

Fabulous Flowers

Purpose

The purpose of this lesson is to review the functions of flowers and to help students understand that some flowers are edible.

Time

Teacher preparation:
30 minutes

Student activities:
40 minutes

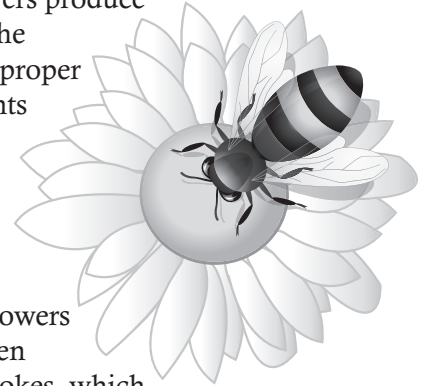
Materials

For the class:

- ▶ Broccoli
- ▶ Cauliflower
- ▶ Vase
- ▶ Vegetable dip
- ▶ Cotton balls spray painted yellow (*pollen*)
- ▶ Straws (*bee proboscis*)
- ▶ Flowers

Background Information

Flowers are the reproductive parts of plants. Some flowers have colorful petals and fragrances that attract pollinators such as bees, flies, butterflies, and moths. Most flowers produce seeds, which develop in the ovary of the fertilized flower. When planted in the proper environment seeds grow into new plants and the ripened ovary becomes the fruit.



Flowers of some plants are edible, including broccoli, cauliflower, and artichokes. Broccoli and cauliflower flowers are called “heads” and are usually eaten along with their stems, whereas artichokes, which are actually the buds of flowers, are eaten without the stems. Other flowers such as zucchini and orchid flowers, are considered a delicacy in some parts of the world.

Students should be warned that some flowers are poisonous and they should never eat anything they are unsure of, unless it is approved by a responsible adult.

Procedure

1. Review and discuss the reproductive functions of flowers with the class. The flower attracts pollinators, such as insects and birds, and makes seeds that will grow into new plants. Ask your students to describe characteristics of flowers and make a list on the board.
2. Ask students if they know what a pollinator is. Explain that pollinators are animals that move pollen from the male part of flowers to the female part of flowers. Most plants require pollination to reproduce. Ask students if they can think of any examples of pollinators.
3. Play the *Bee Pollination Game* outside. Half the class will play the role of a bee and half will play the role of a flower. The “flowers” will each stand outside holding a flower (daisy, rose, or another flower that is available) and a yellow cotton ball for pollen. “Bees” will each have a half of a straw for their proboscis. Bees will also have a cotton ball, which represents pollen that stuck to them as they were visiting flowers. Explain that bees must fly around the

Fabulous Flowers

Content Standards

Grade 2

Science 3e

Next Generation Science
2.LS2.2

Health 1.7N

English Language Arts
• Reading Informational
Text 7

Grade 3

Science 3a

Next Generation Science
3.LS1-1

English Language Arts
• Reading Informational
Text 7

garden looking for flowers so they can drink their nectar. Bees will go from flower to flower and pretend to drink nectar with their straw proboscis. At each flower “bees” and “flowers” are to trade “pollen” (cotton balls). Explain that as bees are busy gathering flower nectar for food, the pollen accidentally gets stuck on their legs or fuzzy body and this is how they end up carrying pollen from one flower to another, thus pollinating the flowers so they can develop fruit and seeds. At the end of one round, have students switch roles so everyone gets a chance to be the flower and the bee.

4. Arrange broccoli, artichokes, and cauliflower in a vase of water. Tell your students that you received a beautiful bouquet of flowers. Show them your bouquet. Discuss that broccoli, cauliflower, and artichokes are flowers that people eat.
5. Draw the life cycle of broccoli on the board. Begin with the seed, which grows into a plant with leaves, then show the buds on the head of a broccoli flower, then the flowering broccoli plant, and then back to the seed. Show students the stage at which we pick the broccoli to eat, just before it flowers.
6. Cut the broccoli and cauliflower into bite-sized pieces. Distribute them with vegetable dip and have the students taste the flowers.



Fabulous Flowers

Conclusion

Flowers are the reproductive parts of plants. Flowers attract pollinators and the flowers of certain plants are edible.

Variation

- ▶ Have students draw the life cycle of broccoli with you as you draw it on the board. Ask students to draw a bee at the stage in broccoli development when pollination would occur.

Extensions

- ▶ Have students make prints with an artichoke. Cut the artichoke in half lengthwise, dip the artichoke in paint, and then press it on construction paper.
- ▶ Invite a flower farmer into your classroom. Have the farmer discuss the flower operation and bring several examples of flowers for display. Contact your local county Farm Bureau for possible guest speakers.
- ▶ Place the stem of a whole head of broccoli in a vase of water to see if the flowers will bloom.
- ▶ Have students research pollinators and invite a beekeeper into your classroom. Contact your local county Farm Bureau for possible guest speakers.
- ▶ Go to your local supermarket or nursery and obtain flowers that are no longer sellable. Have the students dissect the flowers and identify the parts. Refer to Flower Hour lesson, in *What do Plants Need to Grow?* unit from CFAITC.
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ELL Adaptations

- ▶ Model the *Think, Pair, Share* method: Have students turn to a partner and say, “Why are bees important?” Their partner then responds, “Bees are important for pollinating many plants.”
- ▶ This lesson involves kinesthetic activities to help all students understand the role of bees in pollination by acting out the process.