



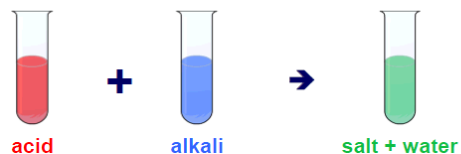
Y7 C1b Chemical Reactions

Topic outcome: Understanding Chemical Reactions. No atoms are created or destroyed in a chemical reaction.

metal oxide + acid \rightarrow salt + water

metal hydroxide + acid \rightarrow salt + water

metal carbonate + acid \rightarrow salt + water + carbon dioxide



When an alkali reacts with **hydrochloric acid**, the salt produced is a **chloride**.

When an alkali reacts with **sulphuric acid**, the salt produced is a **sulphate**.

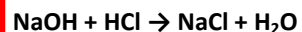
When an alkali reacts with **nitric acid**, the salt produced is a **nitrate**.

E.g:

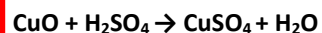


Word and symbol equations

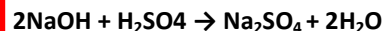
sodium hydroxide + hydrochloric acid \rightarrow sodium chloride + water



copper oxide + sulphuric acid \rightarrow copper sulphate + water



sodium hydroxide + sulphuric acid \rightarrow sodium sulphate + water



Copper carbonate + sulphuric acid \rightarrow copper sulphate + water + carbon dioxide



Atoms are rearranged in a chemical reaction. The substances that:

react together are called the reactants
are formed in the reaction are called the products

No atoms are created or destroyed in a chemical reaction. This means that the total mass of the reactants is the same as the total mass of the products. We say that **mass is conserved** in a chemical reaction.

Here is the balanced symbol equation: $2\text{Cu} + \text{O}_2 \rightarrow 2\text{CuO}$

You can see that we now have two copper atoms and two oxygen atoms on each side. This matches what happens in the reaction:

