



Post-Program Resource

Storytime in the Garden

Pre-K-1st Grade

Pollinator Exploration Experiment & Craft

Duration: 30 minutes

Objective: To extend student learning from their field trip. Students will apply what they have learned about plants and animals to discover how pollination works through hands-on exploration. Students will create a pollinator themed craft and conduct a mini science experiment.

NGSS Standards Met:

2-LS2-2. Develop a simple model that mimics the function of an animal in dispersing seeds or pollinating plants.

LS2.A: Interdependent Relationships in Ecosystems

- Plants depend on water and light to grow. (2-LS2-1)
- Plants depend on animals for pollination or to move their seeds around. (2-LS2-2)
- Plan and conduct an investigation collaboratively to produce data to serve as the basis for evidence to answer a question. (2-LS2-1)
- Make observations (firsthand or from media) to collect data which can be used to make comparisons. (2-LS4-1)
- Systems in the natural and designed world have parts that work together. (K-ESS2-2), (K-ESS3-1)
- Plants and animals can change their environment. (K-ESS2-2)

Materials Needed:

Storytime In the Garden review worksheet

“Pollen”: cheese dust from mac n cheese, glitter, or sand.

Optimal: Many different color powders

“Flowers”: craft resource printout on paper plate, or colored paper plate

Pipe cleaners (1 per student)

Butterfly wing craft resource

Scissors

Coloring materials (markers, colored pencils, crayons, etc.)

Brainstorm Review

Begin with brainstorm

- Review the parts of plants and the things they need to grow
 - Students can fill out the review worksheet independently or as a whole class, depending on reading and writing level
 - Answers should include:
 - Roots, stem/trunk, leaves, branches, flowers, seed, fruit
 - Water, sun, water, place to live/soil, air
- *Key question:* How do more plants grow?
 - From seeds
 - How do plants make seeds?
 - Explain that flowers use pollen to make seeds.
 - Pollen must get from one part of the plant to another.
 - Plants cannot do this on their own.
 - Animals that move pollen from one plant to another are called **pollinators**.
 - Do you know any animals that are pollinators?
 - Bees, wasps, moths, butterflies, birds
 - After plants are pollinated, they grow fruit or seed pods.
 - If a plant is not pollinated, it cannot grow seeds or fruit
- Next, students will do an experiment to model pollination.

Pollinator Experiment & Craft

- Print out flowers, cut sheet in half, and place each half on a paper plate (4-6 total).
 - Set one “flower” on 4-6 tables around the room.
 - On the center of each flower, place some sort of powder: cheese dust from mac n cheese, glitter, sand, etc. (example images below)
 - *Optimal:* Many different types of sands or glitters. Colorful would be best.
- While you set up the experiment, have students complete the butterfly craft.
 - Each student will receive a pipe cleaner (chenille stem) and one butterfly printout
 - Give students 5-10 minutes to color and cut out their butterfly
 - Complete the butterflies by wrapping the pipe cleaner around the center portion of the butterfly (example images below).
 - This is their “butterfly.” They are going to have the butterfly try the pollen at each flower.
- Have students rotate between tables as “butterflies” every 1-2 minutes
 - Connect the rotation to the fact butterflies are hungry. They need more food, so they go find a new flower to drink from.
 - Have the butterflies “land” on the flower on the table to “drink nectar.”
- If students are too young to rotate between table in an organized fashion, then make one large “butterfly” and model the pollination to the students. Have the students look at your large model to see the “pollen”. Then, have students create the craft after making conclusions about pollination together.

Craft how-to:

1. Color butterfly and cut it out



2. Place pipe cleaner under the butterfly, with the colored side face up.



3. Wrap the pipe cleaner around the center section, creating a handhold to use during the experiment



Experiment Set-Up Example Images:

1. Place one flower on a paper plate. Place roughly one teaspoon of powder/glitter on the center of each flower to be “pollen.” Select a number of flowers appropriate for your class size: 3-5 students per table.



2. Students will rotate between tables to have their butterflies “drink” nectar.



Drink!



Fly!



Drink more!

Post-Experiment Brainstorm

- Ask students what they noticed or learned during the experiment
 - Have students look at their butterflies. What is on their pipe cleaner?
 - Show image of pollinator legs (Provided below). Ask students what they notice.
 - Pollinator legs have little hairs on their legs that trap all the pollen, making them really good at spreading the pollen around.
 - When pollen from different plants mix, new plants grow.

If using several colored powders:

- Have students look at the pollen on the plates and on the butterflies
 - Is it one color or a bunch of colors? (Should be a bunch of colors)
 - Explain to students that this is how new plants grow! When pollen from different plants mix, they make new plants, which is super important.

Pollinator Leg image citations

- <https://www.natgeokids.com/uk/primary-resource/the-buzz-about-bees/> *Bee in Flight*
- <https://www.nationalgeographic.com/animals/invertebrates/facts/honeybee> *Bee on Purple Flower and Bee Face Close-Up*
- <https://butterflycircle.blogspot.com/2019/03/the-butterfly-legs.html> *Butterfly Legs*

Pollinator Legs





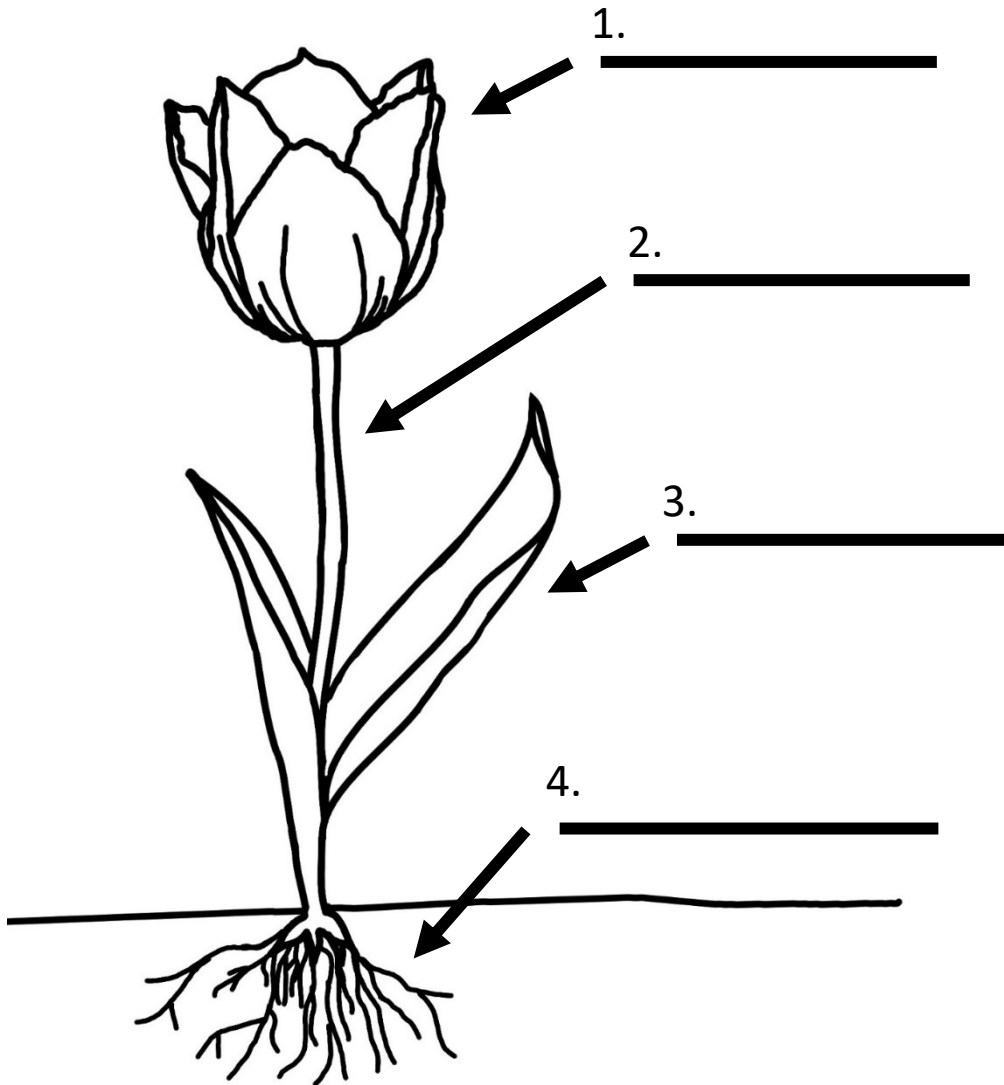


Storytime in the Garden Review Worksheet

Match the plant part word to the drawing

Word Bank

- A. Stem
- B. Roots
- C. Petals
- D. Leaves



Write 3 things that plants need to grow:

1. _____
2. _____
3. _____

