

TYPES OF REACTIONS

<u>Combustion</u> - A combustion reaction is when all substances in a compound are combined with oxygen, which then produces carbon dioxide and water. Combustion is commonly called burning. It is an exothermic reaction, which means heat is produced. An example of a combustion reaction is as follows:

$C_xH_y + O_2 \rightarrow CO_2 + H_2O$

<u>Synthesis</u> - A synthesis reaction is when there is a combination of two or more substances and a new compound is made. An example of a synthesis reaction is as follows:

A + B --> AB

Decomposition - Decomposition is the opposite of synthesis. It is when a compound is broken down into simpler substances. An example of decomposition is as follows:

$AB \rightarrow A + B$

<u>Single Displacement</u> - In a single replacement reaction, one element of a compound is replaced with another element of a reacting compound. An example of a single replacement reaction is as follows:

$\mathbf{A} + \mathbf{B}\mathbf{C} \dashrightarrow \mathbf{A}\mathbf{C} + \mathbf{B}$

Double Displacement - In a double replacement reaction, two elements of two different compounds are replaced (or exchanged) to yield two new compounds. An example of a double replacement reaction is as follows:

AB + XY - AY + XB