## Types of Reactions

### **Combination Reaction**

$$A + B \rightarrow AB$$

multiple reactants combine into one product

Example: CO<sub>2</sub> + NaOH → NaHCO<sub>3</sub>

## **Decomposition Reaction**

$$AB \rightarrow A + B$$

one reactant decomposes into multiple products

Example: CaCO<sub>3</sub> → CaO + CO<sub>2</sub>

### Single Replacement Reaction

 $AB + C \rightarrow AC + B$ 

One of the reactants breaks apart and combines with the other reactant Often occur when one of the reactants is an individual element

Example: Cl2 + 2NaBr → 2NaCl + Br2

# **Double Replacement Reaction**

Each of the reactants breaks apart and combines with the other half to form new products

Example: 2AgCl + BaBr2 → 2AgBr + BaCl2

#### **Combustion Reaction**

$$C_xH_y + O_2 \rightarrow CO_2 + H_2O$$

Occurs when a hydrocarbon is burned in the presence of oxygen

Example:  $CH_4 + 2O_2 \rightarrow CO_2 + 2H_2O$