

Session Plan

Subject: BIOLOGY

Class:	XII
Chapter Serial Number	4/7
Name of the Chapter:	SEXUAL REPRODUCTION IN FLOWERING PLANTS
Title of Learning Unit / Session	Outbreeding Devices and Pollen-pistil Interaction
Time Required	50 min

Learning Objective / Outcome (3 min)	• Difference between Inbreeding and Outbreeding • Understand the Merits and demerits of Inbreeding • Understand the Merits and demerits of Outbreeding • Understand the Outbreeding Devices and its mechanisms • The mechanism of Pollen-pistil Interaction
Previous Knowledge (2 min)	• Anatomy of a flower • Various terms associated with description of a typical flower • Terms associated with different modifications of Androecium • Terms associated with different modifications of Gynoecium • Pollination
Gist of the Lesson for discussion (12 min)	• Difference between Inbreeding and Outbreeding , Merits and demerits of Inbreeding, Merits and demerits of Outbreeding , Outbreeding Devices and its mechanisms , The mechanism of Pollen-pistil Interaction
Diagram / Link (10 min)	https://en.wikipedia https://en.wikipedia.org/wiki/Outbreeding_depression
Activity / TLO / Link to video / animation/ etc (8 min)	https://www.youtube.com/watch?v=MDB9ElpH2EA&list=PLDQd5ylRrWvu2FEvjQcP8OgVeQWLoGmq3&index=2
Recapitulation of the lesson (7 min)	• Difference between Inbreeding and Outbreeding , Merits and demerits of Inbreeding, Merits and demerits of Outbreeding , Outbreeding Devices and its mechanisms , The mechanism of Pollen-pistil Interaction

Instant test (Objective type- 5 questions (5 min)	1. Continuous inbreeding leads to phenomenon called _____ in which there is loss of hybrid vigour. 2. Continuous Inbreeding increases heterozygosity. True/False. 3. A single outcross can remove inbreeding depression. True/False 4. In some plants like the oxalis, the stigma and the anthers are placed at different levels. It prevents self pollination. Name the outbreeding device 5 Self pollination take place if the stigma and anther mature at different times in a flower 6 Pollen tube enters a synergid through _____ . 7 The pollen tube enters the ovule at the _____ end .
Home Assignment s (Written work) 3 min	Q.1 What is inbreeding? What are its merits and demerits. Q.2 What is outbreeding? What are its merits and demerits. Q.3 What do you mean by outbreeding devices. Q.4 What are the different types of outbreeding devices that prevent autogamy ? Q. 5 Mention the step wise process involved in Pollen Pistil interaction when the pollen are compatible.
Video Lesson for Home viewing	Link: https://youtu.be/x-ghM8h7_y4 https://www.youtube.com/watch?v=MDB9ElpH2EA&list=PLDQd5yIRrWvu2FEvjQcP8OgVeQWLoGmq3&in

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