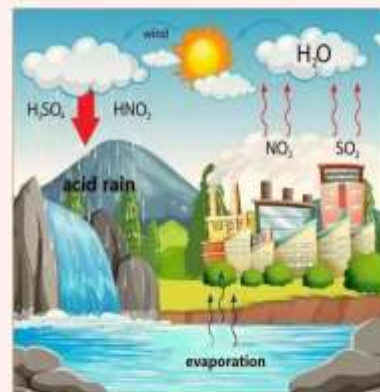


pH in Everyday Life

- **Are Plants and Animals pH sensitive?**

- Our body works within the pH range of **7.0** to **7.8**.
- Living organisms can survive only in a narrow range of pH change.
- When pH of rain water is **Less Than 5.6**, it is called **Acid Rain**.
- When acid rain flows into rivers, it lowers the pH of river water.
- The survival of aquatic life in such rivers become difficult.



- **What should be the pH of Soil in the Backyard?**

- Plants require a specific pH range for their healthy growth.
- The optimal pH range of the soil suitable for plant growth should vary in-between **5.5** to **7.0**.
- The soil should neither be alkaline nor acidic in nature to support the growth of plants.
- Change in pH of the soil affects the availability of nutrients for growth of the plants.

Acidic Soil (low pH)

At pH levels lower than 5.5, aluminum and manganese can become highly available to the point of being toxic. At similarly low pH levels, other elements like nitrogen, calcium, phosphorous, magnesium, and potassium become less available for absorption by plants.

Alkaline Soil (high pH)

When the pH level of soil is above 7, elements like iron, zinc, copper, boron, phosphorous, and manganese also become less available for absorption by plants

Slightly Acidic to Neutral Soil

Ideal soil conditions
for most plants

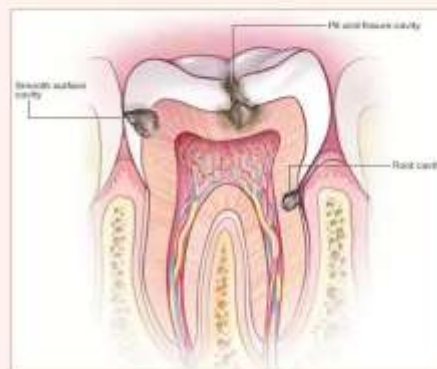
- **What is the pH in our digestive system?**

- Our stomach produces HCl which helps in the digestion of food without harming the stomach.
- During indigestion, stomach produces too much acid which causes pain and irritation.
- To get rid of the pain, people use bases called **Antacids**.
- To neutralize the excess acid, **Magnesium Hydroxide** (**Milk Of Magnesia**) is used.



- **Is pH change responsible for Tooth Decay?**

- **Tooth Decay** starts when the pH of the mouth is lower than **5.5**.
- Tooth enamel is made up of **Calcium Hydroxyapatite** (crystalline form of **Calcium Phosphate**) is the hardest substance in the body.
- It is corroded when the pH in the mouth is below 5.5.
- Bacteria present in the mouth produce acids by degradation of sugar and food particles remaining in the mouth after eating.
- The best way to prevent this is to clean the mouth using basic toothpastes.



- Self defense by Animals And Plants through chemical warfare

- Bee-sting Leaves an acid which causes pain and irritation.
- Use of a mild base like baking soda on the stung area gives relief.
- Stinging hair of nettle leaves inject **Methanoic Acid** (**Formic Acid**) causing burning pain.

