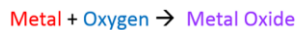


Displacement reactions and metal extraction

| | | |
|-----------|----------------|----|
| potassium | most reactive | K |
| sodium | | Na |
| calcium | | Ca |
| magnesium | | Mg |
| aluminium | | Al |
| carbon | | C |
| zinc | | Zn |
| iron | | Fe |
| tin | | Sn |
| lead | | Pb |
| hydrogen | | H |
| copper | | Cu |
| silver | | Ag |
| gold | | Au |
| platinum | least reactive | Pt |

Reactivity depends on tendency to form metal ion



Reactions of acids

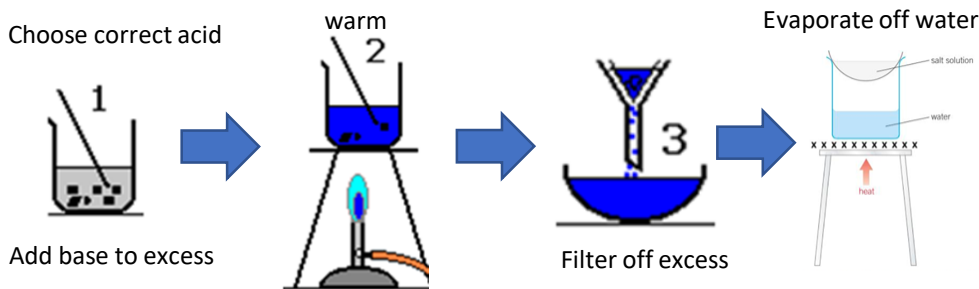
- Acid + metal → salt + hydrogen
- Acid + alkali → salt + water
- Acid + insoluble base → salt + water
- Acid + carbonate → salt + water + carbon dioxide

Hydrochloric Acid → Chlorides
 HCl

Nitric Acid → Nitrates
 HNO_3

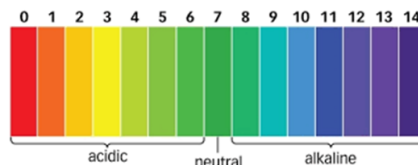
Sulphuric Acid → Sulphates
 H_2SO_4

RP: Preparation of a dry sample of a soluble salt

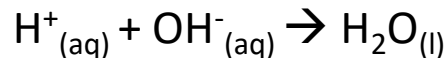


C5 Chemical Changes

Neutralisation



Acids produce H^+ ions
 Alkalis produce OH^- ions



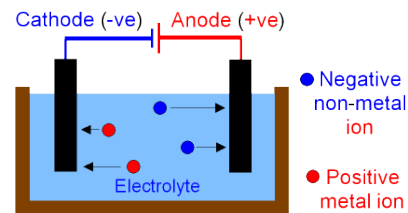
Acid + Alkali → water

Common alkalis

- Sodium hydroxide (NaOH)
- Potassium hydroxide (KOH)
- Calcium hydroxide (Ca(OH)₂)
- Ammonia (NH₃)

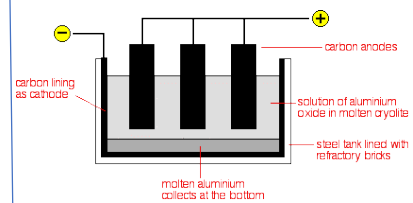
Electrolysis

..of molten:



..to extract aluminium:

Oxygen goes to anode → CO₂ (needs replacing)



Cryolite reduces the melting point

..of solutions:

