

## Chemical Reactions

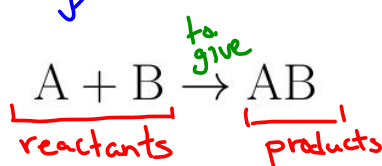
Types of Chemical Reactions

Types of Chemical Reactions  
A compound containing carbon and hydrogen (and sometimes oxygen) combines with oxygen gas to produce carbon dioxide and water.

$$\text{CH}_4(\text{g}) + \text{O}_2(\text{g}) \rightarrow \text{CO}_2(\text{g}) + \text{H}_2\text{O}(\text{g})$$
$$\text{C}_3\text{H}_8(\text{g}) + \text{O}_2(\text{g}) \rightarrow \text{CO}_2(\text{g}) + \text{H}_2\text{O}(\text{g})$$

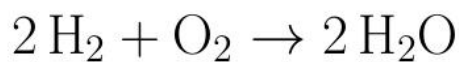
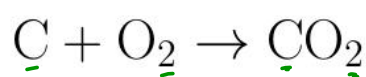
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## Synthesis (Combining)



Synthesis reactions have one product

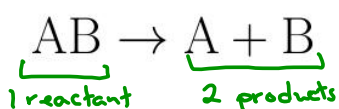
Two simpler substance combine to form a more complex substance.  
Examples:



} balanced equations

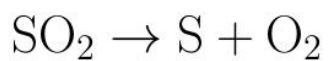
A balanced equation has the same number of each type of atom on both sides of the equation

Decomposition (Breaking apart) - opposite of synthesis.



A compound is broken down into simpler compounds or to elements.

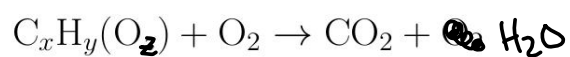
Examples:



} balanced equations

## Combustion

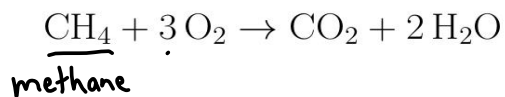
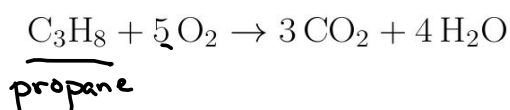
hydrocarbons, alcohols, sugars



numbers

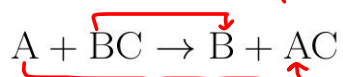
A compound with carbon and hydrogen (and sometimes oxygen) combines with oxygen to form carbon dioxide and water.

Examples:



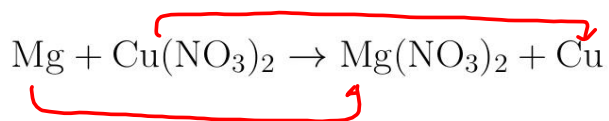
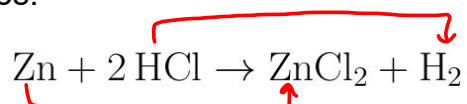
## Single Replacement

2 reactants      2 products



One element that starts by itself replaces another element in a compound.

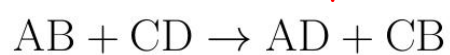
Examples:



balanced equations

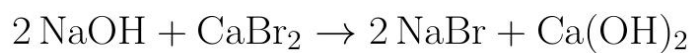
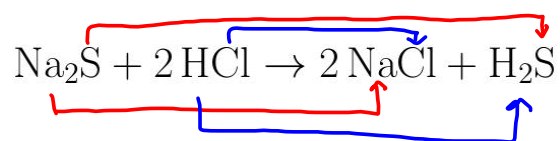
## Double Replacement

2 reactants                      2 products



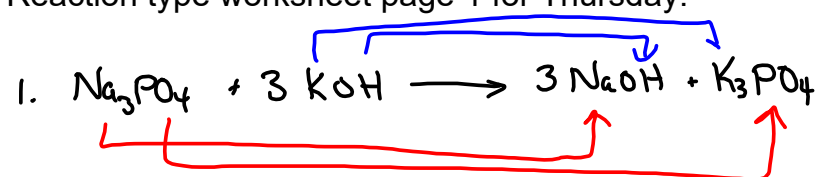
The positive and negative ions in two compounds switch places.

Examples:



balanced  
equations

Reaction type worksheet page 1 for Thursday.



double replacement