

Transition Metals

Chemistry

The defining properties, and where they come from.

The four characteristic properties.

Property	Because
Variable oxidation states	4s and 3d are close in energy
Coloured compounds	d-d electron transitions
Catalytic activity	Variable oxidation states allow intermediates
Complex ion formation	Vacant d orbitals accept lone pairs

Scandium and zinc are d-block but not transition metals: neither forms a stable ion with a partially filled d subshell.