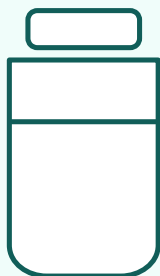


The Five Reaction Types

10th Grade

Recognising the pattern tells you what the products will be.



Most reactions at this level fit one of five patterns. Recognising the pattern lets you predict the products.

- Synthesis: $A + B \rightarrow AB$. Two things combine.
- Decomposition: $AB \rightarrow A + B$. One thing splits.
- Single replacement: $A + BC \rightarrow AC + B$.
- Double replacement: $AB + CD \rightarrow AD + CB$.
- Combustion: $\text{fuel} + \text{O}_2 \rightarrow \text{CO}_2 + \text{H}_2\text{O}$.

LOOK FOR IT

$\text{Zn} + 2\text{HCl} \rightarrow \text{ZnCl}_2 + \text{H}_2$ is single replacement: zinc displaces hydrogen.

Single replacement only happens if the lone element is more reactive than the one it would displace.