Key Terms

ionic compound - a chemical compound in which ions are held together in a lattice structure by ionic bonds.
molecular compound - The smallest particle of a substance that retains the chemical and physical properties of the substance and is composed of two or more atoms bonded together by the sharing of electrons
subscripts - A distinguishing character or symbol written directly beneath or next to and slightly below a letter or number. In chemical formula writing, the subscript denotes how many atoms or ions of a particular element or polyatomic ion are present.
nomenclature - A system of naming chemical compounds and for describing the science of chemistry in general. It is maintained by the International Union of Pure and Applied Chemistry (IUPAC).
polyatomic ions - An electrically charged species formed by covalent bonding of atoms of two or more different elements, usually nonmentals, for example, the ammonium ion (NH_4^+)
reactant - A substance participating in a chemical reaction, especially a directly reacting substance present at the initiation of the reaction.
product - A substance resulting from a chemical reaction.
Law of Conservation of Mass - The notion that mass, or matter, can neither be created nor destroyed.
coefficient - A number placed in front of a term in a chemical equation to indicate how many molecules or atoms take part in the reaction.
precipitate - To be separated from a solution as a solid.
aqueous - A solution dissolved in water.
synthesis reaction - A direct combination reaction in which two or more reactants combine to form a single product. The general form is: $A_x + B \rightarrow AB$
decomposition reaction - A chemical reaction in which a compound is broken down into simpler compounds, or even into elements. This is the opposite of a synthesis or direct combination reaction. The general form is: $AB \rightarrow A + B$
single replacement reaction - A chemical reaction in which an element replaces one element in a compound. A single uncombined element replaces another in a compound. Two reactants yield two products. The general form is: $A + BC \rightarrow B + AC$
double replacement reaction - A molecular process involving the exchange of bonds between two reacting chemical species, which results in the creation of products with similar or identical bonding affiliations. Also known as a metathesis reaction. The general form is: $AX + BY \rightarrow BX + AY$
combustion reaction - The burning of any substance, in gaseous, liquid, or solid form. A chemical reaction that involves the rapid combination of a fuel with oxygen. The general form is: fuel + oxygen → heat + water + carbon dioxide
activity series - a series of elements that have similar properties, for example, metals, arranged in descending order of chemical activity.
hydrocarbon - Any of numerous organic compounds, such as benzene and methane, that contain only carbon and hydrogen.