Lesson 57: Chemical Formulas Terms

1. **Ionic compound** – a chemical compound in which ions are held together in a lattice structure by ionic bonds.
2. **Molecular compound** – The smallest particle of a substance that retains the chemical and physical properties of the substance and is composed of two or more atoms bonded together by the sharing of electrons.
3. **Subscripts** – A distinguishing character or symbol written directly beneath or next to and slightly below a letter or number. In chemical formula writing, the subscript denotes how many atoms or ions of a particular element or polyatomic ion are present.
4. **Nomenclature** – A system of naming chemical compounds and for describing the science of chemistry in general. It is maintained by the International Union of Pure and Applied Chemistry (IUPAC).
5. **Polyatomic ions** – An electrically charged species formed by covalent bonding of atoms of two or more different elements, usually nonmetals, for example, the ammonium ion($NH4^+$).
6. **Reactant** – A substance participating in a chemical reaction, especially a directly reacting substance present at the initiation of the reaction.
7. **Product** – A substance resulting from a chemical reaction.
8. **Law of Conservation of Mass** – The notion that mass, or matter, can neither be created nor destroyed.
9. **Coefficient** – A number placed in front of a term in a chemical equation to indicate how many molecules or atoms take part in the reaction.
10. **Precipitate** – To be separated from a solution as a solid.
11. **Aqueous** – A solution dissolved in water.
12. **Synthesis reaction** – A direct combination reaction in which two or more reactants combine to form a single product. The general form is: $Ax + B \rightarrow AB$.
13. **Decomposition reaction** – A chemical reaction in which a compound is broken down into simpler compounds, or even into elements. This is the opposite of a synthesis or direct combination reaction. The general form is: $AB \rightarrow A + B$.
14. **Single replacement reaction** – A chemical reaction in which an element replaces one element in a compound. A single uncombined element replaces another in a compound. Two reactants yield two products. The general form is: $A + BC \rightarrow B + AC$.

15. **Double replacement reaction** – A molecular process involving the exchange of bonds between two reacting chemical species, which results in the creation of products with similar or identical bonding affiliations. Also known as a metathesis reaction. The general form is: AX + BY → BX + AY.
16. **Combustion reaction** – The burning of any substance, in gaseous, liquid, or solid form. A chemical reaction that involves the rapid combination of a fuel with oxygen. The general form is: fuel + oxygen → heat + water + carbon dioxide.
17. **Activity series** – a series of elements that have similar properties, for example, metals, arranged in descending order of chemical activity.
18. **Hydrocarbon** – Any of numerous organic compounds, such as benzene and methane, that contain only carbon and hydrogen.