

SALWAN PUBLIC SCHOOL, RAJENDRA NAGAR

CLASS – X

LESSON PLAN

CHAPTER-8: How do organisms reproduce?

CHAPTER-1:	Science : (HOW DO ORGANISMS REPRODUCE)
Class Transaction (2-3 days)	Lesson Plan - II Total: 4 periods (approx. 35 min each) Topic: Sexual reproduction in plants Sub-Topic: Why the Sexual Mode of Reproduction? Sub-Topic: Sexual Reproduction in Flowering Plants Sub-Topic: Male reproductive part and female reproductive parts of flower Sub-Topic: Pollination Sub-Topic: Germination of pollen on stigma Sub-Topic: Seed germination
Pre-requisite for the course (KNOWLEDGE)	This lesson requires: • basic knowledge of the reproduction and its different types. • understand sexual reproduction in flowering plants. • skill acquisition in students making diagrams of flower showing different parts of the plant, flower and seed.
Learning Objectives	Students will be able to: • appreciate the significance of sexual mode of reproduction in living organisms. • know the different vegetative and reproductive parts of a plant. • understand the different parts of male and female reproductive organs in plants. • explain the process of pollination and different pollinating agents. • describe the process of pollen germination on the stigma of the flower. • illustrate the concept of seed germination and its importance.
Teachers' activity	Introduction: Teacher will introduce the topic by asking various questions from previous knowledge: • Analytical skills (Different plants can be shown in the class to observe different vegetative and reproductive parts). • To describe the different parts of plants by showing it in the class. • Several specimens of flowers will be given to students so that they will observe and appreciate the presence of male and female reproductive parts in it. It will arouse interest regarding sexual mode of reproduction in plants. • Open discussion will be initiated to discuss sexual reproduction in plants to create curiosity. • After showing the plants and different flowers in the class

	discussion one crossword puzzle activity will be conducted regarding mode of reproduction and by relating identifying features of specific parts where they are found. • Evidence-based active-learning instructional strategies: real life specimens of stamen and pistil in different flowers will be shown in the class. For e.g. China rose and winka plant. • Problem solving and skill acquisition: (investigating and applying established principles to justify an observation): Students will be able to draw the diagram and write the names of male and female reproductive parts. Example- Activity:-Flowers of China Rose will be taken. Pollen will be taken from the flower and dust it on the glass slide and drop of 2% nutrient solution will be put on it. Safranin stain will be used to stain the pollen grain and slide will be shown to students to show the shape of pollen grain and emergence of pollen tube out of it. Concept insight Flower is the reproductive part of the flower. Stamen is the male reproductive part which consists of anther and filament. Anther contains pollen grains and pistil/carpel which constitutes female reproductive part which consists of stigma, style and ovary. Activity:-Students will be told to collect different flowers which are pollinated by water, wind and air and students will keep a record of the same in their notebooks. Concept insight: By doing this activity students will get an idea about the role of different pollinating agents in the process of pollination. Activity:-Soaked white gram seeds with forceps in a group of 2 students to dissect the parts of seed and to display them on the white paper to show their various parts. Concept insight: Students will be able to understand the structure and function of seed, seed coat, plumule and radical. Critical thinking and collaboration (Competitive evaluation of given information)
Students' Learning Outcomes	Students would be able to: • appreciate the significance of sexual mode of reproduction in living organisms. • know the different vegetative and reproductive parts of a plant. • understand the different parts of male and female reproductive organs in plants.

	• explain the process of pollination and different pollinating agents. • describe the process of pollen germination on the stigma of the flower. • illustrate the concept of seed germination and its importance.
Assessment	• continuously monitor student progress by asking oral questions. • providing active involvement of students in their own learning by giving daily Practice Problems in the class. • peer assessment in Lab Activities • written tests
Self-Study, Assignments, Homework	• Self-Study (Independent Practice)-The teacher would ensure that each student should bring NCERT Book and tries to be independent at the work as well as be under the teacher's guidance. • Guided practice followed by Independent Practice (Question Bank) On completion of the chapter, students will be answering the following revision questions: Q1 What is the significance of sexual reproduction over asexual reproduction? Q2 Describe the structure of the flower. Q3 Name male and female reproductive parts of the flower. Q4 Define pollination. Name two pollinating agents which help in the process of pollination. Q5 What is seed germination? Why is it necessary? Q6 Draw the diagram of a dicot seed. Homework: The students, with the help of the teacher, will solve the questions from NCERT back exercise in their notebook.