The Combined Gas Law

- Expresses the relationship between the _____, _____ and _____ of a _____ amount of _____.

- _____ or _____

Ex: A sample of gas has a volume of _____ L when its temperature is _____ K and its pressure is _____ mm Hg. What volume will the gas occupy at STP?

V_1 = _____ V_2 = _____

T_1 = _____ T_2 = _____

P_1 = _____ P_2 = _____

Diffusion

- The _____ spreading of a _____

Graham's Law of Diffusion

- Under the same conditions of _____ and _____, gases _____ at a rate _____ proportional to the _____ _____ of their _____ (or _____ _____)

- _____ or _____

Ideal Gas Equation

- _____
- New variables:
  n = _____ of gas in _____
  R = _____ _____ _____
  * _____ constant
  * value depends on _____ used for _____ and _____
  * value of R when using _____ and _____,
    R = _____

Ex: The average lung capacity for a female student is 3.9 L. At normal body temperature, 37°C, and 110 kPa, how many moles of air could her lungs hold?

P = _____ V = _____ T = _____
n = _____ R = _____

Avogadro's Law

- Equal _____ of different _____ under the _____ conditions have the _____ number of _____.
- Conversely, if samples of _____ _____ at the same _____ and _____ contain the _____ number of _____, then the _____ of all the _____ must be _____.
- At _____, one _____ of any gas occupies a _____ of _____.
- _____ is the _____ _____ of a gas.

Ex. 3.2 moles of KNO_3 are heated, producing O_2 and KNO_2. Calculate the volume of O_2 in liters, that could be obtained at STP.

Dalton's Law of Partial Pressures

- The _____ of a gas _____ is the _____ of the _____ _____ of each gas _____.
- _____

Ex: Oxygen gas has been collected over water at a total pressure of 95.0 kPa and a temperature of 25°C. What is the pressure of the dry oxygen gas?

The Chemistry Quiz

CR1. _____ CR2. _____ 1. _____ 2. _____

3. _____ 4. _____ 5. _____