

## Chapter 12 - New Material

- meaning of STP - standard T + P  
273.15K 1atm
- Combined gas law  $\frac{P_1 V_1}{T_1} = \frac{P_2 V_2}{T_2}$  constant n
- Standard molar volume of gas - 22.4 L/mol
- Avogadro's Law:  $\frac{V_1}{n_1} = \frac{V_2}{n_2}$  constant n, P
- Density calculations: at STP and non-STP
- Ideal Gas Law + calculations
- Dalton's law of partial pressure:  
$$P_{\text{total}} = P_A + P_B + P_C \dots$$
$$P_{\text{total}} V = n_{\text{total}} RT$$
- Kinetic Molecular Theory of Gases  
know assumptions
- Calculate relative velocities of gases  
 $KE_{\text{Gas A}} = KE_{\text{Gas B}}$  at same T
- Know that real gases behave ideally at high T, low P
- Stoichiometry calculations involving gases.