Describe tides as a source of energy.
		Describe changes that affect ocean circulation.
	Factors That Affect Climate	
		Explain what causes seasons.
		Explain how various factors affect weather and climate.
	Unit Test	
Rocks and Minerals		
	Minerals	
		Describe the properties used to identify minerals.
		Explain how minerals are formed.
		Identify uses of minerals.
	Rocks and the Rock Cycle	
		Describe the properties used to identify rocks.
		Identify the three main groups of rocks.
		Identify the ways in which rocks change as they move through the rock cycle.

TX-Science 6		Scope and Sequence
Unit	**Lesson**	**Objectives**
	Igneous Rocks	
		Identify the steps of igneous rock formation.
		Describe the characteristics used to classify igneous rocks.
	Sedimentary Rocks	
		Identify ways in which sedimentary are formed.
		Distinguish the three types of sedimentary rocks.
	Metamorphic Rocks	
		Identify the steps of metamorphic rock formation.
		Differentiate types of metamorphic rocks.
	Lab: Mineral and Rock Classification	
		Classify minerals and rocks by their observable properties.
		Classify rocks by their process of formation.
	Unit Test	
Organisms and the Biosphere		
	Introduction to Classification	
		Analyze how and why organisms are classified.
		Examine how methods of classification have changed over time.
		Describe the modern system of classification.
	Classification of Living Things	
		Characterize the domains of living organisms.
		List the characteristics used to classify organisms into each kingdom.
		Distinguish major animal and plant phyla.

TX-Science 6		Scope and Sequence
Unit	**Lesson**	**Objectives**
		Identify the characteristics that differentiate one species from another.
	Natural Selection	
		Examine how natural selection leads to evolution.
		Identify the conditions required for natural selection.
		Identify ways in which genetic variation and environmental factors contribute to natural selection.
		Describe factors that contribute to the extinction of a species.
	Living Things and the Environment	
		Differentiate between a habitat and a niche.
		Examine biotic and abiotic factors in the environment.
		Identify the levels of organization within an ecosystem.
	Interactions among Living Things	
		Differentiate competition, predation, and cooperation.
		Distinguish among the three types of symbiotic relationships.
	Energy Flow in Ecosystems	
		Explain the roles of producers, consumers, and decomposers in an ecosystem.
		Identify producers, consumers, and decomposers in food chains and food webs.
		Examine the movement of energy through an ecosystem in food chains and food webs.
		Analyze the transfer of energy through the trophic levels in an energy pyramid.
	Cycles of Matter	
	Unit Test	
Energy Resources and Conservation		

TX-Science 6		Scope and Sequence
Unit	**Lesson**	**Objectives**
	Energy on Earth	
		Distinguish between renewable and nonrenewable resources.
		Identify renewable and nonrenewable resources.
		Identify advantages and disadvantages of various energy sources.
	Nonrenewable Resources	
		Explain the processes that create nonrenewable resources.
		Identify examples of nonrenewable energy sources.
		Explain how nonrenewable resources are converted into usable energy.
		Recognize advantages and disadvantages of using nonrenewable resources.
	Renewable Resources	
		Identify examples of renewable energy sources.
		Distinguish between renewable and nonrenewable energy sources.
		Explain how renewable resources are converted into usable energy.
		Recognize advantages and disadvantages of using renewable resources.
	Human Impact on Resources	
		Identify the negative impacts that human activity has had on Earth’s resources.
		Identify the positive impacts that human activity has had on Earth’s resources.
		Compare the costs and benefits of conservation policies.
	Unit Test	
Cumulative Exam		
	Cumulative Exam Review	
	Cumulative Exam	