

Chapter 9

The Living Organisms and Their Surroundings

HABITAT : Surroundings where organisms live are called their **habitat**. The organisms depend for food, water, air, shelter and other needs on their habitat. Several kinds of plants and animals may share the same habitat.

ADAPTATION : The presence of specific features or certain habits, which enable a plant or an animal to live in its surroundings, is called **adaptation**.

TYPES OF HABITATS

TERRESTRIAL HABITATS : The plants and animals that live on land are said to live in **terrestrial habitats**. Some examples of terrestrial habitats are forests, grasslands, deserts and mountain regions.

AQUATIC HABITATS : The habitats of plants and animals that live in water are called **aquatic habitats**. Some examples of aquatic habitats are Ponds, rivers and ocean.

DIFFERENT COMPONENTS OF A HABITAT

BIOTIC COMPONENTS : The living things such as plants and animals, in a habitat, are called its **biotic components**.

ABIOTIC COMPONENTS : Various non-living things such as rocks, soil, air and water in the habitat constitute its **abiotic components**. Sunlight and heat also form **abiotic components** of the habitat.

ADAPTATION IN DIFFERENT TYPES OF HABITATS

DESERT : There are desert animals like rats and snakes, which do not have the long legs. To stay away from the intense heat they stay in burrows in the sand. These animals come out only during the night, when it is cooler. Desert plants lose very little water through transpiration. The leaves in desert plants are either absent or have small leaves. Photosynthesis is done by the stems.

MOUNTAIN REGIONS : These habitats are very cold and windy. Snowfall may take place in winters. Trees are normally cone shaped. The leaves of some of these trees are needle-like. This helps the rainwater and snow to slide off easily. Animal have thick skin or fur to protect them from cold.

OCEANS: There are animals like fish have streamlined shape, when they move in water they make their body shapes streamlined which help them to move in water. These animals have gills to help them use oxygen dissolved in water. Plants in these habitat grow above sea level to take sunlight and make process of photosynthesis.

STIMULI: Changes in our surroundings that make us respond to them are called stimuli.

CHARACTERISTICS OF LIVING ORGANISM:

- All living things need food and show growth.
- All living things respire.
- All living things respond to stimuli.
- All living things reproduce their own kind.
- All living things move.
- All living things do excretion.

NCERT QUESTION-ANSWERS

1. What is a habitat?

Answer.

The surroundings where plants and animals live, is called their habitat. For example, the habitat of a frog is fresh water, while the habitat of a camel is a desert.

2. How is a cactus adapted to survive in a desert?

Answer.

A cactus is able to survive in the desert due to the following features:

- (i) It has long roots that go deep inside the soil for absorbing water.
- (ii) Its leaves are in the form of spines to prevent water loss through transpiration.
- (iii) Its stem is covered with a thick waxy layer to retain water.

3. Fill in the blanks:

- (a) The presence of specific features, which enable a plant or an animal to live in a particular habitat, is called _____.
- (b) The habitats of plants and animals that live on land are called _____ habitat.
- (c) The habitats of plants and animals that live in water are called _____ habitat.
- (d) Soil, water, and air are _____ factors of a habitat.
- (e) Changes in our surrounding that makes us respond to them are called _____.

Answer.

- (a) The presence of specific features, which enable a plant or an animal to live in a particular habitat, is called adaptation.
- (b) The habitats of plants and animals that live on land are called terrestrial habitat.
- (c) The habitats of plants and animals that live in water are called aquatic habitat.
- (d) Soil, water, and air are abiotic factors of a habitat.
- (e) Changes in our surrounding that makes us respond to them are called stimuli.

4. Which of the things in the following list are non-living?

Plough, Mushroom, Sewing Machine, Radio, Boat, Water Hyacinth, Earthworm

Answer.

Non-living things are plough, sewing machine, radio, and boat. On the other hand, mushroom, water hyacinth and earthworms are living things.

5. Give an example of a non-living thing that shows any two characteristics of living things.

Answer.

Bus is an example of a non-living thing that shows two characteristics of living things. Like the living things, it can move from one place to another and it also requires energy to do work.

6. Among the non-living things listed below, which things were once a part of living things?

Butter, Leather, Soil, Wool, Electric Bulb, Cooking Oil, Salt, Apple, Rubber

Answer.

The non-living things which were once a part of living things are butter, leather, wool, cooking oil, apple, and rubber.

- Butter is made from milk, which is obtained from dairy animals.
- Leather is obtained from skin of animals.
- Wool made from hair of sheep.
- Cooking oil is obtained from the seeds of the plants.
- Apple is a obtained from tree.
- Rubber is obtained from the latex of a tree.

7. List the common characteristics of living things.

Answer.

- All living things need food and show growth.
- All living things respire.
- All living things respond to stimuli.
- All living things reproduce their own kind.
- All living things move.
- All living things do excretion.

8. Explain why speed is important for survival in the grasslands for animals that live there (Hint: There are few trees or places for animals to hide in grasslands habitat).

Answer.

In grasslands, there are very few trees to hide for animals from predators like lion and tiger. In small grasses, predators can easily locate their prey. So, these animals have to run fast to reach a safe place and escape from their predators. Thus, speed is important for survival in the grasslands for animals that live there.

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