

THE HUMAN BODY		Weeks 1-3	Weeks 4-6	Weeks 7-9
1A. Circulatory System	Pioneering work of William Harvey			
	Heart: four chambers (auricles and ventricles), aorta			
	Blood <ul style="list-style-type: none"> ○ Red blood cells (corpuscles), white blood cells (corpuscles), platelets, hemoglobin, plasma, antibodies ○ Blood vessels: arteries, veins, capillaries ○ Blood pressure, pulse ○ Coagulation (clotting) 			
	Filtering function of liver and spleen			
	Fatty deposits can clog blood vessels and cause a heart attack.			
	Blood types (four basic types: A, B, AB, O) and transfusions			
1B. Respiratory System	Process of taking in oxygen and getting rid of carbon dioxide			
	Nose, throat, voice box, trachea (windpipe)			
	Lungs, bronchi, bronchial tubes, diaphragm, ribs, alveoli (air sacs)			
	Smoking: damage to lung tissue, lung cancer			
CHEMISTRY: BASIC TERMS & CONCEPTS		Weeks 1-3	Weeks 4-6	Weeks 7-9
2A. Atoms	All matter is made up of particles too small for the eye to see, called atoms.			
	Scientists have developed models of atoms; while these models have changed over time as scientist make new discoveries, the models help us imagine what we cannot see.			
	Atoms are made up of even tinier particles: protons, neutrons, electrons.			
	The concept of electrical charge <ul style="list-style-type: none"> ○ Positive charge (+): proton ○ Negative charge (-): electron ○ Neutral (neither positive nor negative): neutron ○ "Unlike charges attract, like charges repel" (relate to magnetic attraction and repulsion) 			
2B. Properties of Matter	Mass: the amount of matter in an object, similar to weight			
	Volume: the amount of space a thing fills			
	Density: how much matter is packed into the space an object fills			
	Vacuum: the absence of matter			

2C. Elements	<p>Elements are the basic kinds of matter, of which there are a little more than one-hundred.</p> <ul style="list-style-type: none"> ○ There are many different kinds of atoms, but an element has only one kind of atom. ○ Familiar elements, such as gold, copper, aluminum, oxygen, iron. ○ Most things are made up of a combination of elements. 			
2D. Solutions	<p>A solution is formed when a substance (the solute) is dissolved in another substance (the solvent), such as when sugar or salt is dissolved in water; the dissolved substance is present in the solution even though you cannot see it.</p> <p>Concentration and saturation (as demonstrated through simple experiments with crystallization).</p>			
ELECTRICITY		Weeks 1-3	Weeks 4-6	Weeks 7-9
Through reading, observation, and experimentation, examine the following:				
3. Electricity	Electricity as the flow of electrons			
	Static electricity			
	Electric current			
	Electric circuits, and experiments with simple circuits (battery, wire, light bulb, filament, switch, fuse)			
	○ Closed circuit, open circuit, short circuit			
	Conductors and insulators			
	Electromagnets: how they work and common uses			
Using electricity safely				
GEOLOGY: THE EARTH AND ITS CHANGES		Weeks 1-3	Weeks 4-6	Weeks 7-9
4A. Earth's Layers	Crust, mantle, core (outer core and inner core)			
	Movement of crustal plates			
	Earthquakes			
	○ Faults, San Andreas fault			
	○ Measuring intensity: seismograph and Richter Scale			
	○ Tsunamis (also called tidal waves)			
	Volcanoes			
○ Magma				
○ Lava and lava flow				
○ Active, dormant, or extinct				
○ Famous volcanoes: Vesuvius, Krakatoa, Mount St. Helens				
Hot springs and geysers: Old Faithful (in Yellowstone National Park)				
Theories of how the continents and oceans were formed: Pangaea and continental drift				

4B. How Mountains are Formed	Volcanic mountains, folded mountains, fault-block mountains, dome-shaped mountains			
	Undersea mountain peaks and trenches			
4C. Rocks	Formation and characteristics of metamorphic, igneous, and sedimentary rock			
4D. Weathering & Erosion	Physical and chemical weathering			
	Weathering and erosion by water, wind, and glaciers			
	The formation of soil: topsoil, subsoil, bedrock			
METEOROLOGY		Weeks 1-3	Weeks 4-6	Weeks 7-9
5. Meteorology	The water cycle (review from grade 2): evaporation, condensation, precipitation			
	Clouds: cirrus, stratus, cumulus (review from grade 2)			
	The atmosphere <ul style="list-style-type: none"> o Troposphere, stratosphere, mesosphere, ionosphere o How the sun and the earth heat the atmosphere 			
	Air movement: wind direction & speed, prevailing winds, air pressure, low & high pressure, air masses			
	Cold and warm front: thunderheads, lightning and electric charge, thunder, tornadoes, hurricanes			
	Forecasting the weather: barometers (relation between changes in atmospheric pressure and weather), weather maps, weather satellites			
	Weather and climate: "weather" refers to daily changes in temperature, rainfall, sunshine, etc., while "climate" refers to weather trends that are longer than the cycle of the seasons.			
SCIENCE BIOGRAPHIES		Weeks 1-3	Weeks 4-6	Weeks 7-9
6. Biographies	<ul style="list-style-type: none"> o Benjamin Banneker o Elizabeth Blackwell o Charles Drew (Circulatory System) o Michael Faraday (Electricity) 			