This document outlines the academic goals, the activities and materials used in the Sixth Grade class in order to achieve high academic success. There is a great deal of overlap in the standards within the activities and within the core areas, thus, standards addressed repeatedly throughout the year.

Time period	Standard	Resources (unit in textbook, learning center, recurring activity, other)	Internet/Media/ other resource
Weeks ___ to ___	(1) Scientific investigation and reasoning. The student, for at least 40% of instructional time, conducts laboratory and field investigations following safety procedures and environmentally appropriate and ethical practices. The student is expected to:	**Proposed Textbook: Pearson Prentice Hall Science Explorer Texas Edition—Grade Sixth: http://www.phschool.com/webcodes10/index.cfm?fuseaction=home.gotoWebCode&wcprefix=cpk&wcsuffix=2000**	
	(A) demonstrate safe practices during laboratory and field investigations as outlined in the Texas Safety Standards; and		
	(B) practice appropriate use and conservation of resources, including disposal, reuse, or recycling of materials.		
Weeks ___ to ___	(2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to:	**Introduced during chapter one; reinforced during each subsequent chapter; assessed in each chapter and formally in the science fair**	
	(A) plan and implement comparative and descriptive investigations by making observations, asking well-defined questions, and using appropriate equipment and technology;		
	(B) design and implement experimental investigations by making observations, asking well-defined questions, formulating testable hypotheses, and using appropriate equipment and technology;		
	(C) collect and record data using the International System of Units (SI) and qualitative means such as labeled drawings, writing, and graphic organizers;		
[Type text]	(D) construct tables and graphs, using repeated trials and means, to organize data		

	and identify patterns; and		
	(E) analyze data to formulate reasonable explanations, communicate valid conclusions supported by the data, and predict trends.		
Weeks ___ to ___	(3) Scientific investigation and reasoning. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists. The student is expected to:	**Introduced during chapter one; reinforced during each subsequent chapter; assessed in each chapter and formally in the science fair**	
	(A) in all fields of science, analyze, evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, including examining all sides of scientific evidence of those scientific explanations, so as to encourage critical thinking by the student;		
	(B) use models to represent aspects of the natural world such as a model of Earth's layers;		
	(C) identify advantages and limitations of models such as size, scale, properties, and materials; and		
	(D) relate the impact of research on scientific thought and society, including the history of science and contributions of scientists as related to the content.		
Weeks ___ to ___	(4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to:	**Introduced during chapter one; reinforced during each subsequent chapter; assessed in each chapter and formally in the science fair**	
	(A) use appropriate tools to collect, record, and analyze information, including journals/notebooks, beakers, Petri dishes, meter sticks, graduated cylinders, hot		

	plates, test tubes, triple beam balances, microscopes, thermometers, calculators, computers, timing devices, and other equipment as needed to teach the curriculum; and		
	(B) use preventative safety equipment, including chemical splash goggles, aprons, and gloves, and be prepared to use emergency safety equipment, including an eye/face wash, a fire blanket, and a fire extinguisher.		
Weeks ___ to ___	(5) Matter and energy. The student knows the differences between elements and compounds. The student is expected to:	**Chapter One: Matter and Energy**	
	(A) know that an element is a pure substance represented by chemical symbols;	**Chapter One: Matter and Energy** **Website:** **http://www.nclark.net/StudyMatter** **Activity: "Changes in matter"**	
	(B) recognize that a limited number of the many known elements comprise the largest portion of solid Earth, living matter, oceans, and the atmosphere;	**Chapter One: Matter and Energy** **Website:** **http://www.nclark.net/StudyMatter**	
	(C) differentiate between elements and compounds on the most basic level; and	**Chapter One: Matter and Energy** **Website:** **http://www.nclark.net/Compounds** **Lab: "Chemical compounds"**	
	(D) identify the formation of a new substance by using the evidence of a possible chemical change such as production of a gas, change in temperature, production of a precipitate, or color change.	**Chapter One: Matter and Energy** **Website:** **http://www.nclark.net/Compounds** **Lab: "Candy compounds"**	
Weeks ___ to ___	(6) Matter and energy. The student knows matter has physical properties that can be used for classification. The student is expected to:	**Chapter Two: Solids, Liquids, and Gases**	
	(A) compare metals, nonmetals, and metalloids	**Chapter Two: Solids, Liquids, and Gases**	

	using physical properties such as luster, conductivity, or malleability;	**Website: http://www.nclark.net/PeriodicTable.html Activity: "The Elements" and "Magic Square"**	
	(B) calculate density to identify an unknown substance; and	**Chapter Two: Solids, Liquids, and Gases**	
	(C) test the physical properties of minerals, including hardness, color, luster, and streak.	**Chapter Two: Solids, Liquids, and Gases** **Website: http://www.nclark.net/ChemicalReactions Lab: "Simple chemical reactions"**	
Weeks ___ to ___	(7) Matter and energy. The student knows that some of Earth's energy resources are available on a nearly perpetual basis, while others can be renewed over a relatively short period of time. Some energy resources, once depleted, are essentially nonrenewable. The student is expected to:	**Chapter Nine: Energy Resources**	
	(A) research and debate the advantages and disadvantages of using coal, oil, natural gas, nuclear power, biomass, wind, hydropower, geothermal, and solar resources; and	**Chapter Nine: Energy Resources**	
	(B) design a logical plan to manage energy resources in the home, school, or community.	**Chapter Nine: Energy Resources**	
Weeks ___ to ___	(8) Force, motion, and energy. The student knows force and motion are related to potential and kinetic energy. The student is expected to:	**Chapter Three: Relating force and motion**	
	(A) compare and contrast potential and kinetic energy;	**Chapter Three: Relating force and motion** **Website: http://www.nclark.net/KineticTheory Activity: Phase change worksheet**	
	(B) identify and describe the changes in position, direction, and speed of an object when	**Chapter Three: Relating force and motion**	

	acted upon by unbalanced forces;		
	(C) calculate average speed using distance and time measurements;	**Chapter Three: Relating force and motion**	
	(D) measure and graph changes in motion; and	**Chapter Three: Relating force and motion**	
	(E) investigate how inclined planes and pulleys can be used to change the amount of force to move an object.	**Chapter Three: Relating force and motion**	
Weeks ___ to ___	(9) Force, motion, and energy. The student knows that the Law of Conservation of Energy states that energy can neither be created nor destroyed, it just changes form. The student is expected to:	**Chapter Three: Relating force and motion**	
	(A) investigate methods of thermal energy transfer, including conduction, convection, and radiation;	**Chapter Three: Relating force and motion**	
	(B) verify through investigations that thermal energy moves in a predictable pattern from warmer to cooler until all the substances attain the same temperature such as an ice cube melting; and	**Chapter Three: Relating force and motion**	
	(C) demonstrate energy transformations such as energy in a flashlight battery changes from chemical energy to electrical energy to light energy.	**Chapter Three: Relating force and motion**	
Weeks ___ to ___	(10) Earth and space. The student understands the structure of Earth, the rock cycle, and plate tectonics. The student is expected to:	**Chapter Ten: Solid earth**	
	(A) build a model to illustrate the structural layers of Earth, including the inner core, outer core, mantle, crust, asthenosphere, and lithosphere;	**Chapter Ten: Solid earth**	
	(B) classify rocks as metamorphic, igneous, or sedimentary by the processes of their formation;	**Chapter Ten: Solid earth**	
	(C) identify the major tectonic	**Chapter Ten: Solid earth**	

	plates, including Eurasian, African, Indo-Australian, Pacific, North American, and South American; and		
	(D) describe how plate tectonics causes major geological events such as ocean basins, earthquakes, volcanic eruptions, and mountain building.	**Chapter Ten: Solid earth**	
Weeks ___ to ___	(11) Earth and space. The student understands the organization of our solar system and the relationships among the various bodies that comprise it. The student is expected to:	**Chapter 16: Components of the solar system**	
	(A) describe the physical properties, locations, and movements of the Sun, planets, Galilean moons, meteors, asteroids, and comets;	**Chapter 16: Components of the solar system**	
	(B) understand that gravity is the force that governs the motion of our solar system; and	**Chapter 16: Components of the solar system**	
	(C) describe the history and future of space exploration, including the types of equipment and transportation needed for space travel.	**Chapter 16: Components of the solar system**	
Weeks ___ to ___	(12) Organisms and environments. The student knows all organisms are classified into Domains and Kingdoms. Organisms within these taxonomic groups share similar characteristics which allow them to interact with the living and nonliving parts of their ecosystem. The student is expected to:	**Chapter 6: From bacteria to plants; Chapter 7: Animals; Chapter 8: Ecosystems**	
	(A) understand that all organisms are composed of one or more cells;	**Chapter 6: From bacteria to plants**	
	(B) recognize that the presence of a nucleus determines whether a cell is prokaryotic or eukaryotic;	**Chapter 7: Animals**	
	(C) recognize that the broadest taxonomic	**Chapter 8: Ecosystems**	

	classification of living organisms is divided into currently recognized Domains;		
	(D) identify the basic characteristics of organisms, including prokaryotic or eukaryotic, unicellular or multicellular, autotrophic or heterotrophic, and mode of reproduction, that further classify them in the currently recognized Kingdoms;	**Chapter 8: Ecosystems**	
	(E) describe biotic and abiotic parts of an ecosystem in which organisms interact; and	**Chapter 8: Ecosystems**	
	(F) diagram the levels of organization within an ecosystem, including organism, population, community, and ecosystem.	**Chapter 8: Ecosystems**	