

Lesson Plan: How do Organisms Reproduce? (CBSE Class X 2026-27)

Teacher: Class: X

Subject: Science (Subject Code - 086)

Unit II: World of Living (Unit Weightage: 25 Marks)

Chapter: 7 – How do Organisms Reproduce?

Estimated Number of Periods: 13

1. Gist of the Lesson & Curricular Goals

- **Core Syllabus:** Reproduction in animals and plants (asexual and sexual); reproductive health needs and methods of family planning; safe sex vs. HIV/AIDS; childbearing and women's health.
- **Educational Aim:** To foster scientific understanding of biological continuity while developing responsible, informed citizens capable of making ethical, evidence-based decisions regarding personal and public reproductive health.

2. Teaching-Learning Plan & Pedagogy

Key Concepts	Competencies (C) & Learning Outcomes	Teaching-Learning Activities (Pedagogy)	Assessment Strategies
Asexual Reproduction	<p>C-3.2: Analyses similarities and differences in life processes (reproduction).</p> <p>C-8.2: Accurately uses scientific instruments.</p> <p>• <i>Outcome:</i> Students will classify and observe different</p>	<p>• Mandatory Practical (Exp 12): Study binary fission in Amoeba and budding in yeast and Hydra using prepared slides under a microscope.</p> <p>• Discussion: Compare regeneration in Planaria with</p>	<p>• [Demonstrate Knowledge - VSA]: <i>Define</i> binary fission.</p> <p>• [Application - SA]: <i>Illustrate</i> the process of budding in Hydra with sequential diagrams.</p>

	modes of asexual reproduction.	fragmentation in Spirogyra.	
Sexual Reproduction in Plants	<p>C-3.2: Analyses life processes.</p> <p>C-8.2: Draws inferences based on biological structures.</p> <ul style="list-style-type: none"> • <i>Outcome:</i> Students will identify floral reproductive parts and seed structures. 	<ul style="list-style-type: none"> • Mandatory Practical (Exp 14): Identify the different parts of an embryo of a dicot seed (pea, gram, or red kidney bean). • Hands-on: Dissect a bisexual flower (e.g., Hibiscus) to visually separate and identify the stamen and pistil. 	<ul style="list-style-type: none"> • [Demonstrate Knowledge - Objective]: <i>Identify</i> the pollen-producing part of a flower. • [Formulate & Analyze - SA]: <i>Compare</i> self-pollination with cross-pollination.
Sexual Reproduction in Humans	<p>C-3.2: Analyses reproduction in animals.</p> <ul style="list-style-type: none"> • <i>Outcome:</i> Students will trace the structure and function of the male and female reproductive systems. 	<ul style="list-style-type: none"> • Visual Mapping: Use board diagrams to trace the path of sperm from the testis to the urethra, and the path of an egg from the ovary to the uterus. • Discussion: Explain the physiological changes during puberty and the phases of the menstrual cycle. 	<ul style="list-style-type: none"> • [Demonstrate Knowledge - SA]: <i>Name</i> the primary sex organs in males and females. • [Application - LA]: <i>Explain</i> the process of fertilization and implantation in humans.
Reproductive Health & Family Planning	<p>C-5.2: Examines a case study related to the use of Science in human life from the</p>	<ul style="list-style-type: none"> • Case Study: Discuss the societal importance of family planning, women's 	<ul style="list-style-type: none"> • [Formulate & Analyze - Case-Based]: <i>Evaluate</i> the dual role of

	<p>perspective of Social Sciences and Ethics.</p> <ul style="list-style-type: none"> • <i>Outcome:</i> Students will evaluate contraceptive methods and the importance of preventing STDs. 	<p>health during childbearing, and the distinction between bacterial STDs and viral infections (Safe sex vs. HIV/AIDS).</p> <ul style="list-style-type: none"> • Categorization: Map barrier, chemical, and surgical methods of contraception. 	<p>condoms in family planning and disease prevention.</p> <ul style="list-style-type: none"> • [Application - SA]: <i>Distinguish</i> between vasectomy and tubectomy.
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3. Assessment Structure & Weightage

Assessments are strictly modeled on the CBSE 2026-27 Theory Question Paper Design (80 marks) :

- **Demonstrate Knowledge and Understanding (50%):** Assessed via questions asking students to *state, name, list, identify, define, suggest, describe, outline, and summarize* (e.g., defining vegetative propagation, naming reproductive organs).
- **Application of Knowledge/Concepts (30%):** Assessed via questions asking students to *calculate, illustrate, show, adapt, explain, and distinguish* (e.g., explaining the menstrual cycle, illustrating seed germination).
- **Formulate, Analyze, Evaluate and Create (20%):** Assessed via questions asking students to *interpret, analyze, compare, contrast, examine, evaluate, discuss, and construct* (e.g., evaluating the socio-economic impacts of family planning, comparing asexual and sexual reproduction).

4. Digital Integration & Portfolio Enrichment (Internal Assessment - 20 Marks)

- **Subject Enrichment (Practical Work - 5 Marks):** Evaluated strictly on the execution of Experiment 12 (Microscopic slides) and Experiment 14 (Seed embryo). Students will be assessed on their microscope handling skills and the accuracy of their biological drawings in the practical lab record.
- **Digital Integration Strategy:** To reinforce complex biological sequences ahead of Periodic Assessments (5+5 Marks), utilize educational 3D animations (via platforms like

DIKSHA) to visualize the microscopic processes of fertilization, cell division, and the growth of the pollen tube through the style.

- **Portfolio Task (5 Marks):** Students will *examine* the topic of reproductive health by creating an educational awareness pamphlet (on paper or digitally). The pamphlet should *outline* basic methods of family planning and *summarize* key practices for maintaining reproductive hygiene and preventing HIV/AIDS. This will be securely added to their academic portfolio.