Quiz #3 - Now 11/21/19

Pressure (7.2): \( p = \frac{F}{A} \)

Units of Pressure (1 mm Hg = 1 torr)

Gas relationships \( (P/V/T) \) (7.3)

- Balloon \( (\sqrt{\text{V} \times T}) \)
- Metal can \( (P \times T) \)
- Piston \( (P \times V \text{ or } P \times V = 1) \)

An increase in temperature causes an increase in the average kinetic energy of the atoms or molecules in a system.

Ideal gas law: \( PV = nRT \) (7.5)

Partial Pressures (7.6)

Vapor pressure (7.8A)

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Partial Pressures

In a system that contains multiple gases, the pressure that each individual gas exerts is known as partial pressure. [The total pressure in the system is the sum of partial pressures.]

\[ P_{\text{H}_2} + P_{\text{O}_2} + P_{\text{N}_2} = P_{\text{Total}} \]

This statement is only true if the gasses are ideal. For example, if the gasses have strong intermolecular forces, they will heavily interact with each other, which will affect the total pressure.
Intermolecular Forces (IMF)
- Attractive electrostatic (interaction of opposite charge) forces that cause molecules to potentially form solid or liquid phases.

Types of IMF

- Ionic: ions have full charges so they generate strong IMF
- Permanent dipoles: an imbalance in charge caused by molecular geometry
- Temporary dipoles: an temporary imbalance in charge caused by molecular motion or interaction.

Office Hours
- M 10:30 AM
- TuTh 1:30 PM
- F 9:30 AM