



## **Stoichiometry**

**Chemistry – Leaving Cert**

**Quick Notes**

# Stoichiometry

To calculate the percentage of an element in a compound, put the relative atomic mass of the element over the molecular weight of the compound and multiply this by 100. The empirical formula of a compound is the formula which gives the simplest whole number ratio of the elements in the compound. To determine the empirical formula of a compound we use percentage composition. The molecular formula of a compound is the formula that gives the actual number of each atom in the molecule. Similarly, there are methods to calculate the empirical formula of a compound when given the masses of reactants and products. Also, the masses of reactants or products can be calculated from balanced chemical equations. The limiting reactant is the reagent that determines the amount of product formed. The reagent that is present along with the limiting reactant is said to be in excess. Knowing which is which, allows calculations to be carried out regarding the number of moles in the equation. The yield is the mass of product formed in a chemical equation. The theoretical yield is the yield of a product that is calculated from a chemical equation. The yield that is obtained in practice is called the actual yield. Therefore, the yield can be expressed as a percentage. Percentage yield is the actual mass of product over the theoretical mass of product multiplied by 100.