13 Reproduction in Plants

LESSON PLAN

SPECIFIC OBJECTIVES

The students will learn about

- reproduction and its modes
- modes of reproduction in plants, i.e., asexual reproduction, vegetative propagation and sexual reproduction and their methods
- mechanism of sexual reproduction
- fertilisation
- fruit and seed dispersal
- germination of seed

TEACHING AIDS

Pictures/charts/models/animations on budding in yeast, binary fisson in a bacterium, fragmentation in *Spirogyra, Rhizopus* showing its sporogonium; root tubers of sweet potato and *Dahlia*, stem tuber of potato, rhizome of ginger, bulb of onion, vegetative propagation in strawberry, *Bryophyllum,* stem cutting in rose, layering in jasmine, grafting; tissue culture; parts of flower; types of pollination, germination of pollen grains on stigma; seeds of maple, madar; fruits of coconut *Xanthium;* germination of seed.

LESSON PLAN

- The teacher should start the chapter with discussing 'Gear Up' and asking the question given in the section.
- The teacher should discuss the process of reproduction and its various modes in plants.
- The teacher should discuss the process of budding in yeast by demonstrating Activity 1 given at page 169.
- The teacher should discuss the process of spore formation in *Rhizopus* by demonstrating Activity 2 given at page 170.
- Now, teacher should discuss vegetative propagation and its natural as well as artificial methods.
- The teacher should discuss vegetative propagation in potato by demonstrating Activity 3 given at page 172.

- ✧ Now, teacher should describe sexual reproduction in plants by demonstrating Activity 4 given at page 175.
- ✧ The teacher should also discuss the mechanism of sexual reproduction in plants by describing pollination and its agents.
- ✧ The teacher should discuss fertilisation and formation of fruit and seed.
- ✧ Now, teacher should discuss the dispersal of fruits and seeds, agents of dispersal, its need and advantages.
- ✧ Teacher should describe the process of germination of seeds.
- ✧ The teacher should ask the students 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

- ✧ The teacher should demonstrate Activity 5 to boost up the understending of students about sexual reproduction in plants.
- ✧ The teacher should make arrangement to demonstrate the spores of Rhizopus under microscope.
- ✧ Students should be encouraged to observe the natural and artificial methods of vegetative propagation around them.
- ✧ Students should be encouraged to collect pictures of various flowers, their agents of pollination, mode of fruit and seed dispersal and pictures of seeds.

EXPECTED LEARNING OUTCOMES

The students know about

- ✧ reproduction and its modes in plants.
- ✧ different forms of asexual reproduction.
- ✧ natural and artificial methods of vegetative propagation.
- ✧ pollination, its types and agents.
- ✧ formation of fruit and seed, their dispersal and germination of seed.

EVALUATIVE QUESTIONS

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

1. Define reproduction.
2. Explain the modes of reproduction.
3. What is the difference between layering and grafting?
4. Name the male and female parts of a flower.

5. Mention the mechanism of sexual reproduction.
6. Explain the agents of pollination.
7. What is meant by fertilisation?