

Honors Chemistry – Topic VII Outline

Solids, Liquids and Gases

I. Gases

- A. General Properties of Gases pp. 386-416
- B. Kinetic Molecular Theory
- C. Measuring Pressure and Temperature
- D. Relationships Between P, V, T & Moles: The Gas Laws
 - 1. Boyle's Law, Charles' Law, Combined Law, and Dalton's Law of partial pressure
 - 2. *Graham's Law of Effusion
- E. Real v. Ideal Gases
 - 1. Ideal gas law
 - 2. Gas stoichiometry
 - 3. *Critical Temperature & pressure

II. Liquids

pp. 426-428; 435-437; 528-529

- A. General Properties of Liquids
- B. Equilibrium Vapor Pressure
 - 1. Factors determining
 - 2. Vapor pressure curves
 - 3. LeChatelier's Principle
 - 4. Boiling points

III. Solids

pp. 437-441; 357; 95-96

- A. General Properties of Solids
- B. Crystalline vs. *Amorphous Solids
 - 1. *Crystal families
 - 2. *Unit cells
- C. Allotropes

IV. Changes In State

pp. 428-433 (top)

- A. Heating & Cooling Curves
 - 1. Heat of vaporization
 - 2. Heat of fusion
 - 3. Specific heat/heat capacity
 - 4. Energy required for state changes
- B. *Phase Diagrams

* Concept not in our textbook

