

Adaptation In Plants

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In order to be able to live and reproduce, plants and animals have to adjust themselves to their surroundings. This process of adjustment in a particular environment is called **adaptation**.

We see many kinds of plants in our surroundings. They grow almost everywhere on mountain slopes, on oceans beds, in deserts and in valleys. Plants grow in different climatic conditions, differ from each other in many ways. They survive by adapting themselves to the conditions of that place.

PLANTS ON LAND : TERRESTRIAL PLANTS

All plants growing on land are called terrestrial plants. Terrestrial plants grow in cold climate, plains, hot and damp climate, desert areas and marshy areas.

Plants of Cold Climate

These plants grow in very low temperature. These include pine, spruce, deodar and fir. These trees have needle-shaped leaves. They bear cones and not flowers so that snow may not gather on them. They have a thick, woody and straight stem.



Pine tree



Spruce tree



Deodar tree



Fir tree

Do You Know ?

Bamboo is not a tree but it is a grass. It flowers only once in its life time.

Plants of Plains

These plants can bear heat. During summer they provide shade. In winter they shed their leaves to protect themselves. Their stems are solid. Some such trees are peepal, mango and banyan. They are called deciduous trees.



Peepal tree



Mango tree



Banyan tree



Coconut tree



Teak tree

Plants in Coastal Areas

The area near the sea is called coastal area. In this area water is salty and the climate is usually humid. Some plants like coconut and teak trees grow in this area.

They are known as evergreen trees as they do not shed their leaves. Rubber, pepper and sugarcane also grow in such climate.

Plants in Desert Areas

These are called **Xerophytes**. Desert plants like the cactus and prickly-pear do not have leaves. They store water and food in their stems.



Cactus tree



Prickly pear



Mangroves

Plants of Marshy Areas

Growing in wet mud and clay at the edge of rivers, these plants are called **Mangroves**. As the clay does not allow the roots to breathe, the roots of these plants are sent down from their branches. They are called **breathing roots**.

Test your Self

1. Name two plants that grow in Cold Climate.

2. Name two plants that grow in Coastal Areas.

3. What type of adaptations we find in desert plants?

PLANTS IN WATER : AQUATIC PLANTS

Plants which grow in water are called aquatic plants. These are of three types : floating plants, fixed water-plants and underwater plants.

Do You Know ?

An aquatic plant having the biggest leaf is of *victoria amazonica*.

Floating Plants



Duckweed



Water Hyacinth

These plants are light with spongy or air-filled parts. They are small in size. Some examples are duckweed, water lettuce and water hyacinth. These plants are used by water animals for protection from hot sun.

Fixed Water Plants

These plants are fixed in the bed of the pond. Some examples are lotus flower and water-lily. Such plants have hollow and light stems to keep the leaves and flowers afloat.



Lotus



Water-lily

Stomatas on their leaves are only on the upper side so that water does not block the pores. Some tiny bird nest on their broad floating leaves.



Pondweed



Tape-grass

Underwater Plants

These have narrow leaves with no pores. They breathe through their body surface. They help to keep the water clean. Some examples are pondweed and tape-grass.

SOME OTHER PLANTS

Parasites

Mushrooms and moulds do not have chlorophyll. They are not green. They live on other plants. Therefore, they are called parasites.



Mushroom



Venus flytrap



pitcher plant

Insectivorous

These plants trap small animals such as flies. Some examples are venus flytrap and pitcher plant.

Plants of Grass Family

These include plants of cereal grains.



Wheat plant



Rice plant



Sugarcane

Plants having Long Stems

Sugarcane and bamboo plants have long stems.



Know the Keywords :

- Adaptation : The process of adjustment to surroundings by animals and plants.
Aquatic Plants : Plants that grow in water.
Terrestrial Plants : Plants that grow on land.
Insectivorous Plants : Plants which eat insects.
Parasitic Plants : Non-green plants which absorb food from other plants.



Point to Remember

- Plants are found all over the earth on mountains, in deserts, in coastal areas, in plains and in water.
- According to the habitat they live in, plants are classified as Terrestrial and Aquatic.
- Plants adapt themselves to live in their surroundings.
- Plants on mountains have needle-like leaves. Plants in plains have lots of leaves, while plants in deserts have thorn-like leaves. Plants in marshy areas have breathing roots.
- Aquatic plants are of three types : Fixed, Floating and Underwater.
- Insectivorous plants trap and eat insects.

EXERCISE TIME

A. Multiple choice questions (MCQs).

Tick (✓) the correct option :

1. Plants growing on land are called :

- a. Arboreal b. Terrestrial c. Underwater

2. Which of the following plants float on water?

- a. Hyacinth b. Tape-grass c. Hydrilla

3. Plants of deserts are called :

- a. Xerophytes b. Terrestrial c. Mangroves

4. Plants of marshy areas are called :

- a. Terrestrial b. Xerophytes c. Mangroves

5. Plants having leaves without pores are :

- a. Pond-weeds b. Mushrooms c. Water-lilies

B. Tick (✓) the correct and cross (X) the incorrect ones :

1. Plants in desert areas are called Xerophytes.
2. Plants which grow in water are called Aquatic.
3. Underwater plants have narrow leaves with no pores.
4. Pitcher plant traps insects.

C. Fill in the blanks :

1. Plants growing on land are called _____.
2. Water-lilies breathe through pores on _____ surface of leaves.
3. Cactus stores food in its _____.
4. _____ trees have needle-shaped leaves.
5. _____ traps insects.

D. Name two of the following :

1. Plants of cold climate :
a. _____ b. _____
2. Plants of plains :
a. _____ b. _____
3. Plants of hot and damp climate :
a. _____ b. _____
4. Plants of deserts :
a. _____ b. _____
5. Plants of marshy areas :
a. _____ b. _____

E. Answer the following questions :

1. How many types of plants have been discovered by the scientists?
2. Why are some plants called terrestrial plants?
3. Where do mangroves grow?
4. Why does cactus grow in desert?
5. Which plants are called parasites?



Creative Work

- Visit the nearest Botanical Garden and study different types of plants.
- Gather some plants grown only in your area.
- Collect and study water plants.