

## CBSE 7 CHEMISTRY REVISION NOTES PHYSICAL AND CHEMICAL CHANGES

	PHYSICAL CHANGE	CHEMICAL CHANGE	TYPES OF CHEMICAL REACTIONS
Nature of change	Temporary	Permanent	1. DIRECT COMBINATION OR SYNTHESIS  E.g. $C + O_2 \rightarrow CO_2$ e.g. $N_2 + 3H_2 \rightarrow 2NH_3$
Chemical composition	Remains same	Undergoes change	2. DECOMPOSITION  E.g. $2KClO_3 \rightarrow 2KCl + 3O_2$
Mass of substance	Remains same	Masses of products may increase or decrease although overall mass remains same	3. DISPLACEMENT  E.g. $Fe + CuSO_4 \rightarrow FeSO_4 + Cu$ $2Al + 3FeCl_2 \rightarrow 2AlCl_3 + 3Fe$
Energy change	No energy change	Always accompanied by energy change	4. DOUBLE DISPLACEMENT  E.g. Neutralization and Precipitation reactions $NaOH + HCl \rightarrow NaCl + H_2O$ $BaCl_2 + H_2SO_4 \rightarrow BaCl_2\downarrow + 2HCl$
New substances	Not formed	Always formed	
	Examples: Melting of water Cutting paper Hammering iron rod	Examples: Electrolysis of water Burning wood Rusting of iron	

### CHEMICAL REACTIONS NEED:

- Mixing (close contact)
- Heat e.g. decomposition of copper carbonate
- Light e.g. photosynthesis
- Electricity e.g. electrolysis
- Pressure: e.g. formation of ammonia from hydrogen and nitrogen
- Catalyst: e.g. rate of decomposition of hydrogen peroxide increases in presence of manganese dioxide

### BALANCING REACTIONS:

- Write the formula correctly
- Count the number of atoms of each element on both sides of equation
- Adjust the coefficient
- Check if number of atoms of each element is same on both sides