

## Chemistry of Earth and Space Science Scope & Sequence

Days	Unit	Standard(s)/Outcome(s)	Essential/Guiding Questions
25	Chemistry of the Big Bang <ul style="list-style-type: none"> <li>● Solar System Formation- Planetary Formation</li> <li>● Atomic Foundations</li> <li>● Light</li> <li>● Atomic Structure</li> <li>● Radioactivity &amp; Radiation</li> <li>● Fusion &amp; Fission</li> </ul>	HS-ESS1-1 HS-ESS1-2 HS-ESS1-3 HS-ESS1-5 HS-ESS1-6 HS-ESS2-1 HS-ESS2-3 HS-ESS2-4 HS-ESS3-6 HS-PS1-8	<i>How can we use chemistry to explain what we observe in the universe?</i>
20	Chesapeake Bay Watershed <ul style="list-style-type: none"> <li>● Chemical Properties of Water</li> <li>● Mixtures &amp; Pure Substances</li> <li>● Density</li> <li>● Qualitative vs. Quantitative Properties</li> <li>● Physical Properties of Water</li> <li>● Chemical Properties of Water</li> </ul>	HS-PS1-3 HS-PS1-5 HS-ESS2-2 HS-ESS2-4 HS-ESS2-5 HS-ESS3-2 HS-ESS3-5 HS-ESS3-6	<i>Why isn't water always considered safe?</i>
20	Dangerous Compounds <ul style="list-style-type: none"> <li>● Electron Configuration</li> </ul>	HS-PS1-1 HS-PS1-2	<i>How might elements and compounds pose a danger to</i>

	<ul style="list-style-type: none"> <li>● Lewis Dot Diagrams</li> <li>● Periodic Table Patterns</li> <li>● Ionic Compounds</li> <li>● Covalent Compounds</li> </ul>	<p>HS-PS1-3 HS-PS1-4</p>	<p><i>us?</i></p>
25	<p>Hot and Cold Packs</p> <ul style="list-style-type: none"> <li>● Exothermic and Endothermic Reactions</li> <li>● Synthesis Reactions</li> <li>● Decomposition Reactions</li> <li>● Single Replacement Reactions</li> <li>● Double Replacement Reactions - Acid Rain</li> <li>● Neutralization Reactions - Ocean Acidification</li> <li>● Combustion Reactions</li> <li>● Stoichiometry</li> </ul>	<p>HS-PS1-2 HS-PS1-4 HS-PS1-6 HS-PS1-7 HS-ESS2-4 HS-ESS3-6</p>	<p><i>How is energy transferred in hot and cold packs?</i></p>