

LESSON PLAN

SPECIFIC OBJECTIVES

- The students will learn about
- ❖ microorganisms, their discovery, characteristics and habitat
 - ❖ major groups of microorganisms, i.e., bacteria, fungi, algae, protozoa and viruses
 - ❖ economic importance of microorganisms
 - ❖ food preservation and its related methods
 - ❖ nitrogen fixation

TEACHING AIDS

Pictures/charts/models/animations on bacteria of different shapes, a bacterium, binary fission in bacteria; some common fungi, algae, protozoans and viruses; some microbial diseases in plants; various types of preserved food items; nitrogen cycle.

LESSON PLAN

- ❖ Teacher will start the chapter by going through the points given in 'Know these points before you start' section.
- ❖ Teacher will define microorganisms, their discovery, general characteristics and habitats.
- ❖ Teacher will ask students to solve Check Point 1.
- ❖ Now, teacher will explain major groups of microorganisms and their features.
- ❖ Teacher will ask students to solve Check Point 2.
- ❖ Teacher will discuss beneficial microorganisms and their various uses.
- ❖ Teacher will ask students to solve Check Point 3.
- ❖ Now, teacher will discuss harmful microorganisms and various diseases they cause in plants and human beings.
- ❖ Teacher will ask students to solve Check Point 4.
- ❖ Teacher will define food preservation, its need and benefits as well as various methods of food preservation.

- ✧ Now, teacher will ask students to solve Check Point 5.
- ✧ Teacher will define nitrogen fixation, its methods and nitrogen cycle and its importance.
- ✧ Teacher will ask students to solve Check Point 6.
- ✧ 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 discuss the facts given in the table.
- ✧ Teacher should encourage students to watch Discovery, National Geographic and Animal Planet channels to know more about plants and animals.
- ✧ Teacher should encourage students to collect pictures of some microbial diseases in plants.
- ✧ Teacher should also discuss the drawbacks of consuming canned and preserved food.

EXPECTED LEARNING OUTCOMES

The students know about

- ✧ microorganisms, their characteristics and habitats.
- ✧ major groups of microorganisms.
- ✧ economic importance of microorganisms.
- ✧ methods and benefits of preserving the food.
- ✧ importance of nitrogen fixation, its methods and nitrogen cycle.

EVALUATIVE QUESTIONS

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

1. Define microorganisms and write their characteristics.
2. Where are bacteria found?
3. Name one unicellular and one multicellular organism.
4. Why are viruses regarded as connecting link between living and nonliving things?
5. Define retting.
6. Name two bacterial diseases each in plants and human beings.
7. Mention different methods of food preservation.
8. What are the steps of nitrogen cycle?