

5 • Reaction in Aqueous Solution

TYPES OF REACTIONS

To help make sense of all the different chemical reactions that exist, we classify reactions into several types. There are four types of reactions besides *Combustion*.

Types	Pattern	Example
Double Replacement	$XY + AB \rightarrow XB + AY$	$2AgNO_3 + K_2CrO_4 \rightarrow Ag_2CrO_4 + 2KNO_3$
Single Replacement	$XY + A \rightarrow AY + X$	$Zn + 2HCl \rightarrow H_2 + ZnCl_2$
Synthesis	$X + Y \rightarrow XY$	$2H_2 + O_2 \rightarrow 2H_2O$
Decomposition	$AB \rightarrow A + B$	$H_2CO_3 \rightarrow H_2O + CO_2$

Classify each of the following reactions as **DR**, **SR**, **S**, **D** or **C** and then balance the equation.

