

**Molecular “Derivation” of the Gas Laws Using Simulator Notes Sheet      Learning Target 1d:** I can state and apply the gas laws.

Gas Laws: show changing one property (P,V,n,T) of a gas affects another, assuming remaining variables are held constant

**Pressure vs. Volume (Boyle’s Law)**

Constants	
Relationship	
Equation	
Sketch of Graph	
Molecular explanation	

**Pressure vs. Temperature (Gay-Lussac’s Law)**

Constants	
Relationship	
Equation	
Sketch of Graph	
Molecular explanation	

**Volume vs. Temperature (Charles’s Law)**

Constants	
Relationship	
Equation	
Sketch of Graph	
Molecular explanation	

**Pressure vs. moles of gas**

Constants	
Relationship	
Equation	
Sketch of Graph	
Molecular explanation	

**Volume vs. moles of gas (Avogadro’s Law)**

Constants	
Relationship	
Equation	
Sketch of Graph	
Molecular explanation	

**Temperature vs. moles of gas**

Constants	
Relationship	
Equation	
Sketch of Graph	
Molecular explanation	

Combined Gas Law

Constants	
Equation	
Shows how all of the variables for a fixed amount of gas will change in response to one another. Simper gas laws can be derived from this one	
General Notes/Examples	

Ideal Gas Law

Constants	
Equation	
Shows how all of the variables will change in response to one another for any amount of gas. Most general form-all other gas laws can be derived from this one.	
General Notes/Examples	