

Basic Concepts of Chemistry

- **Chemical formula**

- A chemical formula is the representation of the composition of a molecule in terms of the symbols of elements present in that molecule.

- **Molecular formula** is a **chemical formula** that indicates the kinds of atoms and the numbers of each kind of atom in a molecule of a compound.

- To write the chemical formula of a compound, one should have prior knowledge of two things.

- **The symbols of the constituent elements.**
- **The combining capacity of the atom of each element constituting the compound.**

- In a chemical reaction, at least one of the following will occur:
- Change in state
- Change in colour
- Evolution of a gas
- Change in temperature
- Formation of a precipitate

A **chemical equation** is the symbolic representation of a chemical reaction in the form of chemical formulae, signs, symbols, and directions. In which the

reactant entities are given on the left-hand side and the product entities on the right-hand side.

- **Balanced chemical equation**

Reactants → Products

LHS RHS

Total number of atoms on the LHS = Total number of atoms on the RHS

- How to balance an equation
- Write reactants and products
- Balance the maximum number of a particular atom on both sides
- Balance other atoms
- A complete balanced equation should look like

