STEM Flowers

Grade Level(s)

4-5th grade

Estimated Time

30 minutes

Purpose

Students will observe physical characteristics of flowers and explore principles of pollination.

Materials

Links

Virtual resources: www.linncoag.com 2020/21 virtual lessons- April

Instructional video: Flowers are Essential to Ag! - YouTube

Flower dissection tutorial: Flower Dissection Tutorial - YouTube

Supplies

6 inches by 6 inches colored origami paper (4-5 pieces per student)

Green chenille stems (1 per student)

White chenille stems (1 per student)

Yellow chenille stems (4 per student)

Green bump chenille stems (1 per student)

Green paper (1 per student)

Yellow pony beads (2 per student)

White pony beads (5 per student)

Glue sticks

Scissors

PowerPoint instructions

Parts of a flower crossword

Vocabulary

- **Pistil:** female parts of a flower, including the stigma (where pollen lands), style (stalk-like part between stigma and ovary), and ovary (at the base, develops into the fruit and contains the seeds)

- **Pollenizer:** plant that provides pollen
- **Pollinator:** agent that moves pollen resulting in the pollination of flowers
- **Stamen:** male part of a flower, including the anther (produces and contains pollen) and filament (stalk supporting the anther)

Background

About 1/3 of the total human diet is derived directly or indirectly from insect-pollinated plants. An estimated 80% of insect crop pollination is accomplished by honeybees. Seeds contain embryos that develop into plants. Before a plant can form a seed embryo, pollination and fertilization must occur in the flower. The reproductive organs of plants are found in the flower.

Interest Approach – Engagement

Ask the students to think about where fruit comes from. Ask the following questions to encourage conversation.

What do you see on a fruit tree in the early spring?

Do all flowers on a fruit tree become fruit?

Why is it common to see bee boxes in fruit orchards?

Why are bees an important agriculture resource?

Procedures

1. Watch the instructional video- link provided above
2. Play the flower dissection video- learn about the flower reproductive parts
3. Distribute flower origami supplies and explain to the students that will be creating a flower model to learn about the parts of a flower.
4. Pull up the PowerPoint and walk the class through the process of creating their origami.
5. Review the parts of a flower with the parts of a flower crossword puzzle

Organization Affiliation

National Ag in the Classroom

Agriculture Literacy Outcomes

T1.3-5.e Recognize the natural resources used in agricultural practices to produce food, feed, clothing, landscaping plants, and fuel.

T2.3-5.c Explain how the availability of soil nutrients affects plant growth and development.

Iowa/ Common Core Standards

3-LS1-1. Develop models to describe that organisms have unique and diverse life cycles, but all have in common birth, growth, reproduction, and death.

4-LS1-1. Construct an argument that plants, and animals have internal and external structures to support survival, growth, behavior, and reproduction.