Name _____ date _____ hour _____

Percent Composition – Practice Worksheet 1

The percentage composition of a compound or molecule indicates the mass that each element in the compound or molecule contributes to the TOTAL formula or molecular mass. Take, for example, CO_2. What percent of the total mass of this molecule is due to the mass of the Carbon atom? What percent of the total mass of this molecule is due to the mass of the 2 oxygens? How can we find out? Let's start with what we already know how to do. Let's find the molecular mass of this molecule!

C = 12.01g (or u)

O = 2 x 16.00g (or u)

_____

Molecular mass = 44.01g (or u)

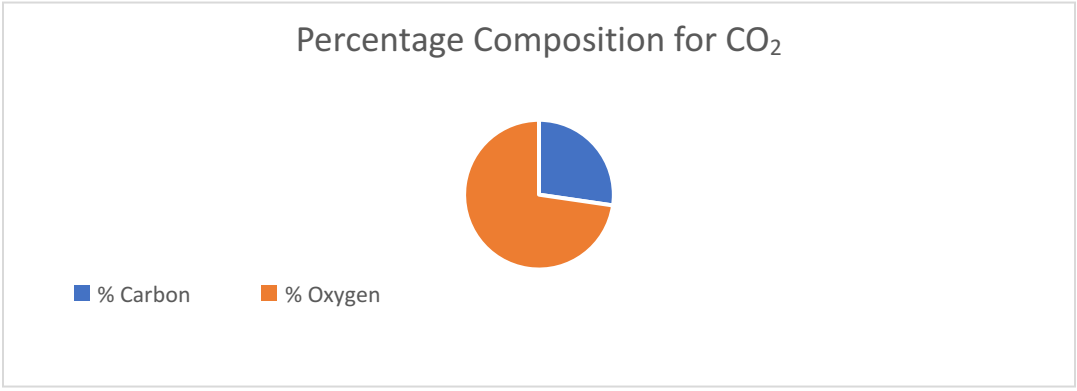
NOTE – you can use "u" for atomic mass units instead of g here.

Percent Composition:

% Carbon = $\frac{\text{Mass of carbon}}{\text{Molecular mass}} \times 100\%$ so $\frac{12.01u}{44.01u} \times 100\% = 27.3\%$

% Oxygen = $\frac{\text{Mass of 2 oxygen}}{\text{Molecular mass}} \times 100\%$ so $\frac{32.00u}{44.01u} \times 100\% = 72.7\%$

NOTE: If Carbon contributes 27.3% of the mass of CO_2 and Oxygen contributes 72.7% of the mass of CO2, these percentages should add up to 100%, right?
ALWAYS CHECK YOUR MATH AT THE END! 27.3% + 72.7% = 100% CO_2
Yipppeee! I did it correctly ☺



Name _____ date _____ hour _____

Percent Composition – Practice Worksheet 1 (pg. 2)

You give it a try! – Find the percent composition of each element in the compounds below. Show your work!

1. NiI_2 - Nickel (II) Iodide

2. $Ca(CN)_2$ – Calcium Cyanide (Carbon with Nitrogen)

3. Al_2S_3 – Aluminum Sulfide

***Check your math – Do your values add up to 100%?**