CHAPTER 02

Diversity in the Living World

Revision at Your Tips

The variety of plants and animals found in a particular region contributes to the biodiversity of that region.

Trees provide food and shelter to birds and animals. Animals help in spreading seeds after eating fruits.

How to Group Plants?

- Plants exhibit variations in height of stems, shape and arrangement of leaves, colour, shape and scent of flowers and in many other characteristics.
- Plants are classified into three categories namely; herbs, shrubs and trees, based on length of plant, type of stem and position of branches on the stem.

Table : Grouping of plants based on height, nature of stem and branching pattern

Herbs	Shrubs	Trees
Short height	Intermediate height	Tall height
Green, tender and thin stem	Brown, hard but not thick stem	Brown, hard and thick stem
May or may not have branches	Branches near the base of stem	Branches near upper part of plant
Examples: Mint, Coriander, Spinach, Banana, Sunflower	**Examples:** *Bougainvillea*, *Hibiscus*, Rose	**Examples:** Apple, Orange, Neem, Banyan

- Apart from herbs, shrubs and trees, plants can also be categorised as creepers and climbers.
- **Creepers :** These are plants with weak stems that cannot stand upright but spread on the ground, *e.g.*, muskmelon, watermelon, pumpkin.
- **Climbers :** These are plants that take support and climb up, *e.g.*, money plant, grapevines.
- Leaves of different plants show variations in their shapes and structure.
- **Reticulate Venation :** If the pattern of veins is net-like on both sides of midrib, the venation is called reticulate. *E.g.*, mango and *Hibiscus*.

Fig.: Peepal

- **Parallel Venation :** If the veins are parallel to one another, then venation is called parallel. *E.g.*, grasses and cereals.

Fig.: Grass

- Roots usually form the underground part of the plants.
- Major function of roots is to absorb water and minerals from the soil.
- **Tap root :** The main root called primary root is present and the smaller roots arising from the main roots are called lateral roots. Generally, plants with **reticulate leaf venation** have **taproots**, *e.g.*, mango, gram, sadabahar, chickpea, mustard, *Hibiscus* and pea, etc.
- **Fibrous root :** Plants where all roots are similar and do not have a main root. Generally, plants with **parallel leaf venation** have **fibrous roots**, *e.g.*, grass, maize, lemongrass, wheat and banana, etc.

How to Group Animals?

- Animals can be grouped on the basis of different features like, their eating habits, habitat, colour and movement.