STEPS TO DETERMINE A MOLECULAR FORMULA

MOLECULAR FORMULAS ARE…

- The “true” formula for a molecular compound
- Always either the same as the empirical formula, or…
- A whole multiple larger that the empirical formula

	Empirical formula	Molecular formula
Hydrogen peroxide	HO	H_2O_2
Glucose	CH_2O	$C_6H_{12}O_6$
Ammonia	NH_3	NH_3

STEP 1

- Calculate the molar mass of the empirical formula

STEP 2

- Compare the molar mass of the empirical formula to the given molar mass of the compound

IF…

- If the molar mass of the empirical formula is ***the same*** as the given molar mass of the compound, the empirical formula **IS** the molecular formula

IF…

- If the molar mass of the empirical formula is ***not the same*** as the given molar mass of the compound…
- ***Divide*** *the given molar mass by the molar mass of the empirical formula*
  - The answer should be a <u>whole number</u>!
- Multiply the subscripts of the empirical formula by this whole number to get the molecular formula