

Four Basic Types of Chemical Reactions

● SYNTHESIS



● DECOMPOSITION



● SINGLE REPLACEMENT



● DOUBLE REPLACEMENT



Types	Description	Example
Synthesis Reactions	Elements are joined together	$2\text{H}_2 + \text{O}_2 = 2\text{H}_2\text{O}$
Decomposition Reactions	A compound breaks into parts	$2\text{H}_2\text{O} = 2\text{H}_2 + \text{O}_2$
Single Replacement Reactions	A single element replaces an element in a compound	$\text{Zn} + 2\text{HCl} = \text{H}_2 + \text{ZnCl}_2$
Double Replacement Reactions	An element from each of two compounds switch places	$\text{H}_2\text{SO}_4 + 2\text{NaOH} = \text{Na}_2\text{SO}_4 + 2\text{H}_2\text{O}$