

## Chemical Equation & its Balancing:

The chemical equations must be written in accordance with the law of conservation of mass. The law of conservation of mass states that:

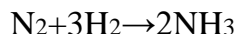
**"The matter can neither be created nor destroyed".**

OR

**"In a chemical reaction, the total mass of reactants is equal to the total mass of products".**

We always have to represent a chemical reaction by balancing the equation.

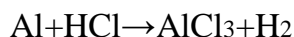
**"A balanced chemical equation is the one in which the atoms of each element must be equal on both sides of the equation".**



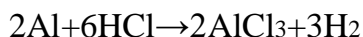
In the above equation we see that the number of atoms of each elements is same on both side of the reaction and hence it can be said as balanced. To make the atoms of each element equal on both sides of the equation is called balancing of chemical equation.

### Steps to be followed for balancing chemical equation

- Write word equation for the reaction with reactants on L.H.S. and products on R.H.S. separated by an arrow head. e.g. Aluminium + Hydrochloric acid  
→ Aluminium chloride + hydrogen.
- Convert the word equation into symbols/formula of the compounds. e.g. above equation can be written as



- Equate the number of each type of atoms on both side of the reaction one by one.



Finally count the number of atoms of each element on reactant and product sides and if they are equal then the equation is balanced.