

CHAPTER – 1

Chemical Reaction and equations

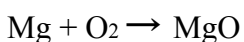
: –Whenever a chemical change occurs we can say that a chemical reaction has taken place

example – Food gets digested in our body

– Rusting of iron.

q **Chemical Equation** :–A chemical reaction can be expressed symbolically by using chemical equation

eg magnesium is burnt into air to form magnesium oxide can be represented as

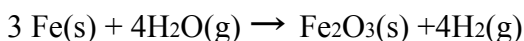


– We can observe or recognise a chemical reaction by observing change in state, colour, by evolution of gas or by change in temperature.

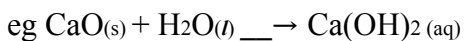
q Physical state of the reactant and products are mentioned to make chemical reaction more informative. eg we use (g) for gas, (l) for liquid, (s) for solid and (aq) for aqueous.

q **Balancing Equation** – We balance the chemical equation so that no. of atoms of each element involved in the reaction remain same at the reactant and product side.

eg $\text{Fe} + \text{H}_2\text{O} \rightarrow \text{Fe}_2\text{O}_3 + \text{H}_2$ can be written as



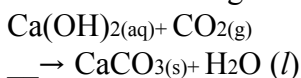
q **Combination Reaction** :– The reaction in which two or more substances combine to form a new single substance



Calcium Water Calciumhydroxide
oxide (slaked lime)

Quick lime

– Ca(OH)_2 slaked lime is used for white washing walls. It reacts with CO_2 to form CaCO_3 and gives a shiny finish to the walls.



Calcium Calcium
hydroxide Carbonate