9 Plants-Form and Functions

LESSON PLAN

SPECIFIC OBJECTIVES

The students will learn about

- ✧ different types of plants
- ✧ parts of a flowering plant
- ✧ root system; characteristics, types, functions and modifications of roots
- ✧ shoot system; stem and its characteristics, functions and modification
- ✧ leaves – the food factories of the plant
- ✧ structure, functions and modification of a leaf
- ✧ flower and its structure and functions

TEACHING AIDS

Pictures/charts/models/animation on herbs, shrubs, trees; climbers and creepers; a flowering plant showing all its parts; taproot, fibrous roots; modification of roots for storing food, support, climbing; modification of stem for storing food, support, protection; structure of leaf, modification of leaves; structure of flower, process of pollination and fertilisation (all as given in the chapter).

LESSON PLAN

- ✧ The teacher will start the chapter with Gear Up and will ask the students to answer the questions related to the given picture.
- ✧ Teacher should define flowering and nonflowering plants.
- ✧ The teacher should discuss the features of herbs, shrubs, trees, climbers, creepers, annual, biennial and perennial plants with the students.
- ✧ Students should also be taught the parts of a flowering plant, i.e., shoot system and root system.
- ✧ Teacher will differentiate between tap root and fibrous roots by demonstrating Activity 1.
- ✧ Teacher will discuss the characteristics, types, functions and modifications of roots.
- ✧ Teacher will explain some important functions of roots with the help of Activities 2, 3 and 4.

- ✧ The teacher will discuss about shoot system; stem and its characteristics, functions and modifications.
- ✧ Teacher will explain major functions of stem by demonstrating Activity 5 and will show potato as modified stem by performing Activity 6.
- ✧ Now, teacher will define why leaves are called the food factories of the plant. The teacher should also discuss structure, functions and modifications of leaves.
- ✧ The teacher should demonstrate the presence of starch in leaves by performing the Activity 7.
- ✧ Teacher will define the flower and its structure by performing Activities 8, 9 and 10 given at page 117.
- ✧ The teacher will discuss pollination and fertilisation along with functions of a flower.
- ✧ Students should be asked to solve Check Points 1, 2, 3 and 4.
- ✧ At last, the teacher will sum up the lesson by going through the points given under the head 'Wrap Up Now'.
- ✧ The teacher will help the students to solve the questions given in exercises under the head 'Practice Time' and will also discuss the topics given under the head 'Formative Tasks'.

BOOST UP

- ✧ The teacher should write the names of different kinds of plants on the board and then call each student of the class one-by-one to write the kind of the plants, i.e., herbs, shrubs, trees, creepers, climbers, etc.
- ✧ Students should also be asked to differentiate between annual, biennial and perennial plants.
- ✧ The teacher should ask few questions to the students related to parts of a flowering plant, i.e., roots, stem, leaves, flower, etc.
- ✧ Students should be asked to tell the differences between taproot and fibrous roots.

EXPECTED LEARNING OUTCOMES

The students understand and know the

- ✧ differences between herbs, shrubs and trees; climbers and creepers; annual, biennial, and perennial plants.
- ✧ parts of a flowering plant.
- ✧ modifications of root, stem and leaves.
- ✧ pollination and fertilisation.

EVALUATIVE QUESTIONS

The teacher may ask the following questions for evaluating the understanding of students:

1. What are herbs? Give two examples.

2. Mention two differences between climbers and creepers.

3. What is meant by annual, biennial and perennial plants?
4. Define root system with its types.
5. Why are leaves called kitchen of the plant?
6. What does shoot system consist of?