**Chemical Equation**

*A chemical equation is the symbolic representation of a chemical reaction in the form of symbols and formulae, wherein the reactant entities are given on the left-hand side and the product entities on the right-hand side with a plus sign between the entities in both the reactants and the products and an arrow that points towards the products and shows the direction of the reaction. The coefficients next to the symbols and formulae of entities are the absolute values of the stoichiometric numbers.*

*Example Equations:*

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CH4(g) + 2O2(g) → CO2(g) + 2H2O(l)

CaO(s) + H2O (l) → Ca(OH)2(s)

]

A chemical reaction having two mechanisms.

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| --- | --- |
| Chain reactions | Chain reactions occur in a sequence of steps, in which the product of each step is a reagent for the next. |
| Photolysis reactions | Photolysis reactions are initiated or sustained by the absorption of electromagnetic radiation. |

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NaCl(aq) + AgNO3(aq) → NaNO3(aq) + AgCl(s)

2H2 + O2 → 2H2O

CaCl2 + 2AgNO3 → Ca(NO3)2 + 2AgCl↓

]

Chemical equations are either worded or written using the elements' symbols, how much of the element and in what state (solid[s], liquid[l], gas[g]) it is in.

***For example:*** *An aqueous solution of sodium chloride (NaCl[aq]) and another aqueous solution of silver nitrate (AgNO3[aq]). These mixed together form sodium nitrate (NaNO3[aq]) and silver chloride (AgCl[s])*

Equation of sodium chloride and silver nitrate