

Revision Notes

CHAPTER – 9

The Living Organisms and Their Surroundings

- The surroundings where plants and animals live are called their habitat.
 - Several kinds of plants and animals may share the same habitat.
 - The presence of specific features and habits, which enable a plant or an animal to live in a particular habitat, is called adaptation.
 - There are many types of habitats, however, these may be broadly grouped as terrestrial (on the land) and aquatic (in water).
 - There is a wide variety of organisms present in different habitats.
 - Plants, animals and microorganisms together constitute biotic components.
 - Rocks, soil, air, water, light and temperature are some of the abiotic components of our surroundings.
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Characteristics of living things:

1. They need food, air and water to grow and for the other processes.
 2. The young ones grow into adults.
 3. They respire. Animals breathe in oxygen and breathe out carbon dioxide. Plants take in carbon dioxide and give out oxygen.
 4. They respond to changes in the surrounding (stimuli).
 5. They all get rid of wastes produced in the body (excretion).
 6. They reproduce their own kind.
 7. They have a definite life span.
 8. They have a particular structure and are made up of cells.
 9. They show movement.
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Habitat: Habitat is the place where an organism finds comfort, safety, food, water, air, shelter and suitable conditions for breeding and survival.

- It has two components biotic (living things like plants and animals) abiotic (non-living

things like rocks, soil, air and water).

BIOTIC COMPONENTS

1. AUTOTROPHS

- AUTOTROPHS MAKE THEIR OWN FOOD (AUTO MEANS SELF; TROPH MEANS NUTRITION.)
- green plants are autotrophs.

2. HETEROTROPHS

(HETERO MEANS DIFFERENT OR OTHERS; TROPH MEANS NUTRITION) .

- **Herbivores:** plants and grass eating animals.
 - Carnivores: flesh or meat eating animals
 - Omnivores; eat both, plants and the flesh.
 - Habitat provides almost everything to an organism which is needed by it.
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ABIOTIC COMPONENTS

- light,
 - temperature,
 - water, humidity and rain,
 - soil,
 - air and wind,
 - height of a place-plains or hills.
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Type of Habitat:

(a) **Terrestrial Habitat:** Plants and animals live on land.

some terrestrial habitats are

- **seashore or the coastal area.** Ex. lants like mangroove and coconut palm are common.
- **on the bank of Ponds and lakes.** Ex. frog,turtle,alligator, crocodile,duck etc.

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- **life on land.** Ex. cat,deer,lion,tiger,cow. Plants growing on land under normal conditions of moderate temperature and availability of water are the **mesophytes**.
 - **desert habitat on land** . Ex. cactus,euphorbia,aloe,lizards,snake,camel.
 - **underground habitats.** Ex. moles, beetle, cricket, termite, milliped, ant.
 - **plants and animals living on hills and mountains.**Ex. yak, bear, hill goat, flying fox.
 - plants in hills are mostly conical and evergreen. they bear deep growing roots. the stem is woody, bearing needle-like leaves.plants are mostly **xerophytes**. Ex. apple,pear,plum,apricot,walnut,almond.
 - **high snowy peaks and polar regions.**Ex, polar bear(white bear), penguin
 - **arboreal or areial habitat** Arbor means a tree. organisms living on trees are arboreal.Ex. was a honey bee, sider, owls, birds and numerous insects.
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(b) **Aquatic Habitat:** Plants and animals live in water. Example: ponds, swamps, lakes, rivers and oceans.

- plants growing in water are called **hydrophytes**.
 - plant body is covered with a slippery substance called **mucilage**.
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Adaptations: Presence of specific features or certain habitats which enable an organism to live in its surrounding.

- Adaptation helps an organism in acquiring certain characteristics which helps it in being able to live in the habitat of its choice.
 - The adaptation may be (i) related to the habitat, or (ii) related to its body structure.
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Terrestrial:

(a) **Deserts:** Small animals stay in burrows deep in sand during the day, and come out at night. In plants, leaves are either absent or very small as spines; stem has a thick waxy coating; roots go deep into the soil.

(b) **Mountains:** Animals have thick skin or fur; mountain goat has strong hooves. Trees are cone shaped having sloping branches; leaves are needle like.

(c) **Grasslands:** Animals are light brown in colour; **Lion:** a Long clause in front legs that can

be withdrawn inside the toes; eyes in front of face. **Deer:** Strong teeth, long ears, eyes on the sides of head.

Aquatic:

(a) Ponds:

- **Plants with roots fixed in soil:** Stems are long, hollow and light; leaves float on water.
 - **Plants with roots submerge:** Leaves are narrow and thin ribbon-like.
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(b) Oceans:

- organisms living in sea are called the **marine plants** and **marine animals**.
- Animals have streamlined body; gills to respire (dolphins and whales have blowholes).
- Animals like squids and octopus do not have streamlined body and stay deep in water.