

Chemistry - Reactions & Stoichiometry

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