


A Chemical Balancing Act

By the end of this unit you should know or understand that:

Lesson		Learning Outcome
1-2	1	Molecules are small groups of atoms held together by chemical bonds.
	2	Elements join together to form compounds.
	3	The name ends in 'ide' for 2 element compounds.
	4	The name ends in 'ite' or 'ate' if 2 elements plus oxygen are present.
	5	Diatomic molecules have 2 atoms in each molecule.
	6	Other prefixes are used to describe molecules with different numbers of atoms (mono, tri etc).
	7	Elements with names ending in 'gen' or 'ine' are all diatomic molecules.
	8	The noble gases (group 0) are monatomic - exist as separate atoms.
	9	Compounds containing metal elements do not usually exist as molecules but as giant lattices.
3	10	The valency of an element is the number of electrons an atom needs to lose or gain to complete the outer orbital.
3	11	An orbital is an area outside the nucleus where electrons are found.
3	12	The ratio of atoms of each element in a compound is found by swapping the valency numbers and cancelling down.
4-5	13	The ratio of atoms of each element in a compound is shown by the chemical formula.
	14	Some compounds do not fit the valency rules.
	15	Transition metals can have more than 1 valency number.
	16	Roman numerals are used in the name of compounds to indicate the valency of transition metals.
6	17	The average mass of the atoms of an element is the relative atomic mass (RAM), measured in atomic mass units (AMU).
	18	The mass of a molecule is the sum of the RAMs of the atoms.
7	19	Formulae can be used to write chemical equations.
	20	In a balanced equation there are equal numbers of atoms of each element on the reactant and product sides.