

Chapter- 7

Plants: Living and Surviving

STUDY NOTES

Let's Learn

- ❖ Plants grow on mountain slopes, on ocean beds, in deserts and in river valleys. In fact they grow almost everywhere.
- ❖ Plants differ from each other depending on the surroundings where they grow.

Terrestrial Plants

- ❖ The word '**terrestrial**' means living on land. Most plants grow on Land, plants that grow on land are called terrestrial plants
- ❖ In **hilly areas**, where it is generally cold, trees are tall and straight. These trees have needle-like leaves.



Instead of flowers these plants bear cones. Ex: The pine, fir and cedar (deodar) are some such trees.

- ❖ In the **plains**, trees have lots of branches. These trees can bear the heat, but shed their leaves during winter.



- ❖ Mango, sheesham, peepal, banyan and sal are some such trees.
- ❖ In **hot and damp** areas, trees have lots of leaves. But they do not shed their leaves in winter.
- ❖ They remain evergreen like teak and coconut trees.
- ❖ Some other plants that grow in such places are pepper, rubber, sugarcane, rice and cotton.
- ❖ In **desert**, most plants grow without leaves. Ex: Cactus and palm are some such plants.
- ❖ Plants growing in deserts have spines instead of leaves.
- ❖ Spines prevent the loss of water and thus plants retain water.
- ❖ The green, fleshy stem of such plants contains chlorophyll and makes food. It also stores food and water.



- ❖ In **marshy** areas, the soil is sticky and clayey.
- ❖ The trees that grow here are called **mangroves**.
- ❖ Their roots do not get air as the soil is covered with water.

So, the roots grow out of the soil and water to breathe. Such roots are called **breathing roots**.

Aquatic Plants

- ❖ Plants that grow in water are called aquatic plants.
- ❖ Many small and big plants grow in a pond. Among them, some float on water while others grow completely underwater.
- ❖ Aquatic plants are of three types— floating plants, fixed plants and underwater plants.

Floating plants

- ❖ These plants float because they are either light or small in size.
- ❖ Duckweed, water lettuce and water hyacinth are some such plants. These plants protect small water animals from the heat of the sun.

Fixed plants

- ❖ Some plants are fixed to the bed of the pond.
- ❖ You must have seen plants like the lotus and the water lily.
- ❖ The stem of the lotus is hollow and light which keeps the leaves and the flowers afloat, this is also used to make tasty dishes.
- ❖ The leaves are broad and have stomata only on the upper side. These broad, floating leaves provide a nesting place for some tiny birds.

**Underwater plants**

Plants like tape grass and pondweed remain under water.

- ❖ These plants have long, ribbon like, narrow leaves.
- ❖ These leaves arise in clusters from the roots and have no stomata at all.
- ❖ They breathe through their body surface.
- ❖ These plants clean the water by removing the carbon dioxide breathed out by aquatic animals like fish and turtles.

This is why we put such plants in aquariums.

Plants of the grass family

Cereal plants belong to the grass family of the plant kingdom.

- ❖ These plants are useful to us in many ways.
- ❖ They provide food for humans and animals.
- ❖ Wheat, rice, jowar, bajra, sugar and fodder are obtained from plants of the grass family.



Bamboo plants are actually giant grass.

- ❖ Bamboo is used for making things like brooms, baskets, chairs, mats, curtains, toys and huts.
- ❖ Bamboo shoots have a high nutritional value and are rich in vitamins, cellulose and amino acids.
- ❖ In many parts of India, especially in the north-east, these are used to prepare tasty dishes.



- ❖ Paper was first made by the people of Egypt from a grass called **papyrus**, from 'papyrus' comes the word paper.
- ❖ Various kinds of grasses are now used to make different types of paper.
- ❖ Some plants of the grass family are used in preparing medicines. Dried grass is used as packing material.
- ❖ The roots of the plants of the grass family help to conserve soil.

Some unusual plants

We all know that some animals eat plants.



- ❖ But do you know that there are some plants which eat animals (insects)! They are called insectivorous plants.
- ❖ In Venus flytrap, for example, the leaf is folded into two halves.
- ❖ When an insect sits on the leaf, the two halves close and the insect is trapped.
- ❖ The pitcher plant and the sundew are other examples of insectivorous plants.

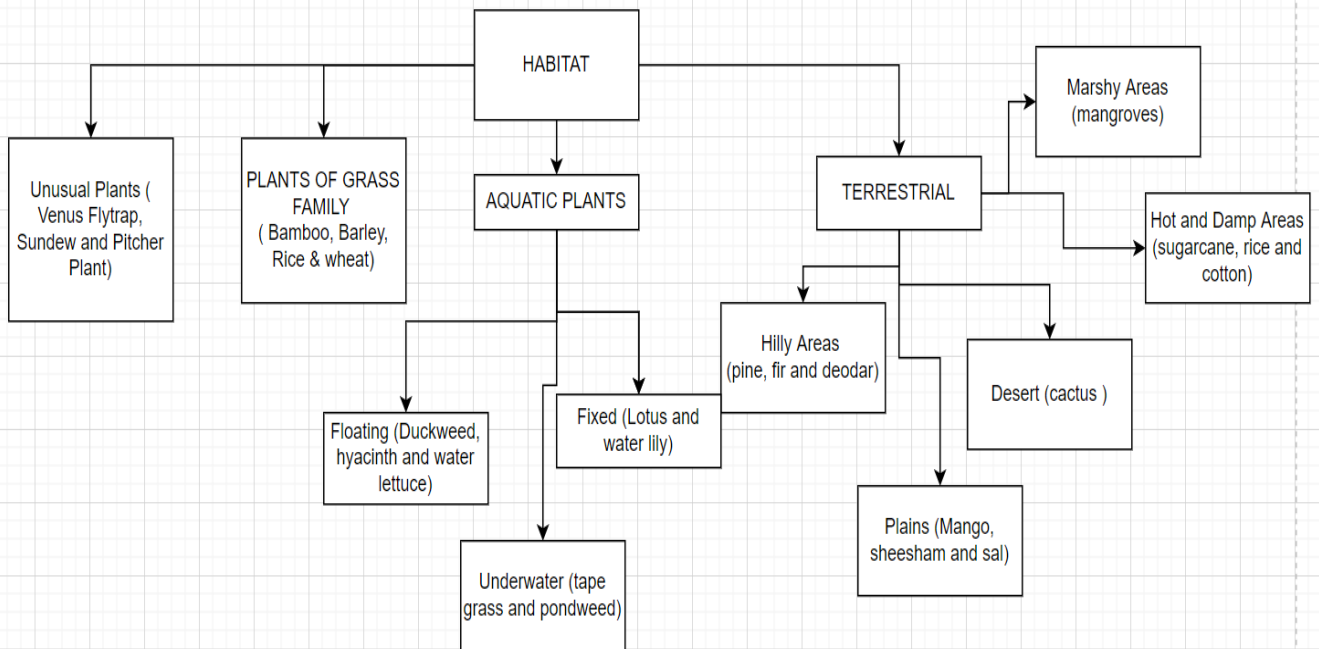
Rainforest

Rainforests are hot and wet forests that are found mostly near the equator.

- ❖ Most rainforests exist in parts of Asia, Africa, South America and Australia.
- ❖ In rainforests, there are both tall and short trees with Lots of climbers around.
- ❖ The ground is covered with leaves, ferns and fungi.
- ❖ The thick growth of leaves creates dark areas having an umbrella-like shape.
- ❖ A wide variety of animals are found here.

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Changing your Tomorrow



Let's know More

- ❖ Plants adapt to their environment from necessity.
- ❖ Plants may also adapt by growing lower and closer to the ground to shield themselves from wind and cold.
- ❖ Desert environments may have some of the following adaptations, these help the plant to conserve food, energy and water and still be able to reproduce effectively.

Let's Answer

A. Tick (V) the correct answer.

1. Plants growing in hilly areas have

- a. no leaves b. needle-like leaves c. broad leaves.

2. A cactus plant saves water by

- a. not having leaves b. not having a stem c. not having roots.

3. Floating water plants help small water animals by giving them

a. shade from the sun b. food and water c. water and minerals.

4. A lotus plant has

a. needle-like leaves b. very thin leaves c. broad leaves.

5. The main food that plants of the grass family give us is wheat and rice.

a. fruits and nuts b. wheat and rice c. straw and sugarcane

B. Match the following.

- | | |
|--------------|------------------------|
| 1. Coconut | a. plains |
| 2. Mango | b. desert |
| 3. Cactus | c. hilly areas |
| 4. Pine | d. coastal areas |
| 5. Mangroves | e. marshy area |
| 6. Pepper | f. hot and damp areas. |

C. Plants that grow on land are called _____ plants. Fill in the names of such plants in the empty boxes.

TERRESTRIAL PLANTS	Plants grows on land
Hilly areas	
Plains	
Hot and damp	
Desert	
Marshy	
Aquatic plants	

D. Plants that grow in water are called _____ plants. Beginning with the second letter cross out every alternate letter to get the answer. write two example of each kind.

A C Q A U I A P T A I T C

1. Floating Plants 2. Fixed Plants, 3. Underwater plants,

E. Write short answers.

1. Name five plants of the grass family that provide us food.
2. Name some products of the bamboo plant.
3. Name any two insectivorous plants.
4. Name a plant that has spines instead of leaves.
5. Name the family of plants which gives us cereals.

F. Answer these questions.

1. How do breathing roots help a plant that grows in a marshy area?
2. A lotus plant grows in water. How does it adapt itself to live in water?
3. What are the main uses of the plants of the grass family?
4. How does the Venus flytrap eat insects?

Teacher's Note

- Discuss about the vegetation of different habitats.
- Discuss the uses of grass plants.
- Show things made of grass plants.
- Specimens of insectivorous plants can be shown to the children.

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Improve your GK

- Every year an area of rainforests, larger than Kerala, is cut down in the world.

Answer key

A

1. Needle like leaves
2. Not having leaves
3. Shade from the sun
4. Broad leaves

5. wheat and rice

B. Coconut

Mango

Cactus

Pine

Mangroves

Pepper

a. hot and damp areas

b. plain

c. desert areas

d. hilly areas

e. marshy area

f. hot and damp areas

C.

TERRESTRIAL PLANTS	Plants grows on land
Hilly areas	Pine, fir and cedar
Plains	Mango , sheesham, peepal, banyan and sal
Hot and damp	Pepper, rubber, sugarcane, rice and cotton
Desert	Cactus
Marshy	Mangroves
Aquatic plants	Lettuce, water hyacinth and lotus

D. Plants that grow in water are called aquatic plants. Beginning with the second letter cross out every alternate letter to get the answer. write two example of each kind.

A C Q A U I A P T A I T C

1. Floating Plants

Eg. Duckweed, water hyacinth

2. Fixed Plants

Eg. Lotus, water lily

3. Underwater plants

Eg. tape grass, pondweed

E.

Ans 1. Five plants of grass family that provides us food are wheat, rice, jowar, bajra and sugarcane.

Ans 2. Some products of bamboo plants are brooms, baskets, chairs, mats, toys and huts.

Ans 3. Insectivorous plants are:

- a. Venus flytrap
- b. Pitcher plants

Ans 4. Cactus plants have a spine instead of leaves.

Ans 5. Grass family of plants gives us cereals.

F.

Ans 1. Breathing roots help a plant that grows in a marshy area :

- In marshy areas, there is poor oxygen content and less nutrient soil.
- This results in roots getting less oxygen to breathe in for the process of photosynthesis.
- So, in order to get sufficient oxygen, the roots grow upwards.

Ans 2. Leaves of Lotus plant are very wide and disc shaped.

- The stems of lotus are hollow and light, which keeps the leaves and the flowers afloat.
- The leaves are broad and get support of water to keep itself upright.

Ans 3. Plants of grass family have many uses:

- It provides food for humans and animals.
- Bamboo plant is used for making things like broom, basket, toys and huts.
- Various grasses are now used for making different kinds of paper.
- Some grass is also used for preparing medicines and packing material.
- The roots of the plants of the grass family help to conserve soil.

Ans 4. In Venus flytrap, the leaf is folded into two halves, when an insect sits on the leaf, the two halves close and the insect is trapped.