Horticulture

*Lesson Plan for Grade 1, Science*

*Prepared by NAITC*

*Modified by Mississippi State University, School of Human Science*

*for Mississippi Farm Bureau Federation - AITC*

# OVERVIEW & PURPOSE

The students will examine the functions of flowers and determine that some flowers are edible.

# EDUCATIONAL STANDARDS

**Mississippi College-and-Career Readiness Standards:**

L.1.1.1 Construct explanations using first hand observations or other media to describe the structures of different plants (i.e., root, stem, leaves, flowers, and fruit). Report findings using drawings, writing, or models.

ELA-SL.1.1 Participate in collaborative conversations with diverse partners about grade 1 topics and text with peers and adults in small and larger groups.

**NALOs:**

T2.K-2 a Explain how farmers work with the lifecycle of plants and animals (planting/breeding) to harvest a crop.

T2.K-2 c Identify examples of feed/food products eaten by animals and people.

# OBJECTIVES

* Students will identify feed/food products eaten by animals and people

# MATERIALS NEEDED

* Broccoli (1 bunch)
* Cauliflower (1 bunch)
* Vase (1)
* Vegetable Dip (1)
* Cotton balls spray-painted yellow (pollen) (1 bag)
* Straws (bee proboscis) (1 bag)
* Flowers (several bunches)

# Lesson Set Up:

1. Obtain the activity materials for the students and have them ready to use

# Vocabulary

**farm:** a piece of land where crops or animals are raised

**farmer:** a person who produces food, fiber, or plants for others to use

**flower:** the reproductive part of a plant; the color, shape, and fragrance of the flowers aid in pollination, which leads to seed production

**fruit:** scientifically speaking, the matured ovary of a flower and its contents; some fruits such as squash are called vegetables because they are vegetation that is prepared for the table

**pollen:** a fine powdery substance, typically yellow, consisting of microscopic grains discharged from the male part of a flower which can fertilize the female ovule in a plant to produce a fruit

# Ag Facts:

* Horticulture crops include vegetables, melons, potatoes, fruits, tree nuts, berries, nursery, greenhouses, floriculture, sod and Christmas trees.(MDAC.ms.gov)

# Background Information for Teacher:

**Flowers** are the reproductive parts of plants. Some flowers have colorful petals and fragrances that attract pollinators such as bees, flies, butterflies, and moths. These insects transfer **pollen** from flower to flower. 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.

# LEARNING PROCEDURES

Interest Approach:

# Ask your students to describe characteristics of flowers and make a list on the board.

# Ask the students to list places where they see flowers. Students will likely recall seeing flowers in gardens and flower beds around their home, neighborhood, or at the school.

# Ask the students if they have ever seen a flower on their dinner plate. Inform the students that they will be learning about flowers and how they are important to our food supply.

### Procedures

# After brainstorming characteristics of flowers, review and discuss the reproductive functions of flowers with the class. Flowers attract pollinators, such as insects and birds, and make seeds that will grow into new plants.

# Ask the students if they know what a pollinator is. Explain that pollinators are animals and insects that move pollen from the male part of flowers to the female part of flowers. Most plants require pollination to reproduce. Ask the students if they can think of any examples of pollinators.

# 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 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.

# 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.

# 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.

# Cut the broccoli and cauliflower into bite-sized pieces. Distribute them with vegetable dip and have the students taste the flowers.

# **Concept Elaboration and Evaluation**

# After conducting this activity, review and summarize the following key points:

# Flowers are the reproductive parts of plants.

# Flowers attract pollinators such as bees and other insects.

# Flowers of certain plants are edible.

# Additional Learning Procedures

To help students review and elaborate more about horticulture, complete a [“I used to think… now I think…”](https://drive.google.com/file/d/1hc8GGbS-X0fo4m_v9_DlV87MirnnWr_m/view?usp=sharing) chart and share with other students.

Additional ways to help students make further connections about horticulture try reading aloud the book [“In a Garden” By: Tim McCanna.](https://www.amazon.com/Garden-Tim-McCanna/dp/1534417974/ref=sr_1_16?crid=1FBAUO6BQGJ6K&keywords=horticulture+book+for+children&qid=1692892496&sprefix=horticulture+book+for+children%2Caps%2C118&sr=8-16)

Additional Texts to Consider:

[Logan’s Greenhouse](https://www.agfoundation.org/recommended-pubs/logans-greenhouse)

[Uncle John’s City Garden](https://www.agfoundation.org/recommended-pubs/uncle-johns-city-garden)

[Gwendolyn’s Pet Garden](https://www.agfoundation.org/recommended-pubs/gwendolyns-pet-garden)



Source: <https://www.agclassroom.org/teacher/matrix/>

*For more information and additional lessons visit*

*https://msfb.org/ag-in-the-classroom/lesson-plans/.*