**Percent composition:**

“% by weight”

% copper in malachite: Cu2CO3(OH)2 ?

**Using % Composition: Determining Empirical Formulas**

A compound contains:

43.6% P

56.4% S

**Determining Empirical Formulas**

A compound is found to contain

C, H, and O with composition:

C:     68.11%

H:     13.75%

O:     18.14%

What is the empirical

formula of this

compound?

**Solving Hard Problems**4.56 g of a compound containing Fe and P is reacted so that the P is converted to phosphate ion, PO43-. It is then precipitated by forming an ionic compound with Ca2+ ions. The mass of the calcium phosphate has a mass of 6.16 g. What is the empirical formula of the original compound?

**Empirical vs. Molecular Formulas**

Build CF3CF3

Determine % composition of C and F:

Use % composition to determine formula:

Example:

P: 15.12%, N: 6.841%, Br: 78.04%

Molar mass = 614.3 g/mol

**Hydrated Compounds:**

A compound is: CoCl2 ⋅ x H2O

Mass before heating: 32.86 g

Mass after heating: 17.93 g

What is x?