

## MODELS & EXPERIMENTS

### Pollination

Pollination, or transfer of pollen from a stamen to a stigma, is necessary in order for sexual reproduction to take place in seed plants. Flowers are actually composed of a relatively small number of kinds of parts (4), which are arranged in a constant order: sepals outermost, then petals, then stamens, then carpels. Diversity in flowers is variation in shape, size, number, color, absence, and joining together of these parts. These variations, in turn, are related to the ways in which flowers are pollinated.

**You will need:** Flowers of several different kinds of plants; Small colored marshmallows, tortilla chips (blue corn ones or the OSU scarlet and gray ones can be used for variety), pretzel sticks, kiwi fruits, Dum-Dum lollipops, powdered sugar, Q-tips.

1. Dissect several flowers to see the shape and location of the four kinds of flower parts. Geraniums are good, so are day-lilies, tulips, crocuses, and sweet peas.
2. Make a model of a flower, using the food items. First, cut a kiwi fruit in half and use one of the halves as a base. This is the receptacle of the flower, to which the other flower parts are attached.
3. Insert a ring of tortilla chips (sepals) low on the sides of the kiwi, by shoving a corner of the chip into the fruit.
4. Insert another ring of tortilla chips (petals) just above and alternating with the sepals.
5. Insert a ring of stamens (pretzel stick + marshmallow) just above the petals. The pretzel is the "filament" or stalk of the stamen, and the marshmallow is the "anther" or pollen-containing compartment. Dust the marshmallow with powdered sugar to represent the pollen.
6. Unwrap the lollipop and wet it (no licking yet). Then insert the lollipop stick into the center of the kiwi. The candy is the "stigma" of the carpel, where the pollen is deposited, and the stick is the "style" which connects the stigma to the ovary where the ovules, or unfertilized seeds, are located.
7. Using the Q-tip as your pollinator, touch the powdered sugar on the marshmallow and transfer some to the wet lollipop. Was your pollen transfer successful? Try transferring pollen from your flower to someone else's flower.