TENDER HEART HIGH SCHOOL, SEC-33B, CHD

CLASS - VII
SUBJECT - CHEMISTRY

CHAPTER - 5
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28.10.24

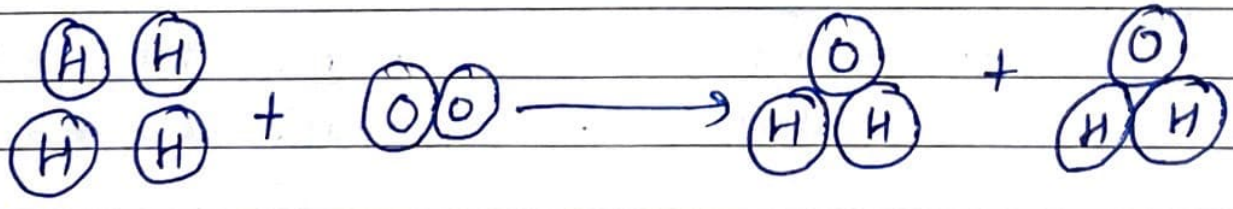
Chemical Reaction:- Any chemical change in matter which involves its transformation into one or more new substances is called a chemical reaction. It also involves transfer of energy.

$$\text{Reactant} \xrightarrow[\text{change}]{\text{Chemical}} \text{Product}$$

What happenes to the reactant during a chemical change:

During a chemical reaction, atoms of reacting molecules rearrange themselves to form one or more product.

Example:- Element of hydrogen & oxygen react with each other to form new substance Water.



characteristic of occurence of chemical reaction:-

1. Change in Colour:- e.g. When a few piece of Fe are dropped in blue solution of $CuSO_4$ blue colour slowly changes into light green

Iron + Copper sulphate (Blue) $\longrightarrow$ Iron Sulphate (Light green) + Cu

2. Evolution of gas:- e.g. When Zn granules react with dil HCl, an effervescence is observed.

Zinc + Dil HCl $\longrightarrow$ $ZnCl_2 + H_2\uparrow$

3. Formation of precipitate:- e.g. When Barium Chloride solution is added to sodium sulphate solution a white ppt. of barium sulphate formed.

$BaCl_2 + Na_2SO_4 \longrightarrow BaSO_4\downarrow + NaCl$

[White ppt.]

4 Change of state:- e.g. When hydrogen gas is burnt in oxygen gas it result in formation of water which is liquid.

$$H_{2(g)} + O_{2(g)} \longrightarrow H_2O_{(l)}$$

5. Change of smell:- e.g. when dil HCl is heated with Iron sulphide, a gas of H_2S with rotten egg smell is evolved.

$$\text{Iron sulphide} + \text{dil } HCl \longrightarrow FeCl_2 + H_2S\uparrow$$

6. Change of Energy

a) Energy is released:- e.g. when water is added to quick lime a large amount of heat energy is evolved.

$$CaO + H_2O \longrightarrow Ca(OH)_2 + \Delta$$

b) Energy is absorbed:- In photosynthesis, sunlight is absorbed by green plants to prepare food.

$$CO_2 + H_2O \xrightarrow{\text{Sunlight}} \text{Carbohydrate} + O_2$$