



Vocabulary: Balancing Chemical Equations



Vocabulary

- **Coefficient** – a number that indicates how many of each atom or molecule there are.
 - For example, the coefficient “6” in $6\text{H}_2\text{O}$ indicates there are six water molecules.
- **Combustion** – a chemical reaction in which a fuel burns in a gas, usually oxygen.
 - Many combustion reactions involve a carbon-based fuel, such as methane (CH_4), burning in oxygen gas (O_2) to produce carbon dioxide (CO_2) and water (H_2O).
- **Compound** – a pure substance composed of two or more chemically bonded elements.
 - A compound can be described by a *chemical formula* such as NaCl or H_2O .
- **Decomposition** – a chemical reaction in which a single substance is broken down into two or more products.
 - For example, salt (NaCl) is decomposed into sodium (Na) and chlorine gas (Cl_2).
- **Double replacement** – a reaction in which two compounds exchange elements or molecules with one another.
 - For example, sodium sulfide (Na_2S) and hydrochloric acid (HCl) can react to form salt (NaCl) and hydrogen sulfide (H_2S).
- **Element** – a pure substance that is made of one type of atom.
- **Molecule** – a stable particle made of two or more atoms.
 - A water molecule (H_2O) is made of two hydrogen atoms and one oxygen atom.
- **Product** – a substance that is formed in a chemical reaction.
- **Reactant** – a substance that takes part in a chemical reaction.
- **Single replacement** – a reaction in which an element reacts with a compound to form a new compound and a different element.
 - For example, aluminum (Al) can react with hydrochloric acid (HCl) to form aluminum chloride (AlCl_3) and hydrogen gas (H_2).
- **Subscript** – a number in a chemical formula representing the number of atoms of a particular element in one molecule of the compound.
 - For example, the “2” in H_2O indicates that there are two H atoms in the molecule.
- **Synthesis** – a chemical reaction in which two or more reactants form a single product.
 - Also called a *combination* reaction.
 - For example, hydrogen (H_2) combines with oxygen (O_2) to form water (H_2O).

