

Grade __8_ Focus Calendar / Units of Study
20_12__ - 20_13_

Science – Grade __8_	Unit 1: The Cell	Unit 2: Genetics	Unit 3: The Human Body	Unit 4: Matter and Energy	Unit 5: Earth Science	Unit 6: Scientific Problem Solving
<p>Key Skills</p>	<p>Recognize photosynthesis is a chemical change with reactants and products that takes place in the presence of light and chlorophyll, as part of the carbon/oxygen cycle. Recognize that cellular respiration is a counter point to photosynthesis. (Chemical energy is stored and released by compounds) Identify and give examples for each level of organization in multicellular organisms Identify structures of plants and animals that serve similar functions. Identify the microscope as a tool used to identify unicellular organisms The difference between virus and bacteria and infectious and noninfectious diseases.</p>	<p>Compare and contrast the processes of sexual and asexual reproduction</p> <p>Recognize that sexual reproduction leads to genetic diversity.</p> <p>Describe how flowering plants reproduce sexually.</p>	<p>Explain the interaction between the circulatory and digestive system s nutrients are processed by the digestive system, passed into the blood stream and transported in and out of the cell. Explain interaction between the circulatory and respiratory systems in exchanging oxygen and carbon dioxide between cells and the atmosphere (when oxygen enters the body, passes into the blood stream, and is transported into the cell; carbon dioxide is transported out of the cell, passes into the blood stream and exits the body.</p> <p>Explain the interactions between the nervous and muscular systems when an organism responds to a stimulus.</p>	<p>Use the Kinetic Theory Model to explain changes in the volume, shape and viscosity of materials in response to temperature changes during a phase change.</p> <p>Identify elements and compounds as pure substances that have characteristic properties</p> <p>Describe physical and chemical properties and how their change will affect a substance.</p> <p>Identify more than 100 known elements exist and combine to form molecules and compounds.</p> <p>Explain heat transfer and convection currents in the mantle of the earth.</p>	<p>Explain that the amount of matter remains constant while being recycled through the rock cycle(Laws of Conservation of Energy, Mass and Matter)</p> <p>Recognize explanations have changed over time as a result of new evidence. (Plate Tectonics)</p> <p>Use the rock and fossil evidence to make inferences about the age, history, and changing life forms and environment of the Earth.</p> <p>Differentiate between minerals and rocks</p> <p>Describe how the movement of crustal plates can cause earthquakes and volcanic eruptions that can result in mountain building and trench formation</p>	<p>Formulate testable questions and hypothesis.</p> <p>Design and conduct a valid experiment.</p> <p>Evaluate the design of an experiment and make suggestions for reasonable improvements or extensions of the experiment.</p> <p>Communicate the procedures and results of investigations and explanations through: Data tables, Graphs, Written research, oral presentations.</p> <p>Use a variety of tools and equipment to gather data</p> <p>Use the correct tools and measurement units</p> <p>Identify and describe the importance of the independent and dependent variables, controls of constants, and multiple trials.</p>

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Academic Vocabulary	Unicellular Multicellular Bacteria Fungus Taxonomy Cell Organelle	Genes Reproduction Duplicate Diversity Adapt Internal External	Stimulus Response Organ	Reactant Product Equation Chemical change	Geologic time Physical properties Crystal Mixture Absolute age Relative age	
Reading/Writing Skills	Reading using resource materials including online data basis. Using <u>Science World</u> magazine as a resource for current events in science Writing a persuasive letter on behalf of typhoid Mary to the authorities based on historical and current research.	Reading on current events in <u>Science World magazine</u>	Research skills on topics of human body systems or disease	Using current data bases to research environmental issues dealing with energy resources. Writing a report based on information researched.	Using fossil records and data from geologic sites construct a profile of an area in geologic time.	Write and carry out a scientific investigation and then publish your results.
Math Skills	Extrapolation Graphing	Graphing Interpreting graphics	Interpreting graphics	Density	Geologic time record Absolute age graphing	Measurement Graphing Averaging

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Power Standards/GLEs Assessed	#1,3	#4	#2	#6,8,9	#5,7	Shared Standards 1,2,3
Labs	Osmosis Lab- iodine and corn starch Potato lab (salt water) Pond water specimens Taxonomy of Fish	Big Floor square DNA simulation Interactive Lemmings Parts of a flower	Lung Capacity Making infusion pump Parasites –tapeworms Reaction time	Elements- Name the Element Mixtures- Crystal growing lab Compounds- hydrogen peroxide lab	Identifying rocks and minerals Fossil hunt Geologic time blocks Renewable Energy	Density of solids and liquids Mass- triple beam balance Length- meter stick What a Plant Needs
Approximate Instruction Dates	5weeks	5 weeks	6 weeks	8 weeks	8 weeks	All year

Science – Grade ____	Unit 7:	Unit 8:	Unit 9:	Unit 10:	Unit 11:	Unit 12:
Key Skills						

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