

Map: **Bartels, Hoffman, Michelitch - Physical Science** Type: **Projected** Grade Level: **8** School Year: **2007-2008**

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	Essential Questions	Content	Skills	Assessments	Standards/PIs
September	<p>How does the scientific method help to solve problems?</p> <p>Why do scientists use the scientific method?</p> <p>Why do scientists test one variable (independent) at a time?</p> <p>What is the sequence of the scientific method?</p> <p>Why are graphs important?</p> <p>How do scientists graph data?</p> <p>What are the rules to follow when working in the science laboratory?</p> <p>How do we properly use the triple beam balance, graduated cylinder, over flow tank, and microscope?</p> <p>How is a well designed investigation developed?</p> <p>How are graphs useful to show trends in data?</p> <p>How do you determine the factor that is the independent/ dependent variable?</p> <p>Why do scientists use the metric system?</p> <p>How do we convert between units when using the metric system?</p>	<p><b>Scientific Method/ Review of Measurement and Graphing in the context of the scientific method.</b></p> <p><b>Mathematic deductive and inductive reasoning are used to reach mathematical conclusions.</b></p> <p>Critical thinking skills are used in the solution of mathematical problems.</p> <p><b>Scientific inquiry involves the testing of proposed explanations involving the use of conventional techniques and procedures and usually requiring considerable ingenuity.</b></p> <p><b>The observations made while testing proposed explanations, when analyzed using conventional and invented methods, provide new insights into phenomena.</b></p> <p>Scientific Method</p> <p>Constants</p> <p>Control Group</p> <p>Observation</p> <p>Inference</p> <p>Independent Variable</p> <p>Dependent Variable</p> <p>Hypothesis</p> <p>Conclusion</p>	<p><b>List</b> the steps of the scientific method in order.</p> <p><b>Define</b> all of the steps of the scientific method.</p> <p><b>Match</b> the steps of the scientific method with the definition of the step.</p> <p><b>Discuss</b> why scientists use the scientific method when solving a problem.</p> <p><b>Explain</b> the importance of the scientific method.</p> <p><b>Demonstrate</b> the scientific method.</p> <p><b>Design</b> charts, tables, graphs that address their research question.</p> <p><b>Measure</b> length, mass, volume and density .</p> <p><b>Compute</b> mass by difference and when using weighing paper.</p> <p><b>Distinguish</b> between different types of measurements and units.</p> <p><b>Round</b> to the nearest tenth when making measurements.</p>	<p>Scientific Method Experiment</p> <p><a href="#">very basic experiment</a></p> <p>Scientific Method Worksheet #1</p> <p><a href="#">order of method</a></p> <p><b>Review Sheet-</b> Scientific method, Measurement, and Graphing</p> <p><b>Test-</b> Scientific Method Test, Graphing Test, Measurement</p> <p><b>Quiz-</b> Scientific Method, Measurement, and Graphing, Sponge Bob on Independent and Dependent Variable</p> <p><b>Laboratory Experiments-</b> Scientific Method, Mass, Length, Volume, Density</p> <p><b>Worksheets-</b> Scientific Method, Mass, Length, Units, Volume, Density</p> <p><b>Observation-</b> of Cooperative Assignments</p> <p><b>Puzzle-</b> Measurement</p> <p><b>Question and answer -</b> Scientific Method, Graphing and Measurement</p> <p><a href="#">scientific method test</a></p> <p>Scientific Method Worksheet</p> <p><a href="#">analyzing method</a></p>	<p><b>MST1-K4-2B</b></p> <p><b>MST1-K4-2A</b></p> <p><b>MST1-K4-2C</b></p> <p><b>MST1-K4-2D</b></p> <p><b>MST1-K5-2A</b></p> <p><b>MST1-K5-2B</b></p> <p><b>MST1-K5-2C</b></p> <p><b>MST1-K6-2A</b></p> <p><b>MST1-K6-2C</b></p> <p><b>MST1-K6-2B</b></p> <p><b>MST6-K3-3A</b></p> <p><b>MST2-K1-1A</b></p> <p><b>MST2-K1-1C</b></p> <p><b>MST2-K1-1D</b></p> <p><b>MST2-K1-1E</b></p>