

Chemistry of Earth and Space Science Scope and Sequence

Days	Unit	Standard(s)/ Outcome(s)	Essential/Guiding Questions
25	Chemistry of the Big Bang <ul style="list-style-type: none"> • Solar System Formation- Planetary Formation • Atomic Foundations • Light • Atomic Structure • Radioactivity & Radiation • Fusion & Fission 	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 MD Environmental Literacy Standards: 1, 2	<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"> • Chemical Properties of Water • Mixtures & Pure Substances • Density • Qualitative vs. Quantitative Properties 	HS-PS1-3 HS-PS1-5 HS-ESS2-2 HS-ESS2-4 HS-ESS2-5 HS-ESS3-2 HS-ESS3-5 HS-ESS3-6 MD Environmental Literacy Standards: 1, 2, 3, 4, 5	<i>Why isn't water always considered safe?</i>

	<ul style="list-style-type: none"> • Physical Properties of Water • Chemical Properties of Water 		
20	<p>Dangerous Compounds</p> <ul style="list-style-type: none"> • Electron Configuration • Lewis Dot Diagrams • Periodic Table Patterns • Ionic Compounds • Covalent Compounds 	<p>HS-PS1-1 HS-PS1-2 HS-PS1-3 HS-PS1-4</p>	<p><i>How might elements and compounds pose a danger to us?</i></p>

25	<p>Hot and Cold Packs</p> <ul style="list-style-type: none"> • Exothermic and Endothermic Reactions • Synthesis Reactions • Decomposition Reactions • Single Replacement Reactions • Double Replacement Reactions - Acid Rain • Neutralization Reactions - Ocean Acidification • Combustion Reactions • Stoichiometry 	<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>
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