

Name:

Date:

Background

Flowering plants are the dominant plant form on land and they reproduce by sexual and asexual means. Often their most distinguishing feature is their reproductive organs, commonly called flowers. Sexual reproduction in flowering plants involves the production of male and female gametes, the transfer of the male gametes to the female ovules in a process called pollination. After pollination occurs, fertilization happens and the ovules grow into seeds with in a fruit. After the seeds are ready for dispersal, the fruit ripens and by various means the seeds are freed from the fruit and after varying amounts of time and under specific conditions the seeds germinate and grow into the next generation.

The anther produces male gametophytes, the sperm is produced in pollen grains, which attach to the stigma, in which the female gametophytes (inside ovules) are located. After the pollen tube grows through the style, the pollen grain migrate into the ovule to fertilize the egg cell and endosperm nuclei within the female gametophyte in a process termed double fertilization. The resulting zygote develops into an embryo, endosperm and female tissues of the ovule give rise to the surrounding tissues in the developing seed. The ovary, which produced the female gametophyte(s), then grows into a fruit, which surrounds the seed(s).

Pre-lab: video <http://www.youtube.com/watch?v=gEcv3dBuOe4>

Questions:

1. Why did the bees come to the flowers?
2. What other properties might attract insects to a flower?

Objective

In your groups, design a flower, using the various materials in front of you, that you believe would be the most efficient in attracting insects and spreading pollen. Be sure to include, and label, stem, leaves, petals, stigma, style, ovary, ovules, anther, filament, and pollen.

Use the diagram below to assist you (if needed).

Conclusion

Write a 2 paragraph narrative explaining why you designed the flower the way you did. Be as clear and explicit as possible, and truly justify your design. Some points you should discuss include what insect is the major pollinator, what other insects may play a role, and how your flower's shape works with the major pollinator to maximize pollen transfer.