1.3 PROPERTIES OF TRANSITION METALS (chemistry only)

Typical properties

- General properties of metals still hold
  - Dense, shiny and strong
  - Good conductors of heat and electricity
- Colourful compounds
  - E.g. Cu^{2+} ions are blue
  - E.g. Fe^{2+} ions are green
- Form more than one ion
  - E.g. Copper forms Cu^{+} and Cu^{2+} ions
- Good catalysts
  - Speeds up the rate of reaction without being used up
  - Nickel catalyst for the hydrogenation of alkenes
  - Iron catalyst in Haber process

Comparison to Group 1 elements

- Higher melting points
- Stronger, harder and denser
- Group 1 metals do not form more than one ion
- Group 1 metals do not form coloured compounds
- Much less reactive than Group 1 metals
  - Demonstrated by relative reactions with water, oxygen and halogens

AQA

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