Science - 6th Grade (TEKS – Aligned Course Objectives)

			Scientific Processes
OBJ	6	1	The student conducts field and laboratory investigations using safe, environmentally appropriate, and ethical practices
SE	6	1A	Demonstrate safe practices during field and laboratory investigations
SE	6	1B	Make wise choices in the use and conservation of resources and the disposal or recycling of materials
OBJ	6	2	The student uses scientific inquiry methods during field and laboratory investigations
SE	6	2A	Plan and implement investigative procedures including asking questions, formulating testable hypotheses, and selecting and using equipment and technology
SE	6	2B	Collect data by observing and measuring
SE	6	2C	Analyze and interpret information to construct reasonable explanations from direct and indirect evidence
SE	6	2D	Communicate valid conclusions
SE	6	2E	Construct graphs, tables, maps, and charts using tools including computers to organize, examine, and evaluate data
OBJ	6	3	The student uses critical thinking and scientific problem solving to make informed decisions
SE	6	3A	Analyze, review, and critique scientific explanations, including hypotheses and theories, as to their strengths and weaknesses using scientific evidence and information
SE	6	3B	Draw inferences based on data related to promotional materials for products and services
SE	6	3C	Represent the natural world using models and identify their limitations
SE	6	3D	Evaluate the impact of research on scientific thought, society, and the environment
SE	6	3E	Connect Grade 6 science concepts with the history of science and contributions of scientists.
OBJ	6	4	The student knows how to use a variety of tools and methods to conduct science inquiry
SE	6	4A	Collect, analyze, and record information using tools including beakers, petri dishes, meter sticks, graduated cylinders, weather instruments, timing devices, hot plates, test tubes, safety goggles, spring scales, magnets, balances, microscopes, telescopes, thermometers, calculators, field equipment, compasses, computers, and computer probes
SE	6	4B	Identify patterns in collected information using percent, average, range, and frequency
			Science Concepts
OBJ	6	5	The student knows that systems may combine with other systems to form a larger system
SE	6	5A	Identify and describe a system that results from the combination of two or more systems such as in the solar system
SE	6	5B	Describe how the properties of a system are different from the properties of its parts
OBJ	6	6	The student knows that there is a relationship between force and motion
SE	6	6A	Identify and describe the changes in position, direction of motion, and speed of an object when acted upon by force
SE	6	6B	Demonstrate that changes in motion can be measured and graphically represented
SE	6	6C	Identify forces that shape features of the Earth including uplifting, movement of water, and volcanic activity
OBJ	6	7	The student knows that substances have physical and chemical properties

SE	6	7A	Demonstrate that new substances can be made when two or more substances are chemically combined and compare the properties of the new substances to the original substances
SE	6	7B	Classify substances by their physical and chemical properties
OBJ	6	8	The student knows that complex interactions occur between matter and energy
SE	6	8A	Define matter and energy
SE	6	8B	Explain and illustrate the interactions between matter and energy in the water cycle and in the decay of biomass such as in a compost bin
SE	6	8C	Describe energy flow in living systems including food chains and food webs
OBJ	6	9	The student knows that obtaining, transforming, and distributing energy affects the environment
SE	6	9A	Identify energy transformations occurring during the production of energy for human use such as electrical energy to heat energy or heat energy to electrical energy
SE	6	9B	Compare methods used for transforming energy in devices such as water heaters, cooling systems, or hydroelectric and wind power plants
SE	6	9C	Research and describe energy types from their source to their use and determine if the type is renewable, non-renewable, or inexhaustible
OBJ	6	10	The student knows the relationship between structure and function in living systems
SE	6	10A	Differentiate between structure and function
SE	6	10B	Determine that all organisms are composed of cells that carry on functions to sustain life
SE	6	10C	Identify how structure complements function at different levels of organization including organs, organ systems, organisms, and populations
OBJ	6	11	The student knows that traits of species can change through generations and that the instructions for traits are contained in the genetic material of the organisms
SE	6	11A	Identify some changes in traits that can occur over several generations through natural occurrence and selective breeding
SE	6	11B	Identify cells as structures containing genetic material
SE	6	11C	Interpret the role of genes in inheritance
OBJ	6	12	The student knows that the responses of organisms are caused by internal or external stimuli
SE	6	12A	Identify responses in organisms to internal stimuli such as hunger or thirst
SE	6	12B	Identify responses in organisms to external stimuli such as the presence or absence of heat or light
SE	6	12C	Identify components of an ecosystem to which organisms may respond
OBJ	6	13	The student knows components of our solar system
SE	6	13A	Identify characteristics of objects in our solar system including the Sun, planets, meteorites, comets, asteroids, and moons
SE	6	13B	Describe types of equipment and transportation needed for space travel
OBJ	6	14	The student knows the structures and functions of Earth systems
SE	6	14A	Summarize the rock cycle
SE	6	14B	Identify relationships between groundwater and surface water in a watershed
SE	6	14C	Describe components of the atmosphere, including oxygen, nitrogen, and water vapor, and identify the role of atmospheric movement in weather change