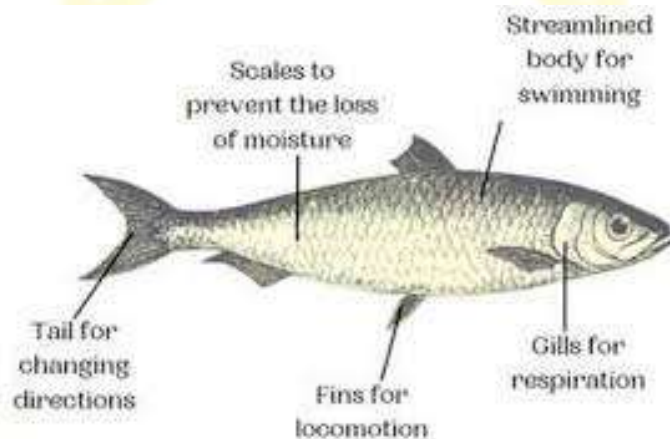


## Introduction

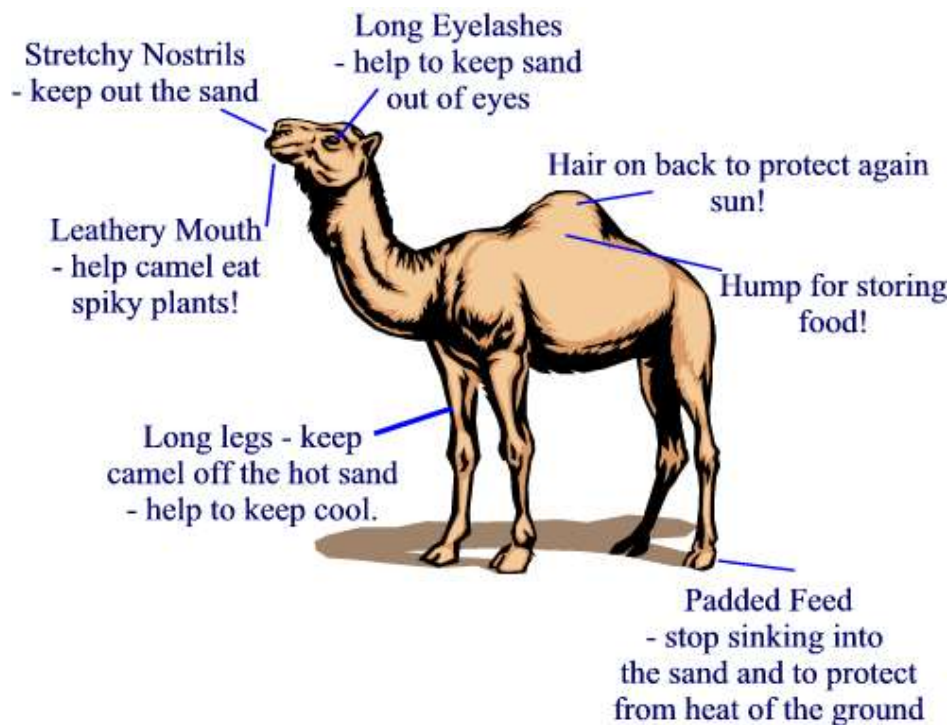
- Living organisms are found everywhere on earth, even in the openings of volcanoes.
- Living organisms are found in Himalayas, hot deserts, forests, sea beaches and even in places in our house.
- Living organisms are found in different locations having different surroundings. For example, camels are found in deserts, goats and yaks in mountain, crabs on the beach etc.

## Adaptation of organisms

- Adaptation is that characteristic of an organism which enables it to live naturally in a place.
- **Adaptation of a fish –**
  - All fishes have streamlined body to move inside the water.
  - Fishes have slippery scales on their body which gives protection.
  - Fishes have gills that help in breathing.
  - They have flat fins and tails to help them change direction and balance their body in water.



- **Adaptation of a Camel –**
  - Camels have long legs to protect their body from the heat of sand.
  - Camels excrete very small amount of urine.
  - They do not sweat.
  - They lose very less water, so that they can live without water for a very long time.



## Habitat of Organisms

- The place where an organism lives is known as Habitat.
- Habitat of an organism provides shelter, food, water and other needs of an organism.
- **Terrestrial Habitat** – habitats on land are called terrestrial habitat. For example, grasslands, forest, desert, coastal and mountain regions.
- **Aquatic Habitat** – habitats in water are called Aquatic Habitat. Examples: rivers, lake, oceans.

## Biotic and Abiotic Components

- Living components are called the biotic components of a habitat such as plants and animals.
- The non- living components of a habitat are called Abiotic components such as air, soil, rock and water.

## Terrestrial Habitats

### 1. Deserts –

- Desert animals like rats and snakes live in burrows to protect themselves from the intense heat.
- They come out only during the night, when it is cooler.
- Desert plants lose very little water through transpiration. So that they can survive for long time with stored water.

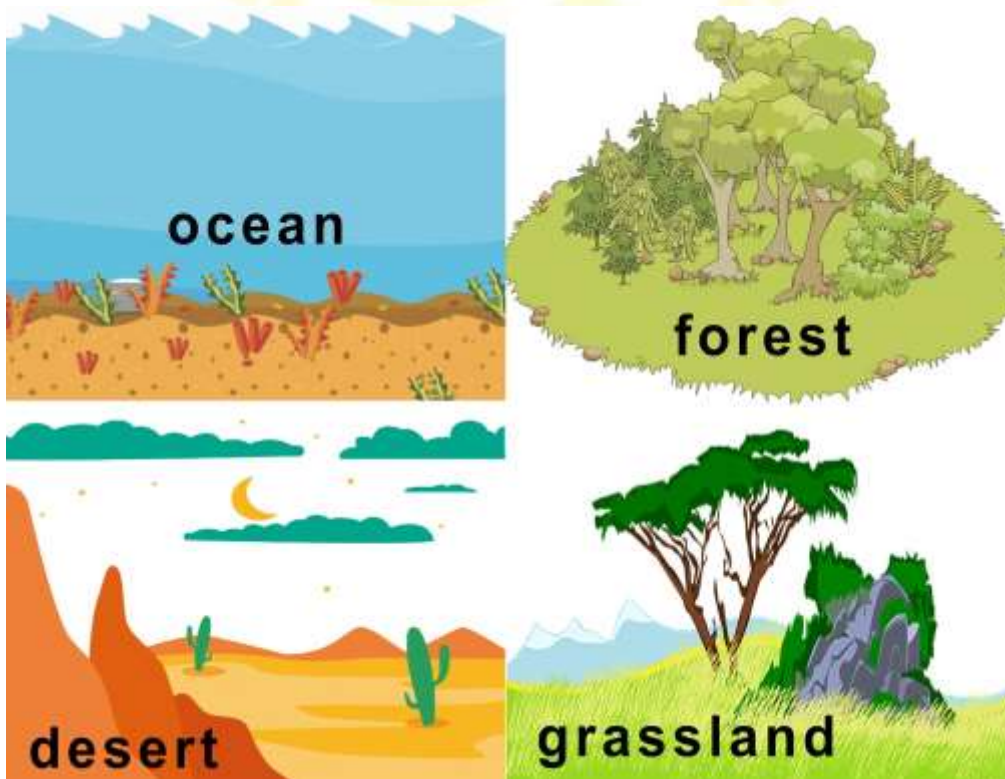
- Their leaves are either absent or very small or present in the form of spines. This causes less water loss.
- Mostly the roots of the plants go deep into the soil to absorb water.
- Their stems are modified for storing water. The stem is also covered with a thick waxy layer called cuticle which prevents water loss.

## 2. Mountain Regions

- Mountain habitats are usually very cold and windy. Snowfall may also occur in some areas.
- Mountain animals have thick skin or fur to protect them from cold. Examples: leopard has thick fur on his body, yaks have very long hair to keep their body warm.
- Trees in these habitats are mostly cone shaped with sloping branches.
- Some trees have needle-like leaves. This makes the rainwater and snow slide off easily.

## 3. Grasslands or Forests

- Lion lives in a forest. It has light brown colour body which helps him to hide in dry grasslands to hunt for its prey.
- It has sharp long claws in its front legs to catch its pray. It can withdraw its claws inside the toes.
- Deer also lives in grasslands. It has hard and strong teeth which helps him in chewing hard plant stems of the trees.
- It also has long ears to hear movements of predators.
- Deer runs at very high speed to escape from the predators.



## Some Aquatic Habitats

### 1. Oceans -

- Many sea animals have streamlined bodies to move easily in water.
- Other animals like octopus and squids don't have streamlined body stay deeper in the ocean.
- These animals have gills for breathing.

### 2. Ponds and lakes –

- In aquatic plants roots are smaller in size and their function is to hold plant in place.
- These plants have long, hollow and light stems.
- Some submerged plants have narrow and thin ribbon-like leaves.
- Frogs live in ponds. They can stay both inside the water as well as on land. They have strong back legs that help in leaping and catching their prey.

## Characteristics of Organisms

- **Need of food** – Organisms need food for growth and to carry out their life processes.
- **Growth** – Living beings grow and show different stages of growth. The young ones grow into adults.
- **Respiration** – Respiration is necessary for all living organisms. Different animals have different mechanism for exchange of gases.
- **Response to stimuli** – Changes in our surroundings that make us respond to them are known as stimuli.
- **Excretion** – all living organisms get rid of wastes produced in their bodies. This is called excretion. This is shown by all plants and animals. Some plants store the waste in their parts that does not harm them. Some remove the waste products as secretions.