Vocabulary: Balancing Chemical Equations

Vocabulary

- Coefficient – a number that multiplies a term in an equation.
  - In a chemical equation, the coefficients indicate the number of each type of molecule. For example, $6H_20$ means that there are six water molecules.
- Combination– a chemical reaction in which two or more reactants form a single product.
  - Combination reactions are also called *synthesis* reactions.
  - For example, hydrogen (H_2) combines with oxygen (O_2) to form water (H_2O).
- Compound – a pure substance composed of two or more elements chemically combined.
  - 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) can be 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 subscript “2” in H_2O indicates that there are two hydrogen atoms in a water molecule.