

Term	Definition
Balanced equation	a chemical equation in which the number of moles of each element on the reactants side is equal to the number of moles of each element on the products side
Coefficient	the integer that appears in front of an element, molecule, or compound indicating the number of moles present
Decomposition reaction	a chemical reaction in which a compound is broken down into simpler substance Ex: $AB \rightarrow A + B$
Double-replacement reaction	a chemical reaction in which a metal replaces a metal AND a nonmetal replaces a nonmetal within two compounds; two compounds "trade" elements Ex: $AB + XY \rightarrow AY + XB$
Empirical formula	formula for a compound which provides the simplest ratio of the elements present Ex: The empirical formula for the molecule $C_6H_{12}O_6$ is CH_2O
Formula mass (FM)	the sum of the atomic masses of a substance in a.m.u.
Gram formula mass (GFM)	the sum of the atomic masses of a substance in grams
Law of conservation of energy	in any chemical reaction, energy can neither be created nor destroyed; the energy of the reactants must be equal to the energy of the products
Law of conservation of mass	in any chemical reaction, mass can neither be created nor destroyed; the mass of the reactants must be equal to the mass of the products
Mole	a quantity of 6.02×10^{23} units of a substance; the amount of a substance equal to the sum of the atomic masses in grams; Avogadro's number
Molecular formula	formula for a compound which provides the number and identity of the atoms of each element present Ex: $C_6H_{12}O_6$
Percent mass	mass of part/mass of whole $\times 100\%$
Single-replacement reaction	a chemical reaction in which a metal replaces a metal OR a nonmetal replaces a nonmetal within a compound Ex: $A + BC \rightarrow AC + B$
Species	the individual products and reactants in a chemical reaction
Subscript	the integer to the lower right of an element which indicates the number of atoms present in the compound
Synthesis reaction	a chemical reaction in which two or more substances combine to form a compound Ex: $A + B \rightarrow AB$