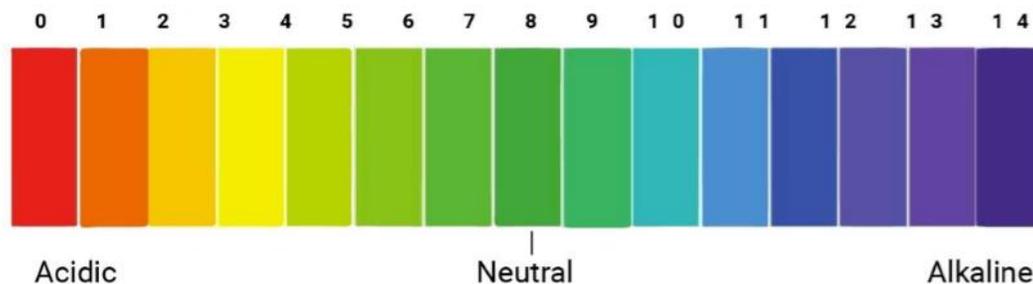


Strength of Acid or Base Solutions

Strength of an acid or base can be determined using a pH scale. It is a scale to measure the hydrogen ion concentration in a solution. The p stands for 'potenz', it is a German word which means power.

- If pH is equal to 7, means the solution is neutral.
- If pH is greater than 7 means alkaline solution.
- If pH is less than 7 means the solution is acidic.

**pH scale****Importance of pH**

- Human body works at a pH of about 7.4.
- Stomach has a pH of about 2 due to presence of hydrochloric acid in it. It is needed for the activation of pepsin protein required for protein digestion.
- When we eat food containing sugar, then the bacteria present in our mouth break down the sugar to form acids. This acid lowers the pH in the mouth. Tooth decay starts when the pH of acid formed in the mouth falls below 5.5. This is because then the acid becomes strong enough to attack the enamel of our teeth and corrode it. This sets in tooth decay. The best way to prevent tooth decay is to clean the mouth thoroughly after eating food.
- Many animals and plants protect themselves from enemies by injecting painful and irritating acids and bases into their skin.
 - When honey bee stings a person, it injects an acidic liquid into the skin. Rubbing with mild base like baking soda solution on the stung area of the skin gives relief.
 - When a wasp stings, it injects an alkaline liquid into the skin. Then rubbing with a mild acid like vinegar on the stung area of the skin gives relief.
- Soil pH and plant growth: Most of the plants grow best when the pH of the soil is close to 7. If the soil is too acidic or basic, the plants grow badly or do not grow at all. The soil pH is also affected by the use of chemical fertilisers in the field. Chemicals can be added to soil to adjust its pH and make it suitable for growing plants. If the soil is too acidic then it is treated with materials like quicklime or slaked lime. If the soil is too alkaline then alkalinity can be reduced by adding decaying organic matter.