

**First Six Weeks Standards:**

- PSc.1.1.1** Explain motion in terms of frame of reference, distance, and displacement.
- PSc.1.1.2** Compare speed, velocity, acceleration and momentum using investigations, graphing, scalar quantities and vector quantities.
- PSc.1.2.1** Explain how gravitational force affects the weight of an object and the velocity of an object in freefall.
- PSc.1.2.2** Classify frictional forces into one of four types: static, sliding, rolling, and fluid.
- PSc.1.2.3** Explain forces using Newton's three laws of motion.
- PSc.3.1.1** Explain thermal energy and its transfer.
- PSc.3.1.2** Explain the law of conservation of energy in a mechanical system in terms of kinetic energy, potential energy and heat.

**Second Six Weeks Standards:**

- PSc.3.2.1** Explain the relationships among wave frequency, wave period, wave velocity and wavelength through calculations and investigation.
- PSc.3.2.2** Compare waves (mechanical, electromagnetic, and surface) using their characteristics.
- PSc.3.2.3** Classify waves as transverse or compressional (longitudinal).
- PSc.3.2.4** Illustrate the wave interactions of reflection, refraction, diffraction, and interference.
- PSc.3.3.1** Summarize static and current electricity.
- PSc.3.3.2** Explain simple series and parallel DC circuits in terms of Ohm's law.
- PSc.3.3.3** Explain how current is affected by changes in composition, length, temperature, and diameter of wire.
- PSc.3.3.4** Explain magnetism in terms of domains, interactions of poles, and magnetic fields.
- PSc.3.3.5** Explain the practical applications

**Third Six Weeks Standards:**

- PSc.2.2.1** Infer valence electrons oxidation number and reactivity of an element based on its location in the Periodic Table.
- PSc.2.2.2** Infer the type of chemical bond that occurs, whether covalent, ionic or metallic, in a given substance.
- PSc.2.2.3** Predict chemical formulas and names for simple compounds based on knowledge of bond formation and naming conventions.
- PSc.2.2.4** Exemplify the law of conservation of mass by balancing chemical equations.
- PSc.2.2.5** Classify types of reactions such as synthesis, decomposition, single replacement or double replacement.
- PSc.2.2.6** Summarize the characteristics and interactions of acids and bases.
- PSc.2.3.1** Compare nuclear reactions including alpha decay, beta decay and gamma decay; nuclear fusion and nuclear fission.

<p><b>PSc.3.1.3</b> Explain work in terms of the relationship among the applied force to an object, the resulting displacement of the object and the energy transferred to an object.</p> <p><b>PSc.3.1.4</b> Explain the relationship among work, power and simple machines both qualitatively and quantitatively.</p>	<p>of magnetism.</p> <p><b>PSc.2.1.1</b> Classify matter as: homogeneous or heterogeneous; pure substance or mixture; element or compound; metals, nonmetals or metalloids; solution, colloid or suspension.</p> <p><b>PSc.2.1.2</b> Explain the phases of matter and the physical changes that matter undergoes.</p> <p><b>PSc.2.1.3</b> Compare physical and chemical properties of various types of matter.</p> <p><b>PSc.2.1.4</b> Interpret data presented in Bohr model diagrams and dot diagrams for atoms and ions of elements 1 through 18.</p>	<p><b>PSc.2.3.2</b> Exemplify the radioactive decay of unstable nuclei using the concept of half-life.</p>
<p><b>First Half-of-Course Standards</b>  <b>(Objectives that take the first half of the course to teach)</b>  1.1.1, 1.1.2, 1.2.1,1.2.2, 1.2.3, 3.1.1, 3.1.2, 3.1.3, 3.1.4, 3.2.1., 3.2.2, 3.2.3, 3.2.4, 3.3.1, 3.3.2, 3.3.3, 3.3.4, 3.3.5</p>		<p><b>Second Half-of-Course Standards</b>  <b>(Objectives that take the second half of the course to teach)</b>  2.1.1, 2.1.2, 2.1.3, 2.1.4, 2.2.1, 2.2.2, 2.2.3, 2.2.4, 2.2.5, 2.2.6, 2.3.1, 2.3.2</p>
<p><b>Year Long Standards</b>  <b>(Objectives that may take the full year to teach)</b>  3.1.1, 3.1.2</p>		