Percent Composition

$$\text{percent} = \frac{\text{part}}{\text{whole}} \times 100$$

ALL PERCENTS SHOULD ADD UP TO EQUAL 100

*Report percents to two decimal places (hundredths place).

Steps:

1. Find the molar mass of each element in the compound.
2. Multiply by how many molecules of each element.
3. Divide by the total molar mass of the compound.
4. Multiply by 100.

Example #1:   Calculate the percent composition of hydrogen and oxygen in water.

Example #2: If there are 2.50 g of carbon and 5.75 g of oxygen in CO_2, what is the percent composition?

Example #3: If iron makes up 69.94 % of the mass of iron (III) oxide. Calculate the mass of iron (in g) present in 250. g of iron (III) oxide.

Example #4: How many grams of iron are in 85.2 g of iron (III) sulfate?

HOMEWORK: Percent Composition

Part I: Calculate the percent composition of each element present in the compounds.

1. A sample of a compound that only contains arsenic and chlorine has a mass of 65.7 g. When the sample is analyzed, it is found to consist of 27.1 g arsenic and the rest is chlorine. Find the percent composition of **each element.**

2. If magnesium makes up 31.84% of magnesium cyanide. Calculate the mass of magnesium, in grams, if the total sample of magnesium cyanide has a mass of 57.8 g.

Part II. Calculate the percent composition of EACH element in the following compounds based on the formula of the compound.

3. Sucrose ($C_{12}H_{22}O_{11}$)

4. Calcium nitrate

Part III. Solve the following.

5. How many grams of calcium are found in 25.5 grams of calcium bromide?