

Pollination Observation

Materials

- Pollination Observation worksheet
- Writing utensil
- Clipboards
- Watch or timer

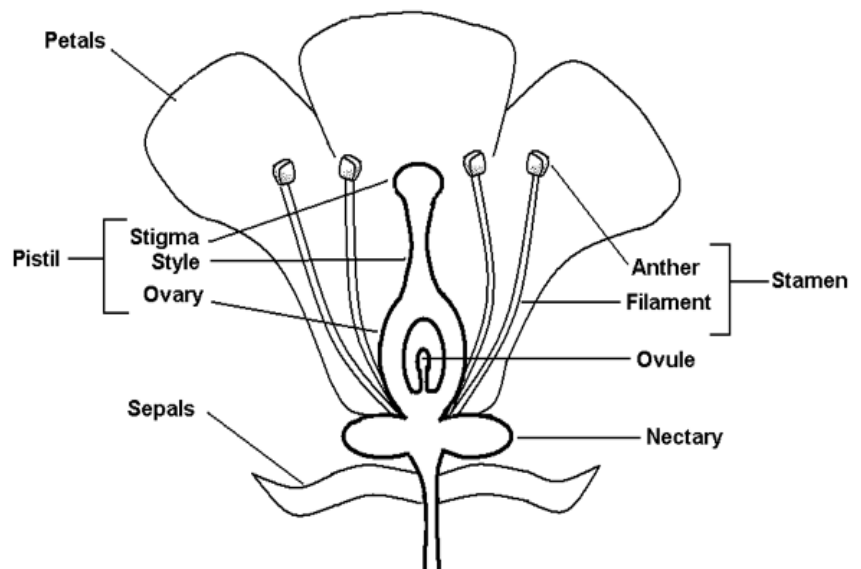


Background

Pollination is the process of transferring pollen from one flower to another. Through the process of pollination a plant will become fertilized, which ensures the production of seeds that are capable of germinating. Pollen is the yellow grain on the anther of a flower that contains the male DNA. When looking at most flowers, the anthers are yellow balls that sit on top of the stamen (see picture below). When pollen is deposited on the stigma of the pistil, the female part of each flower, the pollen travels down the style into the ovaries where a seed is produced. After a flower is pollinated, the flower head (not the entire plant) dies and a seed is left behind. The picture below labels a flower with the terms used above. Feel free to use that as reference when describing pollination to your students.

Wind can be an affective pollinator; however it is not very accurate. In order for pollen to reach its target, the flower or tree must disperse large amounts of pollen in hopes that at least one will meet its target. During spring in Atlanta, many trees and plants use wind to disperse their pollen, dusting cars with pollen and aggravating allergies. Although the wind can be an affective form of pollination, other pollinators, like bees, flies, butterflies, birds and small animals, tend to be more accurate. When these pollinators visit a flower to drink nectar, they get pollen on their wings, legs, body, or antennae. When they move on to another flower for more nectar they transfer pollen from the first flower to the second.

Pollinators are everywhere and on a sunny, warm day it is easy to watch them at work. The Atlanta Botanical Garden has many flowers that attract pollinators. During your visit, find a place with lots of flowers and have your students complete the Pollination Observation Worksheet.



Pollination Observation

Procedure

- Find a place in the Garden with lots of flowers and pollinators.
- Discuss the pollination process with your students.
- Observe a flower with the students. Can they find pollen on the flowers? Where do they think the nectar is on each flower?
- Give the students time to choose a flower and to answer the first two questions.
- Afterwards, give the students two minutes to observe their flower and tally their results.
- Visit the Observation Beehive in the Children's Garden. Inside the hive, your group may see a few bees dancing to communicate where the flowers with nectar are located. Your group may also see pollen on some of the bee's legs and honey inside the combs. Additionally, this area is planted with flowers that attract different pollinators, so it is an excellent place to watch more pollination. Note: The Observation Beehive is only occupied by bees May – September.

Follow-up

- What is the total number of pollinators that visited each flower?
- What kinds of flowers attracted the most pollinators? Do they have anything in common? Why do you think those flowers got more pollinators than other flowers?
- Which pollinators were most common?
- What did the pollinator do when it visited a flower? How long did each pollinator stay at each flower?
- Did they see pollen on any of the pollinators?
- Did they find anything challenging about this observation? How might their results be inaccurate?
- Do they think pollinators visit many different types of flowers in a day or just a few? If they were scientists, what kind of experiment could they do to test their hypothesis? Would it be hard or easy to learn the answer to this question? Why?



Pollination Observation Worksheet

Name: _____ Date: _____

Directions

During your visit to the Garden, pick a plant that is being visited by pollinators to observe. While you are watching it, count the number of pollinating insects visiting your plant.

1. Write one sentence that describes your plant.

2. Draw a picture of the plant's flower.

3. Watch your plant for two minutes. Tally up the number of insects that visit your plant. When your time is up, total up the number of pollinators that visited your plant.

	Tally	Total
Butterflies	_____	_____
Bees	_____	_____
Flies	_____	_____
Beetles	_____	_____
Birds	_____	_____
Other	_____	_____
Grand Total		_____

4. Write down any questions that you have about pollination.

