3.1.7 Oxidation, Reduction and Redox Equations

3.1.7	*Oxidation and reduction in terms of electron transfer. Oxidation states. Half-equations and overall redox equations.*

Oxidation = loss of electrons = increase in oxidation state. (OIL RIG)

Reduction = gain of electrons = decrease in oxidation state.

Oxidation state rules: uncombined elements = 0; simple ions = charge; O = –2 (peroxides –1); H = +1 (metal hydrides –1); F = –1 always. Sum in compound = 0; in ion = charge.

Half-equations: balance atoms, then balance charges using electrons. Combine half-equations so electrons cancel.