

## ~ GAS LAW PRACTICE #2: MOLAR VOLUME OF A GAS AT STP ~

### DIRECTIONS:

- You can refer to the single “Mole Map” if necessary. This is not stoichiometry.
  - 22.4 L = 1 mol
  - Thought question: What two conditions must exist for you to be able to use “22.4 L = 1 mol”?
- 1) Calculate the volume in L of oxygen gas collected at STP if the sample has a mass of 2.67 g.
  - 2) What is the number of particles in 5600 g of xenon gas?
  - 3) Calculate the volume, in mL, of  $1.01 \times 10^{24}$  r.p. of neon gas collected at STP.
  - 4) 75.6 L  $\text{SO}_2$  gas is collected at STP. What is the mass of the gas?
  - 5) How many grams are contained in  $5.6 \times 10^{24}$  r.p. of Ar gas?
  - 6) What is the mass of 39.8 L of He gas collected at STP?
  - 7) How many L of hydrogen gas at STP are contained in 16 g  $\text{H}_2$  at STP?
  - 8) How many representative particles of CO are in 3.449 g of CO gas?
  - 9) Calculate the number of particles in 390 L of a sample of oxygen gas at STP.
  - 10) A sample of carbon dioxide gas contains  $3.3 \times 10^{23}$  particles. How many grams of gas are in the sample?