



## Chapter -9

### The Living Organisms - Characteristics And Habitats

#### Notes:

- Plants and animals found in different places are different.
- **Habitat** is the place where organisms live and get their food, water, air, shelter and other needs for their survival.
- **Types of Habitat:**
  - a. **Terrestrial Habitats:** It is the habitats on land.  
**Example:** Deserts, Mountain regions, Grasslands, Forests etc.
  - b. **Aquatic Habitats:** It is the habitats of plants and animals that live in water.  
**Example:** Oceans, River, Lakes, Ponds etc.
- **Components of an Habitats:**
  - a. **Biotic components:** All the living creatures living in a habitat constitute the biotic components of that habitat.  
**Example:** Plants, Animals, Micro-organisms.
  - b. **Abiotic components:** It includes all the non-living thing of the habitat.  
**Example:** Soil, Water, Air, Temperature, Rainfall etc.
- **Adaptation** is the presence of specific features or certain habits which enable an organism to live naturally in their habitat. Adaptation of organisms differs depending on their habitat.
- **Adaptation in Desert Animals:**
  1. They have long leg to keep their bodies away from heat of the sand.
  2. Other animals which do not have long legs stay in burrows deep in sand during day time and come out only at night when it is cooler.
  3. They excrete small amount of urine, dry dung and do not sweat to conserve water.
- **Adaptation in Desert Plants:**
  1. Leaves are modified to spines to reduce loss of water from the leaves through transpiration.
  2. Stem is thick and fleshy.
  3. Stem have thick waxy coating to retain water in the tissues.
  4. Photosynthesis in desert plant is carried out by the stems.
  5. Roots are deeply rooted into the soil for absorbing water.

➤ **Adaptation in Mountain Animals:**

1. They have thick skin and their whole body is either covered with fur or long hair to keep them warm. **Example:** Snow Leopard, Yaks.
2. Some has strong hooves for running up the rocky slopes of the mountains.  
**Example:** Mountain goat.

➤ **Adaptation in Mountain Plants:**

1. Trees are in cone shaped and have sloping branches which helps the rainwater and snow to slide off easily.
2. The leaves are needle like structure.  
**Example:** Pine tree.

➤ **Adaptation in Grassland Animals:**

**Lion (predator)**

1. Lion has light brown colour which help to hide in dry grasses when it hunts for prey.
2. It has long claws in their front legs and sharp teeth.
3. Eyes are in the front of the face which helps to see their prey from a long distance.

**Deer (prey)**

1. Deer has strong teeth for chewing hard stem of plants.
2. It has long ears to hear movements of predators.
3. Eyes on the side of its head which allow it to look in all the direction for danger.
4. Deer is a fast runner to escape away from the predators.

➤ **Aquatic Habitat:**

**Adaptation in Sea animals:**

1. Sea animals have streamlined bodies to help them move easily in water. But bottom feeder animals like Squids and Octopus do not have streamlined body shape. However, when they move, they make their body shape streamlined.
2. They have gills for breathing but dolphin and whale do not have gills instead they breathe through nostril or blowholes.
3. They have flat fins and tails.
4. They have scales on their bodies.

**Ponds and lakes:**

**Adaptation in frogs:**

1. They have webbed feet which help them to swim in water.
2. Skin is always moist.
3. They can stay both in land as well as in water
4. They have strong back legs that help them in leaping and catching the prey.



### **Adaptation in Aquatic plants:**

1. Plants may be free floating, rooted and totally submerged in water.
2. Free floating plants remain in contact with water and air but not rooted in soil. They have numerous cavities filled with air which make it porous and help in floating in water. **Example:** Water Hyacinth, red fern etc.
3. Rooted plants are fixed in mud, have long leaf stalk which help leaves and flower to float on the surface of water. **Example:** Lotus, water chestnut etc.
4. Submerged plants may or may not be rooted in the mud, whole plants is submerged in water. Leaves are thin, ribbon like to bend in flowing water. **Example:** Hydrilla, Eel grass etc.

### ➤ **Characteristics of an living organisms:**

1. Living organisms need food to get energy needed for them to grow.
2. They can grow from young ones to adults.
3. All the living organisms respire.
4. They can respond to stimuli.
5. They can reproduce their offspring.
6. They can excrete unwanted residue from their body.

- **Breathing** is the process of taking in oxygen and giving out of carbon dioxide by an organism.
- **Respiration** is the process in which an organism obtains energy by breaking down the food in the presence of oxygen.
- **Excretion** is the process of removal of unwanted waste from the body of an organism.

