

Chemistry unit 1- Key definitions

Key term	Definition
Isotope	Same number of protons different number of neutrons
Relative atomic mass	the average mass of an atom/ 1/12th the mass of one atom of C12
Relative molecular mass	the average mass of an molecule/ 1/12th the mass of one atom of C12
1st ionisation energy	the enthalpy change when one mole of gaseous atoms forms one mole of gaseous ions with a single positive charge
2nd ionisation energy	the enthalpy change when one mole of gaseous ions with a single positive charge forms one mole of ions with a double positive charge
Electronegativity	the relative tendency of an atom in a covalent bond to attract electrons to the covalent bond itself
Covalent bonding	a shared pair of electrons
Ionic bonding	the electrostatic forces of attraction between oppositely charged ions caused by electron transfer
Metallic bonding	the electrostatic forces of attraction between positive metal ions and a sea of delocalised electrons
Empirical formula	the simplest whole number ratio of the number of atoms of each element in a compound
Molecular formula	the actual number of atoms of each element in a compound
Structural formula	shows all the covalent bonds in a molecule
Displayed formula	the drawn out version of the structural formula
Homologous series	families of organic compounds with the same functional group, general formula, chemical properties, each member differs by CH ₂ and they show a gradual change in physical properties
Functional group	An atom or group of atoms which when present in different molecules cause them to have similar chemical properties

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Structural isomers	Same molecular formula but a different structural formula
Chain isomers	Same molecular formula but a different structure of the carbon skeleton
Positional isomers	Same molecular formula but different positions of the same functional group on the same carbon skeleton
Functional group isomers	Same molecular formula but a different functional group
Hydrocarbon	A molecule consisting of hydrogen and carbon atoms only
Saturated	Contains carbon-carbon single bonds only
Petroleum fraction	a mixture of hydrocarbons with a similar chain length and boiling range
Cracking	the conversion of large hydrocarbons to smaller molecule by breakage of the c-c bonds
Fuel	releases heat energy when burnt