Name _____ Date _____ Period ____

5.1 Percent Composition (S) & 5.2 Molecular & Empirical Formulas (S) Notes

I have a crate with 30 lb of bowling balls and 20 lb of marbles (total of _____ lb).

Are there more marbles or bowling balls?

By Mass   By Number

I have a substance of 69.9% iron and 30.1% oxygen.

Note: when you're given percent, they are always using **mass**, not **number** (of particles). This is called the _____ _____.

This answer is called the _____ formula.
Definition: ratio of atoms in a compound in simplest form.

Finding **Empirical Formula** from **Percent Composition**

1) Change percentages to _____.

2) Convert _____ to _____.

3) Write as an empirical formula and divide by the

_____ _____.

4) If necessary, multiply to make everything a

_____ _____.

Practice/HW:

Example: Carbon = 60.0% Hydrogen = 13.4% Oxygen = 26.6%

Name _____ Date _____ Period ____

Molecular Formula
Example (see pg 244):

Compound	Empirical Formula	Molecular Formula	Molar Mass

The important thing to know is the _____ _____.

Finding **Molecular Formula** from the **Empirical Formula**:

1) Find the _____ _____ of the empirical

formula.

2) Find out how many times the molar mass of the empirical

formula goes into the molar mass of the compound (divide).

3) Multiply that number by the empirical formula.

Practice/HW:

> Example:
> Empirical Formula = P_2O_5
> Molar Mass of Compound = 284 g/mol

Finding **Percent Composition** from the **Molecular Formula:**

1) Convert _____ to _____ for each

element.

2) Divide each by the total molar mass.

Practice/HW:

> Example:
> Find percent composition of CO_2