

# Physical Science Pacing Guide

6.8 and 6.9	<p><b>Meaningful Watershed Educational Experiences:</b></p> <p>The student will investigate and understand that land and water have roles in watershed systems</p> <p>The student will investigate and understand that humans impact the environment and individuals can influence public policy decisions related to energy and the environment</p> <p><i>These will be embedded throughout the year through the learning activities with the James River Association.</i></p>	10-15 days and embedded throughout the year
SOL #	NW1 - Topic/Unit	Suggested Time Frame
PS 1	<p><b>Unit 1: Scientific and Engineering Practices</b> (steps of the scientific method, graphing, independent and dependent variables, metric measurements, accuracy/precision, quantitative vs qualitative)</p>	15 days and embedded throughout the year
PS 2a, c	<p><b>Unit 2: Atomic Theory and the Kinetic Molecular Theory</b> (composition of matter, subatomic particles, matter interactions)</p> <p><i>Embed 6.6: The student will investigate and understand that water has unique physical properties and has a role in the natural and human-made environment.</i></p>	10 days
PS 3a, b	<p><b>Unit 3: Chemical and Physical properties of Matter</b> (physical states of matter, properties of matter, elements, compounds and mixtures, endothermic and exothermic reactions)</p> <p><i>Embed 6.5: The student will investigate and understand that all matter is composed of atoms</i></p>	20 days
SOL #	NW 2 - Topic/Unit	Suggested Time Frame
PS 1	<p><b>Unit 1: Scientific and Engineering Practices</b></p>	Embedded throughout the year
PS. 4	<p><b>Unit 4: Periodic Table</b></p> <p>(symbols, atomic numbers, atomic mass, groups, periods, metals, metalloids, and nonmetals)</p>	15 days

PS 3c, d	<b>Unit 5: Chemical Bonding and Chemical Equations</b> (ionic and covalent bonding, balancing equations, and conservation of matter)	10 days
PS 2b	<b>Unit 6: Physical and Chemical Properties Prediction</b> (valence electrons, energy levels, metals, metalloids, and nonmetals)	10 days
<b>SOL #</b>	<b>NW3 - Topic/Unit</b>	<b>Suggested Time Frame</b>
PS 1	<b>Unit 1: Scientific and Engineering Practices</b>	Embedded throughout the year
PS 5	<b>Unit 7: Forms of Energy and Transformations</b> (potential and kinetic energy, energy transfer and transformation) <i>Embed 6.4: The student will investigate and understand that there are basic sources of energy and that energy can be transformed.</i>	15 days
PS 8	<b>Unit 8: Force and Motion</b> (work, position time, Newton's laws)	15 days
PS 6	<b>Unit 9: Waves and Sound</b> (longitudinal and transverse waves, wave interactions, wave energy)	10 days
PS 7	<b>Unit 10: Light and Electromagnetic Spectrum</b> (light wave characteristics, visible light, UV, infrared, radio, x-rays, gamma rays)	5 days
<b>SOL #</b>	<b>NW 4 - Topic/Unit</b>	<b>Suggested Time Frame</b>
PS 1	<b>Unit 1: Scientific and Engineering Practices</b>	Embedded throughout the year
PS 7	<b>Unit 10: Light and Electromagnetic Spectrum</b> (reflection, refraction, interference, diffraction and geometric optics)	5 days
PS 9	<b>Unit 11: Electricity and Magnetism</b> (static electricity, electric circuits, magnetic fields and effects, voltage, resistance and current)	15 days
Review & Assessment	Science SOLs & All Skills Listed Above	25 days