## Synthesis

(Special Case: Combustion)

## Decomposition

## Single Displacement

## Double Displacement

## $A+B \rightarrow C$

$$
\mathrm{C} \rightarrow \mathrm{~A}+\mathrm{B}
$$

## $A+B C \rightarrow B+A C$

Synthesis: Two compounds are combined to make a more complex one.
Combustion: Hydrocarbons react with oxygen to make water vapor, carbon dioxide, and heat.

Decomposition: A molecule breaks apart into simpler compounds.

Single Displacement: A pure element switches places with an element in a chemical compound.
$A B+C D \rightarrow C B+A D$

Double Displacement: The cations of two chemical compounds switch places.

