Acid : turns blue litmus to red. Example: HCl , H_2SO_4

Base :turns red litmus to blue. Example : NaOH , KOH

Bases that dissolve in water are known as alkalis.

Indicators : are the organic compounds which show characteristic colours in acidic and basic solutions.

Example : Litmus – red in acids , blue in bases.

Phenolphthalein – colourless in acids , pink in bases.

Question: Write the importance of neutralization reactions in our daily life.

- **Acidity and indigestion can be overcome by taking antacids like milk of magnesia , $Mg(OH)_2$**
- **Bee stings are acidic (formic acid).They can be neutralized by applying a basic calamine solution or baking soda solution.**
- **Wasp stings are alkaline. They can be neutralized by applying weak acids like vinegar or lemon juice.**
- **Acidic soil can be neutralized by adding bases like quicklime.**

Metal reactivity series

A list in which the metals are arranged in the decreasing order of their chemical reactivity is called the metal reactivity series.

Special features

- The tendency to form positive ion decreases down the series.
- The series facilitates the comparative study of metals.

Activity to show that iron is more reactive than copper

An iron nail is placed in blue coloured copper sulphate solution.

$$Fe + CuSO_4 \text{ --------> } FeSO_4 + Cu$$

(Blue) (Green) (red)

Iron is more reactive than copper.

Iron displaces copper from copper sulphate solution.