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Microorganisms

LESSON PLAN

SPECIFIC OBJECTIVES

The students will learn about

- ✧ microorganisms, their 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

- ✧ The teacher should start the chapter with Gear Up and ask students the questions given in this section.
- ✧ The teacher should define microorganisms, their discovery, general characteristics and habitats.
- ✧ Now, teacher should explain major groups of microorganisms and demonstrate Activity 1.
- ✧ The teacher should discuss economic importance of microorganisms and demonstrate Activities 2, 3 and 4.
- ✧ The teacher should define food preservation, its need and benefits and its various methods.
- ✧ The teacher should define nitrogen fixation, its methods and nitrogen cycle.
- ✧ The teacher will ask the students to solve Check Points 1, 2 and 3.
- ✧ 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

- ✧ The teacher may also assign Activities 1, 2, 3 or 4 as part of the projects.
- ✧ The teacher should encourage students to collect the 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 habitat.
- ✧ major groups of microorganisms.
- ✧ economic importance of microorganisms.
- ✧ methods and benefits of preserving the food.
- ✧ 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.
7. Mention different methods of food preservation.