MUST SHOW ALL CALCULATIONS TO EARN CREDIT

<u>Molar Mass:</u> Calculate the molar mass of ethanol, CH_3CH_2OH.

<u>Percent Composition</u>: Calculate the percent composition of <u>all elements</u> in ethanol, CH_3CH_2OH.

<u>Empirical Formula:</u> Find the empirical formula of a compound that contains 55.26% potassium, 14.59% phosphorus, and 30.15% oxygen. What is its empirical formula?

Element	Change % to Grams	÷ Molar Mass	= Moles	÷ Smallest Moles	= Subscripts
	g	÷	=	÷	=
	g	÷	=	÷	=
	g	÷	=	÷	=

Empirical Formula = _____   Name _____

<u>Molecular Formula</u>: An ingredient, used by the pharmaceutical industry, for its anti-inflammatory properties has an empirical formula of C_4H_6O and a molar mass of 350 grams per mole. What is the molecular formula of this compound?

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<u>Molar Mass:</u> Calculate the molar mass of iron III sulfate, $Fe_2(SO_4)_3$.

<u>Percent Composition</u>: Calculate the percent composition of <u>all elements</u> in iron III sulfate, $Fe_2(SO_4)_3$.

<u>Empirical Formula:</u> Find the empirical formula for a toxic preservative called BHT that contains 81.76% carbon, 10.98% hydrogen, and 7.26% oxygen.

Element	Change % to Grams	÷ Molar Mass	= Moles	÷ Smallest Moles	= Subscripts
	g	÷	=	÷	=
	g	÷	=	÷	=
	g	÷	=	÷	=

Empirical Formula = _____   Name _____

<u>Molecular Formula:</u> A metabolite from Penicillium brefeldianum that exhibits a wide range of antibiotic activity has the empirical formula of C_4H_6O and a molecular mass of 280.36 g/mol. Find the molecular formula.

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<u>Molar Mass:</u> Calculate the molar mass of sodium phosphate, Na_3PO_4.

<u>Percent Composition:</u> Calculate the percent composition of <u>all elements</u> in sodium phosphate, Na_3PO_4.

<u>Empirical Formula:</u> Find the empirical formula for a common bath salt that contains 20.19% magnesium, 26.64% sulfur, and 53.17% oxygen.

Element	Change % to Grams	÷ Molar Mass	= Moles	÷ Smallest Moles	= Subscripts
	g	÷	=	÷	=
	g	÷	=	÷	=
	g	÷	=	÷	=

Empirical Formula = _____   Name _____

<u>Molecular Formula:</u> A plant metabolite has an empirical formula of CH_4O and a molar mass of 128 grams per mole. What is the molecular formula of this compound?

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Molar Mass: Calculate the molar mass of ammonium phosphide, $(NH_4)_3P$.

Percent Composition: Calculate the percent composition of <u>all elements</u> in ammonium phosphide, $(NH_4)_3P$.

Empirical Formula: Find the empirical formula of a hydrocarbon, used as a hand sanitizer, that contains 59.959% carbon, 13.418% hydrogen, and 26.624% oxygen.

Element	Change % to Grams	÷ Molar Mass	= Moles	÷ Smallest Moles	= Subscripts
	g	÷	=	÷	=
	g	÷	=	÷	=
	g	÷	=	÷	=

Empirical Formula = _____   **Name _____**

Molecular Formula: An ingredient often used as a conditioner, delivery agent, and lubricant in beauty products has an empirical formula of C_2H_6OSi and a molar mass of 370.77 g/mol. What is the molecular formula of this compound?