

**RCPS Curriculum Pacing Guide**  
**Subject: Physical Science**  
**2024-2025**

<b>Pacing/Weeks:</b>	<b>SOL #</b>	<b>Objectives:</b>
<b>1 week</b>  <b>August 14-16</b>	PS.1	<b>**PS.1 Scientific Investigation, Reasoning, &amp; Logic (EMBEDDED THROUGHOUT THE CURRICULUM).</b>  <b>Overview and Introduction of Scientific Investigation &amp; Engineering Practices.</b>  The student will demonstrate an understanding of scientific and engineering practices by <ul style="list-style-type: none"><li>a) asking questions and defining problems</li><li>b) planning and carrying out an investigation</li><li>c) interpreting, analyzing, and evaluating data</li><li>d) constructing and critiquing conclusions and explanations</li><li>e) developing and using models</li><li>f) obtaining, evaluation, and communication information</li></ul>

<p><b>3.5 weeks</b></p> <p><b>August 19-Sept 8</b></p>	<p>PS.3</p>	<p>The student will investigate and understand that matter has properties and is conserved in chemical and physical processes. Key ideas include</p> <ul style="list-style-type: none"> <li>a) pure substances can be identified based on their chemical and physical properties;</li> <li>b) pure substances can undergo physical and chemical changes that may result in a change of properties</li> <li>c) compounds form through ionic and covalent bonds; and</li> <li>d) balanced chemical equations model the conservation of matter.</li> </ul>
<p><b>2 weeks</b></p> <p><b>Sept 11-Sept 22</b></p>	<p>PS.2</p>	<p>The student will investigate and understand that matter is composed of atoms. Key ideas include</p> <ul style="list-style-type: none"> <li>a) our understanding of atoms has developed over time;</li> <li>b) the periodic table can be used to predict the chemical and physical properties of matter; and</li> <li>c) the kinetic molecular theory is used to predict and explain matter interactions.</li> </ul>
<p><b>1 week</b></p> <p><b>Sept 25-Sept 29</b></p>	<p>PS.4</p>	<p>The student will investigate and understand that the periodic table is a model used to organize elements based on their atomic structure. Key uses include</p> <ul style="list-style-type: none"> <li>a) symbols, atomic numbers, atomic mass, chemical groups (families), and period are identified on the periodic table; and</li> <li>b) elements are classified as metals, metalloids, and nonmetals.</li> </ul>
<p><b>2 weeks</b></p> <p><b>Oct 2-Oct 13</b></p>	<p>PS.8</p>	<p>The student will investigate and understand that work, force, and motion are related. Key ideas include</p> <ul style="list-style-type: none"> <li>a) motion can be described using position and time; and</li> </ul>

		b) motion is described by Newton's laws.
<b>1 week</b> <b>Oct 16-20</b>	PS.5	The student will investigate and understand that energy is conserved. Key ideas include  a) energy can be stored in different ways; b) energy is transferred and transformed; and c) energy can be transformed to meet societal needs.
<b>1.5 weeks</b> <b>Oct 23-Nov 3</b>	PS. 6	The student will investigate and understand that waves are important in the movement of energy. Key ideas include  a) energy may be transferred in the form of longitudinal and transverse waves; b) mechanical waves need a medium to transfer energy; c) waves can interact; and d) energy associated with waves has many applications.
<b>1 week</b> <b>Nov 6-10</b>	PS.7	The student will investigate and understand that electromagnetic radiation has characteristics. Key ideas include  a) electromagnetic radiation, including visible light, has wave characteristics and behavior; and b) regions of the electromagnetic spectrum have specific characteristics and uses.
<b>1 week</b> <b>Nov 13-21</b>	PS.9	The student will investigate and understand that there are basic principles of electricity and magnetism. Key ideas include  a) an imbalance of charge generates static electricity; b) materials have different conductive properties; c) electric circuits transfer energy; d) magnetic fields cause the magnetic effects of certain materials; e) electric current and magnetic fields are related; and f) many technologies use electricity and magnetism.

<b>2 weeks</b>	SOL Review	Review for Science 6, 7, & 8 SOL.
<b>Nov 27-Dec 8</b>		