

# Science Booster 4

## 1

## Preparation of Food in Plants

### LESSON PLAN

#### SPECIFIC OBJECTIVES

The students learn about

- ✧ plants as the only source of food on the earth
- ✧ structure of a leaf
- ✧ food making by plants and its uses
- ✧ some unusual plants
- ✧ relationship between plants and animals

#### TEACHING AIDS

**Picture/chart/animation** on a herbivore eating plants, a carnivore eating an animal, man eating vegetarian and nonvegetarian food; **Picture/sample** of a broad leaf (papaya, banyan, etc.), **Picture/chart** showing inside structure of a leaf, process of photosynthesis; pieces of potato, iodine solution, dropper, paper clip, black paper; **Picture/animation** on mushroom and cactus; **Picture** showing plants, animals and man together.

#### LESSON PLAN

- ✧ Teacher will start the chapter with 'Gear Up' section by asking some general questions to the students based on their previous knowledge about plants.
- ✧ Now, teacher will show pictures/chart/animation (as mentioned in teaching aids) and explain whatever food animals eat, is obtained from plants directly or indirectly.
- ✧ Teacher will explain that unlike animals, plants make their food themselves. Teacher will also tell that leaves are the site of food making in plants.
- ✧ Now, showing picture/sample of a green leaf, teacher will explain its features.
- ✧ With the help of picture/chart, teacher will explain the internal structure of leaf.
- ✧ Teacher will highlight the points that green colour of leaves is due to a green pigment called chlorophyll and the leaves bear tiny openings called stomata through which plants breathe air in and out.

- ✧ Now, teacher will define photosynthesis and then with the help of picture/chart/animation, explain how plants make their food.
- ✧ Teacher will also explain the use of manufactured food for plants.
- ✧ With the help of Activity 1, the teacher will explain that plants store food in the form of starch.
- ✧ Teacher will also explain by performing Activity 2, that plants cannot make food in the absence of sunlight.
- ✧ To check the understanding of students about chapter, teacher will ask to solve 'Check Point 1'.
- ✧ Now, with the help of teaching aids, teacher will explain that there are some plants that have some special features.
  - ▶ Teacher will explain with the help of teaching aids that the stem of cactus becomes green and its leaves change into spines. These features help it to survive in desert.
  - ▶ Teacher will tell that there are some nongreen plants because they lack chlorophyll. They are called fungi. Teacher will explain that fungi cannot make their food. They take their food from dead and rotting matter.
- ✧ Now, with the help of teaching aids, teacher will explain the relationship between plants and animals that plants give food to eat and oxygen to breathe while in turn, animals release carbon dioxide which plants take for making their food.
- ✧ Now, teacher will ask students to solve 'Check Point 2'.
- ✧ The teacher will sum up the chapter by going through the points given under the head 'Wrap up now'.
- ✧ Finally, the teacher will help students to solve all the exercises given under the head 'Practice Time'.

### **BOOST UP**

- ✧ Teacher should take students on study tour and show them plants in the natural habitat.
- ✧ Students should be encouraged to watch Discovery and National Geographic Channels.

### **EXPECTED LEARNING OUTCOMES**

The students

- ✧ understand that plants are the only source of food on the earth.
- ✧ know about structure of leaf.
- ✧ know about food making by plants, its uses to plants.
- ✧ learn about cactus and nongreen plants.
- ✧ understand the relationship between plants and animals.

### **EVALUATIVE QUESTIONS**

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

1. What is the source of food for all animals?
2. What is the flat green part of a leaf called?
3. Which tubes carry water in plants?
4. Which tubes carry food in plants?
5. Why are leaves green in colour?
6. What are stomata?
7. In which form do the plants make food?
8. In which form is the food stored in plants?
9. What is the use of carbon dioxide to the plants?