

## Essential Standards

Grade Level: 8<sup>th</sup>

Subject: Science

Team Member: Rodney Bade

1. Standard/Description	2. Evidence of Proficiency	3. Prior Skills Needed	4. Common Summative Assessment	5. When Taught?	6. Enrichment Standards
<p><b>Recognize more than 100 known elements exist that may be combined in nature or by man to produce compounds that make up the living and nonliving substances in the environment</b></p> <p><b>ME.1.A.8.a</b> <b>ME.1.F.8.a</b></p>	<p>Identify the most common elements by their name and symbol i.e. (H-Hydrogen, C-Carbon, O-Oxygen, N-Nitrogen, etc.)</p>	<p>Atomic structure</p>	<p>Periodic Table Quiz Matter Unit Test (#1-4)</p> <p>Element Brochure Project</p>	<p>September</p>	
<p><b>Describe the arrangement and motion of the molecules in a sample of matter (solid, liquid, gas)</b></p> <p><b>ME.1.D.8.a,b,c</b></p>	<p>Diagram and Explain a sample of matter (solid, liquid, &amp; gas) on the molecular level.</p> <p>Explain physical changes of substances in response to temperature changes during a phase change (volume, shape, viscosity etc.)</p>	<p>Solid, liquid, gas</p>	<p>Matter Unit Test (CR #1)</p> <p>Matter Unit Labs</p>	<p>October</p>	
<p><b>Explain Physical and Chemical Properties &amp; Changes</b></p> <p><b>ME.1.A.8.b</b> <b>ME.1.I.8.a</b> <b>ME.2.A.8.a</b> <b>ME.2.F.8.a</b></p>	<p>Describe the physical and chemical properties of pure substances using appropriate senses and tools.</p> <p>Identify and explain physical and chemical changes.</p>	<p>Substance, compound, mixture</p>	<p>Matter Unit Test (CR #3)</p> <p>Physical &amp; Chemical Changes Lab</p>	<p>October</p>	

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<p><b>Recognize how Photosynthesis and Cell Respiration are interconnected</b></p> <p><b>LO.2.A.8.a,b</b> <b>LO.2.C.8.e</b> <b>LO.2.B.8.a,b,c</b></p>	<p>Explain how Photo. &amp; Cell Resp. are interconnected (the products of photosynthesis are the reactants for cell respiration)</p>	<p>Cell parts (Chloroplast, Mitochondria)</p> <p>Plant structures</p> <p>Forms of Energy</p>	<p>Life Science Unit Test (CR #2)</p> <p>Life Science Unit (Choice Board) Project</p>	<p>December/January</p>
<p><b>Describe asexual &amp; sexual (cell) reproduction</b></p> <p><b>LO.3.A.8.a,b</b> <b>LO.3.C.8.b,c</b> <b>LO.3.D.8.a,b</b></p>	<p>Compare and contrast the processes and results of asexual (mitosis) and sexual (meiosis) reproduction.</p>	<p>Reproduction</p>	<p>Life Science Unit Test (CR #3)</p> <p>Life Science Unit (Choice Board) Project</p>	<p>January/February</p>
<p><b>Explain the interactions between the various systems in the human body (Circulatory, Respiratory, Nervous, Muscular etc.)</b></p> <p><b>LO.2.C.8.c,d</b> <b>LO.2.C.8.f,g</b> <b>LO.2.F.8.a</b></p>	<p>Describe the Human Body Systems response to external and internal stimuli.</p>	<p>Cell types (nerve, muscle, blood etc.)</p>	<p>1<sup>st</sup> Semester Test</p>	<p>November</p>
<p><b>Explain the cause and effect of diseases on the Human Body</b></p> <p><b>LO.2.G.8.a,b,c,d</b></p>	<p>Identify infectious vs. non-infectious diseases. Identify methods of treatment of diseases.</p>	<p>Cell processes</p>	<p>1<sup>st</sup> Semester Test</p> <p>“Most Wanted” Project (Infectious Diseases)</p>	<p>November</p>
<p><b>Differentiate between minerals and rocks.</b></p> <p><b>ES.1.A.8.a,b,c</b></p>	<p>Identify/Classify Rocks and Minerals using their distinguishing properties.</p>	<p>Earth materials</p>	<p>Mineral &amp; Rock Quiz Rock/Mineral Project</p>	<p>March</p>
<p><b>Explain The Rock Cycle</b></p> <p><b>ES.1.A.8.d</b> <b>ES.2.C.a,b,c</b></p>	<p>Diagram the (external &amp; internal) processes of the rock cycle.</p>	<p>Earth processes</p>	<p>Mineral &amp; Rock Quiz Rock Cycle Lab</p>	<p>March</p>

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<p><b>Describe how the movement of crustal plates (Plate Tectonics) can cause tectonic activity.</b></p> <p><b>ES.2.B.8.a,b,c</b></p>	<p>Explain the occurrence and locations of earthquakes &amp; volcanoes using the Theory of Plate Tectonics.</p>	<p>Earth processes</p>	<p>Earth Science Unit Test (CR #1,2,4,6,8)</p>	<p>April/May</p>
<p><b>Recognize the geologic methods used to make inferences about the geologic history of Earth.</b></p> <p><b>ES.2.D.8.a,b</b></p>	<p>Use rock &amp; fossil evidence to make inferences about the age, history, and changing life forms and environment of the Earth.</p>	<p>Earth processes</p>	<p>Earth Science Unit Test (CR #3,7)</p>	<p>April/May</p>
<p><b>Demonstrate the Scientific Process</b></p> <p><b>IN.1.A.8.c</b></p>	<p>Design and Conduct a valid experiment</p>	<p>Hypothesis, IV, DV, Conclusion</p>	<p>Unit Tests Labs</p>	<p>Throughout entire year</p>
<p><b>Demonstrate the uses of Lab &amp; Measurement Tools.</b></p> <p><b>IN.1.B.8.c,d</b></p>	<p>Use a variety of tools and equipment to gather data and take measurement with the metric system.</p>	<p>Basic knowledge of the metric system</p>	<p>Intro. Unit Quiz Labs/Projects</p>	<p>Throughout entire year</p>
<p><b>Present Scientific Information</b></p> <p><b>IN.1.E.8.a</b></p>	<p>Communicate the procedures and results of investigations and explanations through (oral presentations, drawing and maps, data tables, graphs, equations and writings).</p>	<p>Graphing methods</p>	<p>Projects throughout the year</p>	<p>Throughout entire year</p>