

The following are the terms you should be familiar with in order to properly complete this unit. You are expected to be able to define each as well as apply these terms in any situation during this and subsequent units of study.

***** Note The lingo below will primarily be studied in this Unit (Chemical Reactions). The lingo on the reverse side (pg 2) was studied in the previous unit on chemical bonding but applies to this unit as well**

chemical equation - A summary of a chemical change. Written in terms of formulas, plus signs, and an arrow. In the change, the substances to the left of the arrow are called reactants and interact to produce the substances to the right of the arrow called the products.

reactants – Substance(s) initially present in a chemical reaction. Substance(s) that undergo a chemical change.

products- The substance(s)/compounds that are formed when a reaction goes to completion. Substance(s) that is a result of a chemical change.

yield - A term that is represented in a chemical equation by an arrow symbol (\rightarrow) and is read as “produces or forms”.

coefficient - The number written in front of a symbol or chemical formula to show the number of atoms or molecules.

decomposition reaction - A chemical reaction in which a single compound is broken down into two or more products; general form is $AD \rightarrow A + D$, where A and D are elements.

synthesis reaction - A chemical reaction in which two or more reactants come together to form a single product; general form is $A + D \rightarrow AD$, where A and D are elements.

single displacement reaction - A chemical reaction in which one element replaces another element in a compound; general form is $A + DE \rightarrow AE + D$, where A, D and E are elements.

double displacement reaction - A chemical reaction in which two elements in different compounds exchange places; general form is $AE + BG \rightarrow AG + BE$, where A, D, G, and E are elements

endothermic reaction – A reaction that absorbs heat from its surroundings as the reaction proceeds.

exothermic reaction - A reaction that releases heat to the surroundings/environment.

stability - The ability of a material to resist change.

valence electrons - Electrons present in the outer-most energy level of an atom. For most atoms they are available to be gained, lost or shared.

octet rule - States that the outer energy level needs to be filled with eight* electrons in order for an atom/ion to be stable. *Or two for the first five elements.

oxidation number - The number of electrons gained or lost by an atom.

ion - An atom or group of atoms that has a positive or negative charge because it has lost or gained electrons.

cation - An ion with a positive charge.

anion - An ion with a negative charge.

monatomic ion - An ion created from only one atom.

polyatomic ion - A group of two or more "atoms" that function as a single ion.

ionic bond - A chemical bond formed by the attraction of oppositely charged ions.

binary compound - A compound consisting of only two ions.

molecule - A neutral group of atoms held together by covalent or ionic bonds.

covalent bond - A chemical bond formed when atoms share pairs of electrons.

non polar - Description of a covalent bond that has an even distribution of charge due to an equal sharing of bonded electrons.

polar - Description of a covalent bond that has an uneven distribution of charge due to an unequal sharing of bonded electrons.

chemical formula - A precise statement, using chemical symbols, that tells which elements are in a compound and their respective ratios.

subscript - A small lowered number written in a chemical formula that shows how many atoms of each element are present in a compound.