

SUBJECT: BIOLOGY
TOPIC: REPRODUCTION IN PLANTS

DIARY- LESSON PLAN

Pre- Content/Content / Post –content	Learning Outcome/Objectives	
	<u>General</u>	<u>Specific</u>
Pre Content: Students know that plants grow from seeds. Teacher will motivate the students to introduce the lesson. Plants do not only reproduce or grow from seeds. There are other methods of multiplication as well The production of new individuals from parents is known as reproduction. There are two types of reproduction – asexual and sexual. Content: • Modes of reproduction • Asexual reproduction • Sexual reproduction • Pollination • Fruit and seed formation Post-content: The student at the end of the chapter should be able to comprehend the following concepts. • Reproduction is the phenomenon of continuation of race	Students will be able to: • recall and enlist the importance of reproduction • describe asexual and sexual reproduction • identify the different ways of vegetative propagation • explain sexual reproduction in plants • explain pollination in plants • outline fertilization • discuss dispersal of seeds • application of the concept in our daily life	Students will be able to: • appreciate the importance of reproduction • develop the concept of asexual and sexual reproduction and differentiate between them. • discuss the various types of asexual reproduction in plants. • observe sprouting and budding in plants through an activity. • draw and label the diagram showing budding and spore formation • observe and compare the unisexual and bisexual flowers • develop the concept of pollination • differentiate between self-pollination and cross pollination. • explain the formation of zygote through the process of fertilization • draw and label the process of pollination and fertilization. • analyse the importance of seed dispersal and consequences if there is no seed dispersal. • appreciate the creation of nature by watching flower bloom, pulses sprout etc. • justify the need of reproduction for the perpetuation and continuity of life.

Home Work / Assignments

- Worksheets and assignments.
- Question answers from text-book

AND PROGRESS

MONTH: JANUARY

CLASS: VII

Teacher's Activity	Student's Activity	Teacher's Observation and Remedial action taken
Teacher will: begin the chapter with a brainstorming session and recapitulate the previous knowledge of the students by asking them about the various ways we can get a new plant. <u>Annexure 12 (A):</u> demonstrate an activity on stem cutting. <u>Annexure 12 (B):</u> demonstrate an activity on potato plant sprouting from an 'eye' <u>Annexure 12 (C):</u> demonstrate an activity on reproduction in yeast by budding. <u>Annexure 12 (D):</u> demonstrate the dissection of china rose flower explain the concept of self and cross pollination along with fertilization (zygote formation) Give real life situations to understand the importance of reproduction for the continuation of race.	Students will: participate in the discussion and the brainstorming session .Each student will be given a chance to speak about their observations. <u>Annexure 12 (a):</u> perform the activity and will record their observations <u>Annexure 12 (b):</u> perform the activity and will record their observations <u>Annexure 12 (c):</u> perform the activity and will record their observations <u>Annexure 12 (d) :</u> perform the activity by dissecting and separating the male and female reproductive parts of china rose flower and record their observations write the difference between them and draw the diagrams. be able to write about fertilization (Zygote formation) and draw the diagram of the same solve the conceptual questions on reproduction	

Teaching Aids – Active Inspire boards, ICR, Materials required for activities, worksheets and textbook, Activity Kits

Methodology / Innovative Methods: Activity based teaching, Know to Unknown, Discussions, Activity method, brainstorming sessions.

Interdisciplinary Links –

English – It will improve the power of expression while explaining the activity and also vocabulary.

Art - Neatness in drawing the diagram

HOD

Coordinator

Vice-Principal

Principal

ANNEXURE 12(A) & (a)

Rose plants are propagated (or reproduced) by means of cuttings from stems (or branches) as follows:

A piece of branch with a node is cut from an existing rose plant with the help of a knife. This piece of branch is the rose ‘cutting’. It has a bud in the axil. The lower part of the cutting is buried in moist soil. The upper part of cutting having the node (or bud) is kept above the ground. Water the plant cutting every day. After a few days, the end of cutting buried in the soil develops roots. The bud develops into a shoot. In this way, the branch cutting of a rose plant grows to become a new rose plant.

ANNEXURE 12(B) & (b)

A tuber is the thickened underground stem (or root) of a plant which is swollen with stored food. Potato is a stem tuber. A cut part of a potato with a bud (or eye) can grow into a new plant. This method of producing potato plants is much faster than the production of potato plants from seeds.

ANNEXURE- 12(C) & (c) -ASEXUAL REPRODUCTION

Subject	Science
Class	VII
Chapter/Unit	Reproduction in plants
Topic	Budding
Time	30 minutes
Nature of Activity	Individual

What will I learn (Learning Outcome)?

- To identify that the yeast reproduces asexually by the formation of a bud and the process is known as budding.

Skills:

- Observing, Analysing, Creating

What I have to do?

- Study the mode of reproduction in yeasts.

What do I require?

- A beaker, warm water, dehydrated yeast powder, micro-slide, dropper, glass cover (cover slip), Compound Microscope.

What do I need to know?

- The method of reproduction where only one parent is involved is known as asexual reproduction.
- Budding is an asexual method of reproduction.
- In budding, a small part of the body of the parent grows out as a bulb-like projection called “bud” which then detaches and becomes a new plant.
- The yeast reproduces by budding.

➤ Teacher’s Activity

Teacher will

1. explain the concept of asexual reproduction and the process of budding in yeast, which is an asexual method of reproduction.
2. arrange the materials for the individual.
3. give instructions regarding the activity.

How will I proceed?

➤ **Student's Activity**

1. Take some warm water in a beaker.
2. Dissolve a spoonful of sugar in it.
3. Now add about 1 g of dehydrated yeast powder into the solution.
4. Keep the beaker in a warm place for about an hour.
5. With the help of a dropper, place a drop of the solution on a clear micro-slide.
6. Place a cover glass on it taking care that air bubbles do not enter beneath the cover glass.
7. Each groups will observe the slide under the microscope.

What have I observed?

Appearance/Nature of the cells	
Diagram as seen under the microscope	

What have I learnt?

- A bulb –like projection develops on the adult yeast cell called the _____ and this method of asexual reproduction of buds is called _____.

What am I curious to learn?

- Let us observe the permanent slide showing budding in hydra and compare it with the slide of yeast cells.
- And also observe the permanent slides of reproduction in other organisms, such as Spirogyra, Amoeba, and Paramecium etc and note down the type of reproduction observed in them and fill in the following table.

S No.	Organism	Type of reproduction observed	What have you observed?

Let me evaluate myself

1. What would happen if we conduct the above activity in cold water?

Ans. _____.

2. Name the asexual method of reproduction in yeast.

Ans. _____.

3. What are bulb like projections formed in yeast?

Ans_____.

4. Is yeast an autotroph or a heterotroph?

Ans. _____.

5. Give the diagrammatic representation of the process of budding in yeast.

Ans_____.

ANNEXURE- 12(D) & (d)

Aim: To observe the parts of Hibiscus (China rose) flower.

Materials needed: A hibiscus flower, a blade, a glass slide and a hand lens.

Method:

1. Take a flower and observe it for colour and number of sepals.
2. Open out the petals of the flower and place them on a slide.
3. Count the number of petals and stamens.
4. Observe where the petals are attached. You should see a long tube-like structure with round tips. This structure is the carpel. The lower end of this tube is swollen. This swollen part is called ovary.
5. Now, carefully slice the entire tube lengthwise with the help of a blade. Use a hand lens to observe what is inside the ovary.

Observation:

Ball-like structures called ovules inside the ovary will be seen.