

The Periodic Table of the Elements

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Location in The Periodic Table
(the highlighted YELLOW area)

Transition Metals

Reactions with oxygen

Example : copper + oxygen → copper oxide

Most react slowly, or not at all, with oxygen at room temperature

Reactions with halogens

example : iron + chlorine → iron(III) chloride

Some transition elements react with halogens

Reactions with water

Example : Iron reacts with water and oxygen at room temperature to form hydrated iron(III) oxide.... (rust)

Most react slowly with cold water, or not at all

Shared properties

- with other metals
 - conduct electricity in the solid and liquid states
 - shiny when first cut

Properties

- different from Group I metals
 - higher melting points
 - higher densities
 - greater strength
 - greater hardness
- there are some exceptions
 - such as mercury (Hg)
 - a liquid at room temperatures

Comparison example 1

Cobalt (Transition metal)	Melting Point : 1492°C	Density : 8.90 g/cm ³
Sodium (Group I metal)	Melting Point : 98°C	Density : 0.97 g/cm ³

Comparison example 2

Copper (Transition metal)	Melting Point: 1083°C	Density : 8.92 g/cm ³
Aluminium (Group 3 metal)	Melting Point : 660°C	2.70 g/cm ³