

Grade	10-12
Unit of Study	Unit 7: Gasses
Length of Unit	2 weeks
Sample Essential Questions	Sample Corresponding Big Ideas
What are the different variables that can be adjusted to change the volume of a sample of ideal gas?	Pressure and volume are inversely proportional (constant temp) Temperature and volume are directly proportional (constant pressure) Moles and volume are directly proportional (const. Pressure and temp.)

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.3
I can explain how forces and interactions between particles affect the behavior and properties of matter.	

Unit 7 Sequence			
MLS	Topic(s)	Learning Targets	Academic Vocabulary
PS1.A.3	Gas Laws	I can use gas laws to calculate gas quantities. I can recognize a direct/inverse relationship based on the graph provided.	Directly Proportional Inversely Proportional Combined Gas Law Ideal Gas Law
	Gas Stoichiometry	I can calculate chemical quantities both at STP and not at STP.	STP

MLS	Learning Activities	
PS1.A.3	Molar Mass of Butane Lab	Must Do ▾
	Stoichiometry Pipette Rocket Lab	Must Do ▾
	Phet Simulation: Gas Properties	Can Do ▾
	Vapor Pressure of a Soda Activity	Can Do ▾

Assessments		
MLS	Description or Location	Rubric/Location
PS1.A.3	Unit 7 Test	Paper

Additional Resources	
Phet, OpenStax, Javalab	