CHEMISTRY

THE EMPIRICAL FORMULA

Molecular Formula -

Ex:

Empirical Formula -

Ex:

It is possible for two compounds to have different molecular formulas, but the same empirical formula:

	Molecular Formula	Empirical Formula

The relationship between the molecular formula and the empirical formula is expressed as:

Ex:

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Determining a Compound's Empirical Formula

In order to determine the empirical formula, we will use percent compositions to create a molar ratio. The molar ratio will then give us the subscripts for the empirical formula

**to solve these questions, if a mass isn't given, assume you have a 100 g sample, then calculate the number of moles.*

Ex: *Calculate the empirical formula of a compound that is 85.6% carbon and 14.4% hydrogen.*

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Determining a Compound's Empirical Formula - Cont

Sometimes you may get a molar ratio that has a decimal. Convert this decimal to a whole number by multiplying it by a constant.

Ex: *Calculate the empirical formula of a compound that is 69.9% iron and 30.1% oxygen*

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Ex: *Calculate the empirical formula of a compound that is 81.7% carbon and 18.3% hydrogen.*

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HOMEWORK

Pg. 273 #31 - 40

31. CH_3
32. Mg_2Cl
33. $CuSO_4$
34. $K_2Cr_2O_7$
35. NH_3
36. Li_2O
37. BF_3
38. Cl_3S_5
39. Na_2CO_3
40. P_2O_5