

CHAPTER- 1

Chemical Reaction And Equation

What is a chemical reaction ?

When two substance combine and gives a new product that is known as chemical reaction.

Example- $C + O_2 \rightarrow CO_2$

What is Reactant and Product ?

REACTANT- The substance involve in reaction is known as reactant.

For Example :- $C + O_2 \rightarrow CO_2$ in this reaction C and O_2 is reactant.

PRODUCT- The new substance which we get after reaction is known as product.

For Example:- Let's take previous example in this CO_2 is product.

How we know that reaction has taken place ?

Change in
state

Change in
colour

Evolution
Of
Gas

Change in
temperature

Formation of
precipitate

CHEMICAL EQUATION

A chemical equation is represents a chemical reaction.

Type of chemical reaction

1.COMBINATION reaction

2.DECOMPOSITION reaction

a. THERMAL DECOMPOSITION

b. PHOTO DECOMPOSITION

c. ELECTRIC DECOMPOSITION

3.DISPLACEMENT reaction

4.DOUBLE DISPLACEMENT reaction

COMBINATION REACTION

A chemical reaction in which two reactant combine together to give a single product is known as combination reaction . It is also known as composition reaction.

EXAMPLE- $C + O_2 \rightarrow CO_2$

DECOMPOSITION REACTION

A chemical reaction in which a complex compound break up to form two or more simple product is known as Decomposition reaction.

EXAMPLE – $\text{Fe} + \text{SO}_4 \rightarrow \text{Fe}_2\text{O}_3 + \text{SO}_2 + \text{SO}_3$

DISPLACEMENT REACTION

A chemical reaction in which a more reactive element displaces a less reactive element from its salt solution.

REACTIVITY TABLE

*IN MORE TO LESS REACTIVE FORMAT (IN DECREASING ORDER)

ELMENT	SYMBOL
POTASSIUM	K
SODIUM	Na
CALCIUM	Ca
MAGNESIUM	Mg
ALUMINIUM	Al
ZINC	Zn
IRON	Fe
LEAD	Pb
HYDROGEN	H
COPPER	Cu
MERCURY	Hg
SILVER	Ag

DOUBLE DISPLACEMENT REACTION

A chemical reaction in which a more reactive element displaces a less reactive element from its salt solution. The displaced element take the place of first element .

OXIDATION AND REDUCTION

OXIDATION – Chemical reaction in which either addition of oxygen or removal of hydrogen take place is known as oxidation reaction.

REDUCTION- A chemical reaction in which either removal of oxygen or addition of hydrogen takes place is called reduction reaction.

RANCIDITY

Oxidation of the food material containing oil/fat is called rancidity

CORROSION

Eating up of metal layer by layer when it comes in contact with moisture such as air present in atmosphere

