pH in Everyday Life

pH	Phenomena
7.0 to 7.8	Working range of human body
1.5 to 3.5	pH of stomach
5.6	Acid rain's pH
5.5	Tooth decay
6.1 to 7	Soil's pH for healthy plant growth

- **Antacids** - Given to neutralise acidity in stomach. **[$Mg(OH)_2$]** - Milk of Magnesia, **$NaHCO_3$** - baking soda, etc.
- Bacteria present in mouth causes tooth decay by producing acid via breaking down leftover sugars and food particles.
  - It corrodes the enamel (**Calcium hydroxyapatire**) **$Ca_5(PO4)_3$**.
  - Toothpastes are basic and help in preventing this decay.
- **Self-defense in plants and animals:**
  - **Nettle leaf sting** is painful because of methanoic acid secretion. It can be relieved by rubbing leaves of dock plant.
  - **Bee sting**: Bee sting leaves an acid, causing pain. Baking soda is used for relieving this pain.



Salts

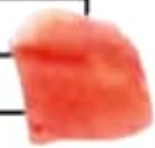
- Salts may be defined as ionic compounds produced by neuralization reactions.
- They are electrically neutral crystalline in nature.
- Most salts are soluble in water.
- Salt solutions and their molten state conduct electricity.

- **Family of salts:** Salts having common acidic and basic radicals belong to the same family.

Examples:
  - Chloride family - NaCl, $CaCl_2$
  - Sodium family - NaCl, Na_2SO_4
  - Sulphate family - Na_2SO_4, $CuSO_4$, $MgSO_4$, Na_2SO_4

- pH of Salts:

SALT COMPOSITION	pH	NATURE
Strong acid + strong base	7	Neutral
Strong acid + weak base	less than 7	Acidic
Weak acid + strong base	more than 7	Basic



Chemicals from common salt:
- Seawater contains a variety of salts, with sodium chloride (common salt) being a primary component.
- Sodium chloride is extracted from the mixture of dissolved salts present in seawater.
- Across the globe, there are deposits of solid salt known as rock salt, which typically appears brown due to impurities.
- Rock salt beds were created from the evaporation of ancient seas and are mined using methods similar to coal extraction.
- The common salt (NaCl) thus obtained is a crucial raw material for various other important chemicals like sodium hydroxide, baking soda, washing soda, bleaching powder, etc.