

# Chemistry - Reactions & Stoichiometry

Time Frame: 15 days	Unit Title: Reactions & Stoichiometry	Course Name: Chemistry
<b>Stage 1: Desired Results</b>		
<b>Established Goal(s)</b>	<b>Transferable Skills</b>	
<p><b>NGSS Standards Addressed:</b></p> <p>HS-PS1-2 Construct and revise an explanation for the outcome of a simple chemical reaction based on the outermost electron states of atoms, trends in the periodic table, and knowledge of the patterns of chemical properties.</p> <p>HS-PS1-7 Use mathematical representations to support the claim that atoms, and therefore mass, are conserved during a chemical reaction.</p>	<p><i>Students will be able to independently use their learning to...</i></p> <p>Predict outcomes of chemical reactions.</p>	
	<b>Meaning</b>	
	<p><u><b>Understandings</b></u></p> <p><i>Students will understand that..</i></p> <ul style="list-style-type: none"> <li>★ Matter is recycled and conserved in closed system</li> <li>★ Correctly applying a mathematical relationship allows us to translate information into a different form</li> <li>★ Patterns can be observed and used to predict outcomes</li> </ul>	<p><u><b>Essential Questions</b></u></p> <ul style="list-style-type: none"> <li>★ How do engineers know how much of a compound will be needed to fill a safety airbag in a car?</li> <li>★ How do scientists know how much pollution a car can emit by burning gasoline?</li> </ul>
	<b>Acquisition</b>	
	<p><i>Students will know...</i></p> <ul style="list-style-type: none"> <li>★ The five basic types of chemical reactions</li> <li>★ Criteria for a chemical reaction</li> <li>★ Safety Rule in the laboratory</li> <li>★ Mole ratios, molar mass</li> </ul>	<p><i>Students will be able to...</i></p> <ul style="list-style-type: none"> <li>★ Analyzing evidence of a chemical change</li> <li>★ Interpreting solubility rules</li> <li>★ Balancing chemical reactions</li> <li>★ Safely perform chemical reactions in a lab</li> <li>★ Interpreting coefficients of a balanced equation as mole ratios</li> <li>★ Use mole ratios to calculate quantities of products or reactants.</li> </ul>