Basic Chemistry English

Etymology

**Sodium (Na)**: Na is derived from the Latin word "natrium."

**Potassium (K)**: K is derived from the Neo-Latin word "kalium."

**Iron (Fe)**: Fe is derived from the Latin word "ferrum."

**Copper (Cu)**: Cu is derived from the Latin word "cuprum."

**Tungsten (W)**: W is derived from the German word "wolfram."

**Lead (Pb)**: Pb is derived from the Latin word "plumbum."

**Gold (Au)**: Au is derived from the Latin word "aurum."

**Mercury (Hg)**: Hg is derived from the Greek word "hydrargyrum."

**Silver (Ag)**: Ag is derived from the Latin word "argentum."

**Antimony (Sb)**: Sb is derived from the Latin word "stibium."

**Tin (Sn)**: Sn is derived from the Latin word "stannum."

Glossary of terms

**Atom (Atome):** The basic unit of a chemical element, consisting of a nucleus of protons and neutrons, with electrons in orbit around the nucleus.

**Molecule (Molécule):** A group of atoms bonded together, representing the smallest unit of a chemical compound that retains the chemical properties of that compound.

**Element (Élément):** A substance that cannot be broken down into simpler substances by chemical means. Each element is defined by the number of protons in its atomic nucleus.

**Compound (Composé):** A substance formed when two or more chemical elements are chemically bonded together. Compounds have a fixed ratio of elements.

**Ion (Ion):** An atom or molecule with an electric charge resulting from the loss or gain of one or more electrons.

**Catalyst (Catalyseur):** A substance that increases the rate of a chemical reaction without being consumed in the process.

**Reaction (Réaction):** The process by which one or more substances change to produce new substances with different properties.

**pH (pH):** A measure of the acidity or basicity of a solution. pH values range from 0 to 14, with 7 being neutral, lower values indicating acidity, and higher values indicating basicity.

**Isotope (Isotope):** Atoms of the same element with the same number of protons but different numbers of neutrons, resulting in different atomic masses.

**Titration (Titrage):** A laboratory technique used to determine the concentration of a solution by reacting it with a solution of known concentration.

**Valence (Valence):** The combining capacity of an atom, determined by the number of electrons it can gain, lose, or share when forming chemical bonds.

Verbs:

**React (Réagir):** To undergo a chemical reaction.

**Catalyze (Catalyser):** To accelerate or facilitate a chemical reaction by serving as a catalyst.

**Ionize (Ioniser):** To convert atoms or molecules into ions by adding or removing electrons.

**Synthesize (Synthétiser):** To create a compound or substance by combining simpler substances through chemical reactions.

**Precipitate (Précipiter):** To cause a solid to separate from a solution during a chemical reaction.

**Dissolve (Dissoudre):** To cause a solid, liquid, or gas to become incorporated uniformly into a liquid.

**Oxidize (Oxyder):** To undergo a reaction in which electrons are transferred, resulting in an increase in oxidation state.

**Reduct (Réduire):** To undergo a reaction in which electrons are gained, resulting in a decrease in oxidation state.

**Decompose (Décomposer):** To break down a compound into simpler substances through a chemical reaction.

**Neutralize (Neutraliser):** To make a substance neither acidic nor basic by adding an acid or a base.

Other terms:

**Ionic and Covalent Bonds:** Ionic bonds involve the transfer of electrons, while covalent bonds involve the sharing of electrons between atoms.

**Equilibrium:** A state in a chemical reaction where the rates of the forward and reverse reactions are equal.

**Chemical Bonding (Ionic and Covalent):** Ionic bonds involve the transfer of electrons, while covalent bonds involve the sharing of electrons between atoms.

**Oxidation and Reduction:** Oxidation involves the loss of electrons, and reduction involves the gain of electrons in a chemical reaction

**Acid and Base:** Substances that can donate protons (acids) or accept protons (bases) in aqueous solutions.

**Orbital:** A region around the nucleus where electrons are likely to be found.

**Shell:** A group of orbitals at the same energy level in an atom.

**Transition Metal:** An element in the d-block of the periodic table that forms stable complex ions.

**Redox Reaction:** A chemical reaction involving the transfer of electrons between reactants.

**Avogadro's Number:** The number of atoms, ions, or molecules in one mole of a substance, approximately 6.022 x 10^23.

**Exothermic Reaction:** A reaction that releases heat to its surroundings.

**Endothermic Reaction:** A reaction that absorbs heat from its surroundings.

**Combustion:** A rapid chemical reaction involving the combination of a substance with oxygen, often accompanied by the release of heat and light.

**Ester:** An organic compound derived from the reaction between a carboxylic acid and an alcohol.

**Ether:** An organic compound containing an oxygen atom bonded to two carbon atoms.

**Crystal:** A solid material whose atoms, molecules, or ions are arranged in an orderly repeating pattern.

**Nuclear Fusion:** The combining of two atomic nuclei to form a heavier nucleus.

**Nuclear Fission:** The splitting of a heavy atomic nucleus into two lighter nuclei.