

New Science Power 7

Nutrition in Plants

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LESSON PLAN

SPECIFIC OBJECTIVES

- The students will learn about
- ❖ nutrition and its modes
 - ❖ autotrophic mode of nutrition in plants – photosynthesis
 - ❖ conditions necessary for photosynthesis
 - ❖ heterotrophic mode of nutrition in plants, i.e., parasitic plants, saprophytes, symbiotic plants, insectivorous plants

TEACHING AIDS

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

LESSON PLAN

- ❖ Teacher will start the chapter by going through the points given in 'Know these points before you start' section.
- ❖ Now, teacher will explain the terms nutrition and nutrients, and will discuss different modes of nutrition.
- ❖ Teacher will explain autotrophic mode of nutrition in plants and make students understand why green leaves are called the food factories of plant.
- ❖ Teacher will explain the conditions necessary for photosynthesis by demonstrating activities given in the chapter. Teacher will also explain the role of leaves and stomata in photosynthesis.
- ❖ Now, teacher will discuss the synthesis of other nutrients from glucose.
- ❖ Teacher will discuss importance of nitrogenous fertilisers for plants.
- ❖ Now, teacher will ask students to solve Check Point 1.

- ✧ Teacher will explain heterotrophic mode of nutrition in plants and discuss parasitic plants, saprophytes, symbiotic plants and insectivorous plants.
- ✧ Now, teacher will ask students to solve Check Point 2.
- ✧ Teacher will make students revise the new terms given under the head 'Know These Terms'.
- ✧ Finally, teacher will help students to solve the questions given in exercises under the head 'Practice Time' and 'Think Zone'.

BOOST UP

- ✧ Teacher should demonstrate and explain activities given in the chapter.
- ✧ Teacher should discuss the information given under the head 'Something More'.
- ✧ Teacher should discuss the conversation of Annu and Mannu given in between the topics.
- ✧ Teacher should encourage students to watch Discovery, National Geographic and Animal Planet channels to know more about 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 parasitic plants?
5. Define saprophytes.
6. Why is an alga called autotroph?