Synthesis

(Special Case: Combustion)

Decomposition

Single Displacement

Double Displacement

$$A + B \rightarrow C$$

Synthesis: Two compounds are combined to make a more complex one.

Combustion: Hydrocarbons react with oxygen to make water vapor, carbon dioxide, and heat.

$$C \rightarrow A + B$$

Decomposition: A molecule breaks apart into simpler compounds.

$$A + BC \rightarrow B + AC$$

Single Displacement: A pure element switches places with an element in a chemical compound.

$$AB + CD \rightarrow CB + AD$$

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