# Science Booster 7

# 1 Nutrition in Plants

## LESSON PLAN

### SPECIFIC OBJECTIVES

The students will learn about

- ✧ nutrition and its modes
- ✧ autotrophic mode of nutrition in plants – photosynthesis
- ✧ raw materials necessary for photosynthesis
- ✧ green leaves – the food factories of plants
- ✧ heterotrophic mode of nutrition in plants, i.e., parasitic plants, saprophytes, symbiotic plants, insectivorous plants – partial heterotrophs

### TEACHING AIDS

**Pictures/charts/models/animations** on process of photosynthesis, open and closed stomata; *Cuscuta*, *Misletoe*, bread mould, mushroom, root nodules of a legume, lichen; pitcher plant, Venus flytrap, etc.

### LESSON PLAN

- ✧ The teacher should start the chapter with Gear Up and ask the students questions given in this section.
- ✧ Now, teacher should explain the nutrition and nutrients along with modes of nutrition. Teacher should also explain autotrophic mode of nutrition in plants and its required raw materials.
- ✧ The teacher should make the students understand why green leaves are called the food factories of plant. Teacher should explain the functioning of stomata.
- ✧ Now, the teacher should discuss the synthesis of other nutrients from glucose.
- ✧ Teacher should demonstrate Activities 1 and 5 while discussing the products of photosynthesis and Activities 2, 3 and 4 for the raw materials of photosynthesis.
- ✧ The teacher should discuss about heterotrophic mode of nutrition in plants by describing parasitic plants, saprophytes, symbiotic and insectivorous plants.

- ✧ Students should be taught how to grow bread mould on a piece of bread with the help of Activity 6.
- ✧ Students should be asked to solve 'Check Points' 1 and 2.
- ✧ 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 all the questions given in exercises under the head 'Practice Time' and will also discuss the topics given under the head 'Formative Tasks'.

## BOOST UP

- ✧ Students may be asked to make a presentation on why green leaves are called food factories of plants.
- ✧ Students may be asked to collect pictures of parasitic, saprophytes, symbiotic and insectivorous plants other than those given in the book.

## EXPECTED LEARNING OUTCOMES

The students know about

- ✧ concept of nutrition, nutrients and modes of nutrition.
- ✧ autotrophic mode of nutrition in plants.
- ✧ green leaves as the food factories of plants; functioning of stomata and synthesis of other nutrients from glucose.
- ✧ heterotrophic mode of nutrition in plants.

## EVALUATIVE QUESTIONS

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

**1.** What is the difference between nutrition and nutrients?
**2.** Are autotrophs called producers?
**3.** Define photosynthesis and write its essential raw materials.
**4.** What is the difference between partial and total parasites?
**5.** Define saprophytes.
**6.** Why is an alga called autotroph?