

5th Grade: Science

Student Name:

General Standard	Standard Notation	Standard Description	August 2010	September 2010	October 2010	November 2010	December 2010	January 2011	February 2011	March 2011	April 2011	May 2011
1.0 PHYSICAL SCIENCE: Elements and their combinations account for all the varied types of matter in the world.	5.1.a	During chemical reactions the atoms in the reactants rearrange to form products with different properties.										
	5.1.b	All matter is made of atoms, which may combine to form molecules.										
	5.1.c	Metals have properties in common, such as high electrical and thermal conductivity. Some metals, such as aluminum (Al), iron (Fe), nickel (Ni), copper (Cu), silver (Ag), and gold (Au), are pure elements; others, such as steel and brass, are composed of a combination of elemental metals.										
	5.1.d	Each element is made of one kind of atom and that the elements are organized in the periodic table by their chemical properties.										
	5.1.e	Scientists have developed instruments that can create discrete images of atoms and molecules that show that the atoms and molecules often occur in well-ordered arrays.										
	5.1.f	Differences in chemical and physical properties of substances are used to separate mixtures and identify compounds										
	5.1.g	Properties of solid, liquid, and gaseous substances, such as sugar (C <sub>6</sub> H <sub>12</sub> O <sub>6</sub> ), water (H <sub>2</sub> O), helium (He), oxygen (O <sub>2</sub> ), nitrogen (N <sub>2</sub> ), and carbon dioxide (CO <sub>2</sub> )										
	5.1.h	Living organisms and most materials are composed of just a few elements										
	5.1.i	The common properties of salts, such as sodium chloride (NaCl)										
2.0 LIFE SCIENCE: Plants and animals have structures for respiration, digestion, waste disposal, and transport of materials	5.2.a	Many multicellular organisms have specialized structures to support the transport of materials.										
	5.2.b	Blood circulates through the heart chambers, lungs, and body and how carbon dioxide (CO <sub>2</sub> ) and oxygen (O <sub>2</sub> ) are exchanged in the lungs and tissues.										
	5.2.c	The sequential steps of digestion & the roles of teeth and the mouth, esophagus, stomach, small intestine, lg intestine, & colon in the function of the digestive system.										
	5.2.d	The role of the kidney in removing cellular waste from blood and converting it into urine, which is stored in the bladder.										
	5.2.e	How sugar, water, and minerals are transported in a vascular plant										
	5.2.f	Plants use carbon dioxide (CO <sub>2</sub> ) and energy from sunlight to build molecules of sugar and release oxygen.										
	5.2.g	Plant and animal cells break down sugar to obtain energy, a process resulting in carbon dioxide (CO <sub>2</sub> ) and water (respiration).										
3.0 EARTH SCIENCE: Water on Earth moves between the oceans and land through the processes of evaporation and condensation	5.3.a	Most of Earth's water is present as salt water in the oceans, which cover most of Earth's surface.										
	5.3.b	When liquid water evaporates, it turns into water vapor in the air and can reappear as a liquid when cooled or as a solid if cooled below the freezing point of water.										
	5.3.c	Water vapor in the air moves from one place to another and can form fog or clouds, which are tiny droplets of water or ice, & can fall to Earth as rain, hail, sleet, or snow.										
	5.3.d	The amount of fresh water located in rivers, lakes, underground sources, and glaciers is limited and that its availability can be extended by recycling and decreasing the use of water.										
	5.3.e	The origin of the water used by their local communities.										
4.0 EARTH SCIENCE: Energy from the Sun heats Earth unevenly,	5.4.a	Uneven heating of Earth causes air movements (convection currents)										

General Standard	Standard Notation	Standard Description	August 2010	September 2010	October 2010	November 2010	December 2010	January 2011	February 2011	March 2011	April 2011	May 2011
causing air movements that result in changing weather patterns	5.4.b	The influence that the ocean has on the weather and the role that the water cycle plays in weather patterns.										
	5.4.c	Causes and effects of different types of severe weather										
	5.4.d	Use weather maps and data to predict local weather and know that weather forecasts depend on many variables										
	5.4.e	The Earth's atmosphere exerts a pressure that decreases with distance above Earth's surface and that at any point it exerts this pressure equally in all directions.										
5.0 EARTH SCIENCE: The solar system consists of planets and other bodies that orbit the Sun in predictable paths	5.5.a	The Sun, an average star, is the central and largest body in the solar system and is composed primarily of hydrogen and helium.										
	5.5.b	The solar system includes the planet Earth, the Moon, the Sun, eight other planets and their satellites, and smaller objects, such as asteroids and comets.										
	5.5.c	The path of a planet around the Sun is due to the gravitational attraction between the Sun and the planet										
6.0 INVESTIGATION AND EXPERIMENTATION: Scientific progress is made by asking meaningful questions and conducting careful investigations. (relates to other standards above)	5.6.a	Classify objects (e.g., rocks, plants, leaves) in accordance with appropriate Criteria.										
	5.6.b	Develop a testable question										
	5.6.c	Plan and conduct a simple investigation based on a student-developed question and write instructions others can follow to carry out the procedure.										
	5.6.d	Identify the dependent and controlled variables in an investigation										
	5.6.e	Identify a single independent variable in a scientific investigation and explain how this variable can be used to collect information to answer a question about the results of the experiment.										
	5.6.f	Select appropriate tools (e.g., thermometers, meter sticks, balances, and graduated cylinders) and make quantitative observations										
	5.6.g	Record data by using appropriate graphic representations (including charts, graphs, and labeled diagrams) and make inferences based on those data.										
	5.6.h	Draw conclusions from scientific evidence and indicate whether further information is needed to support a specific conclusion										
	5.6.i	Write a report of an investigation that includes conducting tests, collecting data or examining evidence, and drawing conclusions.										