

**New Paltz Central School District**  
**Science**  
**Physical Science**

<b>Time</b>	<b>Essential Questions/Content</b>	<b>Standards/Skills</b>	<b>Assessments</b>
<b>September – October</b>	<p><b><u>Unit 1: Energy and Energy Transfer</u></b></p> <ul style="list-style-type: none"> <li>• What is energy? What are its different forms?</li> <li>• How is energy transformed and conserved in everyday life?</li> <li>• How can we build devices that convert energy from one form to another?</li> </ul>	<ul style="list-style-type: none"> <li>• Safely and accurately use measurement tools</li> <li>• Use appropriate units for measured and calculated values</li> <li>• Recognize and analyze patterns and trends</li> <li>• Sequence events</li> <li>• Identify cause and effect relationships</li> <li>• Use indicators and interpret results</li> </ul>	<ul style="list-style-type: none"> <li>• Energy project</li> <li>• Quizzes</li> <li>• Tests</li> </ul>
<b>November - December</b>	<p><b><u>Unit 2: Physical Properties of Matter</u></b></p> <ul style="list-style-type: none"> <li>• What are the properties of solids, liquids, and gasses?</li> <li>• How does heat affect matter?</li> <li>• How does the motion of particles determine the phases of matter?</li> </ul>	<ul style="list-style-type: none"> <li>• Follow safety procedures in the classroom and laboratory</li> <li>• Safely use laboratory burner and associated equipment</li> <li>• Identify patterns and trends</li> <li>• Identify cause and effect relationships</li> </ul>	<ul style="list-style-type: none"> <li>• Quizzes</li> <li>• Lab report</li> <li>• Unit test</li> </ul>
<b>January</b>	<p><b><u>Unit 3: Force, Mass, and Weight</u></b></p> <ul style="list-style-type: none"> <li>• What are force, mass, and weight?</li> <li>• What is the relationship between weight and gravity?</li> <li>• How are force, mass, and weight measured?</li> <li>• How are mass and weight related?</li> </ul>	<ul style="list-style-type: none"> <li>• Accurately use a spring scale and balance</li> <li>• Use appropriate units for measured and calculated values</li> <li>• Collect, plot, and graph data</li> <li>• Use computer technology</li> </ul>	<ul style="list-style-type: none"> <li>• Lab report and graph analysis</li> <li>• Quizzes</li> </ul>

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February	<p><b><u>Unit 4: Heat and Heat Transfer</u></b></p> <ul style="list-style-type: none"> <li>• How is heat measured?</li> <li>• How is heat transferred?</li> </ul>	<ul style="list-style-type: none"> <li>• Accurately use instruments for measuring heat</li> <li>• Recognize patterns and trends</li> </ul>	<ul style="list-style-type: none"> <li>• Heat transfer project</li> <li>• Heat transfer lab report</li> <li>• Quizzes</li> </ul>
February - March	<p><b><u>Unit 5: Elements, Atoms, and the Periodic Table</u></b></p> <ul style="list-style-type: none"> <li>• What is an element?</li> <li>• How are elements the building blocks of the universe?</li> <li>• What is an atom and what is its structure?</li> <li>• What are subatomic particles?</li> <li>• What is the periodic table?</li> <li>• How does the position of an atom in the periodic table reflect the atom’s structure?</li> <li>• How do atoms interact?</li> </ul> <p>-----</p> <ul style="list-style-type: none"> <li>• Concept of an element</li> <li>• Properties of elements</li> <li>• Types of subatomic particles and their properties</li> <li>• Atoms and atomic structure</li> <li>• Electron arrangement in an atom</li> </ul>	<ul style="list-style-type: none"> <li>• Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.</li> <li>• Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context.</li> <li>• Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).</li> <li>• Write arguments focused on <i>discipline-specific content</i>.</li> <li>• Write informative/explanatory texts, including scientific procedures/experiments, or technical processes.</li> <li>• Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source, and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.</li> <li>• Use appropriate units for measured and calculated values</li> <li>• Recognize and analyze patterns and trends</li> <li>• Determine the identity of an unknown element using physical and chemical properties</li> <li>• Utilize the organization of the periodic table to predict the structure of an atom</li> <li>• Utilize the organization of the periodic table to predict the properties of an atom</li> <li>• Diagram atoms</li> <li>• Classify objects according to an established scheme</li> </ul>	<ul style="list-style-type: none"> <li>• Lab report</li> <li>• Element project</li> <li>• Tests/quizzes</li> </ul>

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<b>April</b>	<p><b><u>Unit 6: Chemistry</u></b></p> <ul style="list-style-type: none"> <li>• How do chemical changes produce new substances?</li> <li>• How do chemical reactions provide evidence for the Law of Conservation of Mass?</li> <li>• How are substances characterized by how they react?</li> </ul>	<ul style="list-style-type: none"> <li>• Follow safety procedures in the classroom and laboratory</li> <li>• Safely and accurately use measurement tools</li> <li>• Use appropriate units for measured and calculated values</li> <li>• Sequence events</li> <li>• Identify cause and effect relationships</li> <li>• Use indicators and interpret results</li> <li>• Collect data</li> </ul>	<ul style="list-style-type: none"> <li>• Quizzes</li> </ul>
<b>May - June</b>	<p><b><u>Unit 7: Electricity and Magnetism</u></b></p> <ul style="list-style-type: none"> <li>• What is a magnetic field?</li> <li>• What is electricity?</li> <li>• What is an electrical circuit?</li> <li>• How are electricity and magnetism related?</li> <li>• How is electrical energy transformed into other forms of energy?</li> </ul>	<ul style="list-style-type: none"> <li>• Recognize magnetic field lines</li> <li>• Recognize patterns and trends</li> <li>• Diagram and build basic electrical circuits</li> <li>• Collect data</li> <li>• Apply learned concepts to new situations and tasks</li> </ul>	<ul style="list-style-type: none"> <li>• Lab report</li> <li>• Quizzes</li> <li>• Electromagnetic invention project report</li> </ul>