

Name: _____

CASE

Activity 7.2.1 An Egg is Not Enough

Purpose

Previously, you have learned about the importance of plant genetic material. The transfer of pollen from anthers to stigmas, called pollination, initiates the process of fertilization. How do pollen grains actually reach plant ovules?

For some types of inflorescence, pollen may fall from the anther to the stamen of the same flower to self-pollinate. How do dioecious flowers, such as corn, pollinate? How do plants cross-pollinate in nature?

Why is pollination important? What happens if plant egg cells are not pollinated?

Materials

Per pair of students:

- Computer with Internet access
- *Activity 7.2.1 Pollination Scenario Cards*

Per student:

- Pencil
- *Agriscience Notebook*

Procedure

Through this activity, you will research the various ways that plant flowers receive pollen. Then you will read scenarios describing pollination of 10 different plants and try to determine which method of pollination brought about the results described.

Part One – Identify the Agents

1. Your teacher will assign you and your partner a type of pollination to research.
2. Using the Internet, research the assigned various type of pollination. Record your findings in Table 1 on the student worksheet.
3. In the third column, mark whether the plant is most likely self-pollinated, cross-pollinated, or both.
4. Your teacher will direct you when to share researched pollination types. Share your information when it is your turn.

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Activity 7.2.1 Student Worksheet

Table 1. Agents of Pollination

Pollination Type	Description	Is the plant self-pollinated, cross-pollinated, or both?
Anemophily	A form of pollination whereby pollen is distributed by wind.	Pollinated
Cantharophily	Cross pollination of flowers by beetles that feed on the pollen.	Cross pollinated
Chiropterophily	Bat pollinated flowers.	Cross pollinated
Hydrophily	Uncommon form of pollination whereby pollen is distributed by flow of water.	Pollinated
Hymenopterophily	Bees and other small insects for the transfer of pollen.	Cross pollinated
Myrmecophily	Refers to mutualistic associations with ants.	Both
Myophily	Includes flies that feed on nectar and pollen as adults.	Pollinated
Ornithophily	Pollination of flowering plants by birds.	Pollinated
Phalaenophily	Blume, known as moth orchids, abbreviated phal the horticultural trade.	Both

Psychophily	The pollination of flowers by butterflies.	Cross pollinated
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Table 2. *Pollination Scenarios*

Scenario	Clues	Type of Pollination
1	Rubbed all over petals and stigma.	Cross pollinated
2	Pollen is found on the top side of multiple flowers.	Cross pollinated
3	Pollen is found inside multiple others. Flowers buds have not been open.	Pollinated
4	Passage way to nectar and surrounded by anthers.	
5	Stigma within the same disc.	
6		
7		
8		

9		
10		