



Box 1: Keywords

Word	Definition
Transition Elements	A group of metals found in the periodic table block between group 2 and group 3
Ions	Atoms that have lost or gained electrons
Catalysts	Chemicals that can speed up a chemical reaction and remain chemically unchanged by the reaction

Box 2: Transition metals

Transition metals are found in the periodic table between group 1 and 3

The Transition metals

Examples of transition metals are iron, copper and nickel

Box 4: Key skills

- Describe the properties of transition metal compounds with reference to Cr, Mn, Fe, Co, Ni and Cu
- Compare the properties of transition metal compound with group 1 metals

Box 3: Properties of transition metals

Transition metals have typical metal properties

- Good conductors of heat and electricity
- Shiny
- strong
- Dense
- High melting points

Transition metals also have the following properties:

- They form coloured compound
- They make good catalysts e.g. Iron is used as a catalyst in the Haber process
- They can form more than one ion. For example iron forms the Fe^{2+} and Fe^{3+} ions. Copper forms Cu^+ and Cu^{2+} ions.
- Because they form different ions, they can form compounds of different formula. For example Iron oxide can exist as FeO (Iron II oxide) and Fe_2O_3 (Iron III oxide).

Comparing the properties of transition and group 1 metals

Property	Group 1	Transition metals
Melting point	lower	higher
Density	lower	higher
Hardness	soft	hard
Tensile strength	weak	high
Colour of compounds	white	coloured
Charge on ion	+1	Variable
Reactivity	more reactive	less reactive