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Class 6th

Chapter 6

THE LIVING ORGANISMS AND THEIR SURROUNDINGS

HABITAT

The surroundings where organisms live is called a habitat. Habitat means a dwelling place.
It provides food, water, air, light, shelter, and a place for breeding to the plants and animals living in it.

Examples: Deserts, Mountain regions, Forests, Grasslands, Garden, Fields, Soil, Homes, Tree, Pond, Lake, River, Ocean and Sea-shore.

It can be divided into two main groups.
(i) Terrestrial habitats,
(ii) Aquatic habitats.

Terrestrial habitats

Land based habitat is called a terrestrial habitat. Thus, the plants and animals which live on Land are said to live in a terrestrial habitat.

Some examples of terrestrial habitats are forests, grasslands, deserts, coastal and mountain regions.

Aquatic habitats

The habitats of plants and animals that live in water are called aquatic habitats.

Ponds, swamps, lakes, rivers and oceans are some examples of aquatic habitats.

Biotic Components

The living things such as plants and animals, in a habitat, are its biotic components.
In other words, the living things such as plants, animals and micro-organisms in a habitat are known as 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

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

Adaptation in Camel

The body structure of a camel helps it to survive in desert conditions. Camels have long legs which help to keep their bodies away from the heat of the sand.

They excrete small amount of urine, their dung is dry and they do not sweat. Camel loses very little water from its body, it can live for many days without drinking water.

A camel's hump has 'fat' stored in it. In case of emergency, a camel can break down stored fat to obtain water.

Adaptation in Fish

The streamlined body shape helps the fish to move through the water easily.

Fish have slippery scales on their bodies. These scales protect the fish and also help in easy movement through water.

Fish have flat fins and tails that help them to change directions and keep their body balance in water. Gills present in the fish help them to use oxygen dissolved in water.

SOME TERRESTRIAL HABITATS

Important terrestrial habitats are:

(i) Deserts
(ii) Mountain regions
(iii) Forests (or Grasslands).

DESERTS

The plants and animals in deserts have developed special features for surviving in hot and dry areas of desert.

The desert animals like rats and snakes, which do not have the long legs that the camel has. 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, very small, or they are present in the shape of spines.

Photosynthesis in these plants is usually carried out by the stems.

Mountain regions

These habitats are normally very cold and windy. In some areas, snowfall may take place in winters.

The trees are normally cone shaped and have sloping branches. The leaves of some of these trees are needle-like. This helps the rainwater and snow to slide off easily.

The broad-leaved trees found on mountains shed their leaves before the onset of winter. This prevents such trees from losing water from their leaves and helps in their survival during winter.

Animals living in the mountain regions have thick skin or fur to protect them from cold. For example, yaks have long hair to keep them warm.

Forests (or Grasslands).

A large area of land covered mainly with trees and plants is called a forest. And a large area of grass-covered land used for grazing is called grassland.

Some Aquatic Habitats

The important aquatic habitats are: (i) Oceans, and (ii) Ponds, Lakes and Rivers.

OCEANS

Many sea animals have streamlined bodies to help them move easily in water.
There are some sea animals like squids and octopus, which do not have this streamlined shape. They stay deeper in the ocean, near the seabed and catch any prey that moves towards them.

There are some sea animals like dolphins and whales that do not have gills. They breathe in air through nostrils or blowholes that are located on the upper parts of their heads. This allows them to breathe in air when they swim near the surface of water.

Ponds and lakes

Aquatic plants are totally submerged in water.

The thin leaves of submerged plants also allow the minerals to pass into them easily

In some submerged plants, leaves are often highly divided, through which the water can easily flow without damaging them.

Frogs

Frogs usually have ponds as their habitat. Frogs can stay both inside the pond water as well as move on land. They have strong back legs that help them in leaping and catching their prey. They have webbed feet which help them swim in water.

LIVING THINGS AROUND US

Those things which need food, water and air for their survival are called living things. All the animals need food, water and air to survive or live, so all the animals (including human beings) are living things. Those things which do not need food, water and air for their survival are called non-living things. For example, a table or chair do not need food, water or air to survive, so a table and a chair are non-living things.

CHARACTERISTICS OF LIVING THINGS

Do all living things need food, air and water?

Plants make their own food through the process of photosynthesis. Animals depend on plants and other animals for their food. Food gives organisms the energy needed for them to grow. Organisms also need this energy for other life processes that go on inside them.

Non-living things do not need food, air and water. For example, a rock is a non-living thing which does not need food, air and water for its existence.

Do all living things show growth?

All the living things can grow. The young ones of all the living things row and become bigger in size with the passing of time. For example, a seed grows and becomes a plant.

Non-living things do not grow. For example, a rock is a non-living thing which does not grow and become bigger in size.

Do all living things respire?

Respiration is necessary for all living organisms. It is through respiration that the body finally obtains energy from the food it takes. Some animals may have different mechanisms for the exchange of gases, which is a part of the respiration process.

Do all living things respond to stimuli?

All of us respond immediately to such changes. Changes in our surroundings that makes us respond to them, are called stimuli. The living things show response to external stimuli such as heat, light, touch, sound, smell, taste, water and chemicals. The response of living things is usually in the form of some movement of their body part.

Living organisms and excretion

All living things take food. Not all the food that is eaten is really used, only a part of it is utilized by the body. The rest has to be removed by the body as wastes the process of getting rid of these wastes by the living organisms is known as excretion.
Excretion is another characteristic common to all living things.

Do all living things reproduce their own kind?

Animals reproduce their own kind. The mode of reproduction may be different, in different animals. Some animals produce their young ones through eggs. Some animals give birth to the young ones.
Many plants reproduce through seeds.

Do all living things move?

All the living things move by themselves. The animals and plants move in different ways. Animals can move from one place to another or they can move their body parts.

The plants can move only parts of their body such as leaves, flowers, shoots and roots.

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