

Grade	10-12
Unit of Study	Unit 5: Chemical Reactions
Length of Unit	3 weeks
Sample Essential Questions	Sample Corresponding Big Ideas
When given reactants how can we predict the products of a chemical reaction?	The types of reactants present can help us predict the type of rearrangement to expect. (synthesis, decomposition, single replacement, double replacement)
Why do we balance chemical equations?	Balancing is a process to ensure that the chemical equation models the ratios at which the chemical reaction actually occurs in nature. (conserves mass)

Missouri Learning Standards	
Priority Standard(s)	Supporting Standard(s)
I can explain how matter is structured, how its properties are determined by its structure, and how it changes during chemical reactions.	9-12.PS1.A.2, 9-12.PS1.B.3

Unit 5 Sequence			
MLS	Topic(s)	Learning Targets	Academic Vocabulary
PS1.A.2 PS1.B.3	Conservation of Mass	I can use the law of conservation of mass to explain why we balance chemical reactions.	Law of Conservation of Mass Reactants/Products Yields Coefficients/Subscripts
	Types of Reactions	I can predict the products of chemical reactions based on the reactants present. I can recognize and predict the products of the special types of decomposition. (metallic oxides and metallic carbonates)	Synthesis Decomposition Single Replacement Activity Series Double Replacement Solubility Rules

MLS	Learning Activities	
<i>PS1.A.2</i>	Types of Chemical Reactions Lab	Must Do ▾
<i>PS1.B.3</i>	Reaction Matrix Precipitation Lab	Must Do ▾
	Recovery of Copper Lab	Can Do ▾

Assessments		
MLS	Description or Location	Rubric/Location
<i>PS1.A.2</i> , <i>PS1.B.3</i>	Unit 5 Test	Paper

Additional Resources
Phet, OpenStax, Javalab