

Chemical Equations

Reactions of the alkali metals with air

Alkali metals react with air and quickly lose their shine to form a metal oxide.

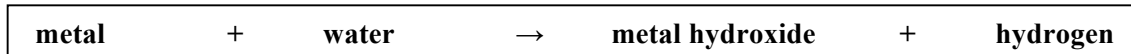


lithium				
lithium + oxygen → lithium oxide				
4Li	+	O ₂	→	2Li ₂ O
sodium				
sodium + oxygen → sodium oxide				
4Na	+	O ₂	→	2Na ₂ O

Reactions of the alkali metals with water

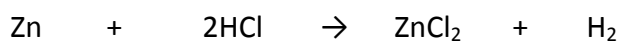
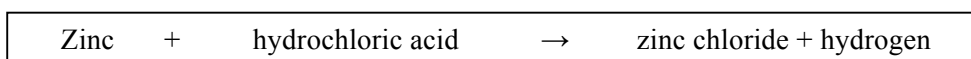
(Word equation only is necessary)

Alkali metals react vigorously with water.



lithium						
lithium + water → lithium hydroxide + hydrogen						
sodium						
sodium + water → sodium hydroxide + hydrogen						

Reaction between zinc and HCl



Neutralisation

The properties of an acid are counteracted or neutralised by a base; this type of reaction is called a neutralisation reaction.

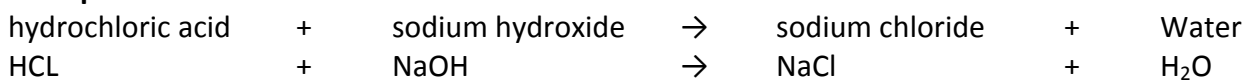
When an acid reacts with a base the hydrogen in the acid is replaced by a metal and a salt is formed

Sodium and calcium are examples of metals

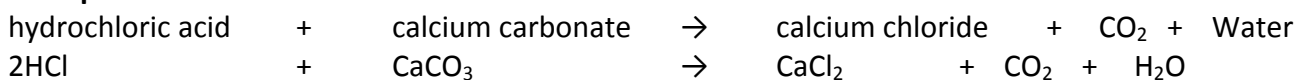
General formula to represent neutralisation reaction:



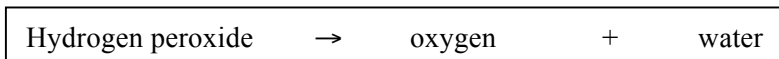
Example 1



Example 2

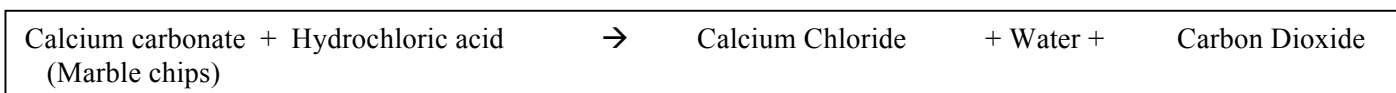


Preparation of oxygen

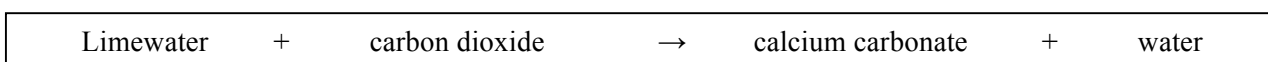


Manganese dioxide (MnO₂) is added in as a catalyst (to speed up the reaction)

Preparation of carbon dioxide



Limewater and carbon dioxide



Aerobic respiration



Photosynthesis

