

Chapter 5

Adaptations in Plants

LESSON PLAN

SPECIFIC OBJECTIVES

The students will learn about

- ❖ need for adaptation in plants
- ❖ adaptations in plants living in different habitats
- ❖ care for plants

Teaching Aids

Pictures/charts/models/animation on the topics given in the chapter.

Lesson Plan

- ❖ Teacher will start the chapter with 'Gear Up' section by asking some general questions on plants growing in different places.
- ❖ With the help of teaching aids, teacher will discuss the need of adaptations.
- ❖ Teacher will define terrestrial and aquatic habitats.
- ❖ Teacher will explain the distinguishing features of terrestrial and aquatic plants.
- ❖ Now, with the help of different teaching aids, teacher will define adaptations in plants of different habitats:
 - ▶ **Adaptations in plants growing on hills and mountains:** Teacher will explain that plants growing on hills and mountains have short stem, needle-like leaves and cones instead of flowers.
 - ▶ **Adaptations in plants growing in plains:** Teacher will explain that plants growing in plains have big and broad leaves so that they can lose excess of water for keeping themselves cool in hot summer.
 - ▶ **Adaptations in marshy plants:** Teacher will explain that marshy plants grow in waterlogged soil, therefore, their roots come out for respiration and help them to survive in marsh.
 - ▶ **Adaptations in plants growing in coastal areas:** Teacher will explain that plants of coastal areas have to face strong winds throughout the year, therefore, they have unbranched single trunk.

- ▶ **Adaptations in desert plants:** Teacher will explain that desert plants have thick leaves with waxy coating or leaves changed into spines in some plants such as cactus, etc. Their roots go very deep in the ground. Their stem stores water. All these features help them save water and survive in desert.
- ▶ Teacher will discuss special adaptations in plants growing in nitrogen-deficient soil.
- ▶ Teacher will also discuss nongreen plants.
- ❖ To check the understanding of students about the topic, teacher will ask them to solve 'Check Point 1'.
 - ▶ **Adaptations in free-floating plants:** Teacher will explain that free-floating plants have air-filled spaces between their cells. This feature makes them light and helps in floating.
 - ▶ **Adaptations in fixed-floating plants:** Teacher will explain the adaptive features of fixed-floating plants which help them float on water surface while being fixed at one place.
 - ▶ **Adaptations in submerged plants:** Teacher will explain adaptive features of submerged plants which grow under water and have long and tape-like leaves without stomata. They take carbon dioxide dissolved in water and release oxygen in water during photosynthesis.
- ❖ Teacher will discuss the ways for taking care of plants.
- ❖ Now, teacher will ask students to solve 'Check Point 2'.
- ❖ Teacher will sum up the chapter by going through the points given under the head 'Wrap up now' and revising the 'New Words'.
- ❖ Finally, teacher will help students to solve all the exercises given under the head 'Practice Time'.

Boost Up

- ❖ Teacher should explain the type of habitat which the students live in and the lifestyle they have adapted for. Teacher should explain the adaptations in plants found thereby displaying some samples.
- ❖ Students should be encouraged to observe some adaptive features in plants around their dwelling places or wherever they go.
- ❖ Students should be encouraged to watch programmes related to plants on Discovery and National Geographic Channels.

Expected Learning Outcomes

The students understand and know

- ❖ what an adaptation is.
- ❖ the main types of habitats.
- ❖ adaptations found in plants of different habitats.

Evaluative Questions

Teacher may ask the following questions for evaluating learning and understanding of students:

1. What is a terrestrial plant? Name some terrestrial plants.
2. What is an aquatic plant? Name some aquatic plants.
3. Why are conifers named so?
4. Why do plants growing in plains have broad leaves?
5. What is a marsh?
6. What are mangroves?
7. Why do leaves in cactus plant change into spines?
8. How do some aquatic plants float freely?
9. How are some aquatic plants fixed in water?