



# Pollination Department

## Lesson 3 - My Life as a Pollinator

### Essential Questions:

*How are plants and animal pollinators adapted to help each other?*

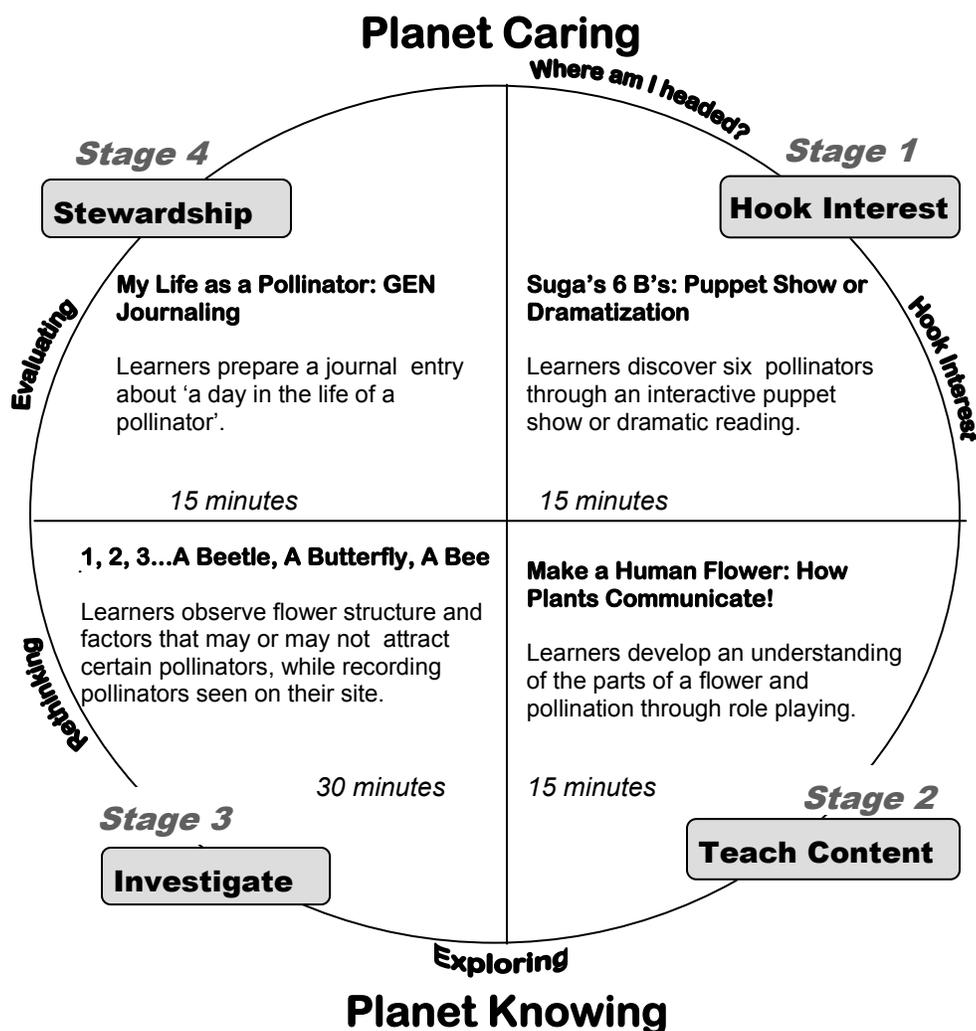
*How can I investigate pollinators on my site?*

### At a Glance:

Club members discover additional information about pollination through a puppet show, dramatization and /or role play. Learners engage in science inquiry as they count pollinators on patches of flowers (or weeds) either planted or growing wild on their site. As they interpret the results of their investigation, they reflect on ways to improve or maintain the health of their local PD.

### Concepts:

- Plants require help from animals, wind or rain to mate and reproduce.
- Animal pollinators include bees, butterflies, flies, wasps, beetles, bats, and birds.
- Plants give animals rewards, such as pollen and nectar, as a lure to visit their flowers.
- Plants and animals have adapted to work together.
- Pollinators are essential for fruits, seeds, or new generations of flowering plants.



### Objectives

*Learners ...*

- 1) discover how animals help to pollinate flowers.
- 2) develop an understanding of the process of pollination.
- 3) determine how traits such as height, taste, and color pass from one generation of plants to another generation.
- 4) determine factors that affect pollinators' choice of food (flower color, shape, smell, etc.).
- 5) observe pollinators on their site.
- 6) observe and draw the structure of a flower.
- 7) explore creative aspects of journaling.
- 8) relate pollinator and flower adaptations.
- 9) understand the importance of pollinators.

## PROCEDURES IN BRIEF: Pollination Lesson 3—My Life as a Pollinator!

### Stage 1. Suga's 6 B's: *Puppet Show or Dramatization*

#### Procedure:

1. Assemble the learners in front of the puppet theater. Tell the learners that Suga, a lovely flower puppet who manages the Pollination Department, would like to visit and tell them all about pollination. Ask the learners, what is pollination?
2. Perform the puppet show.
3. If a dramatization is more fitting for your group, allow students to read and act out the character parts using the puppet show script. This may be as elaborate as you and the students desire (i.e. costumes, props, backdrop, etc).
4. Use the following questions to review concepts learned during the Puppet Show or dramatization:
  - What is Suga's job in the pollination department?
  - Who are Suga's 6 B's?
  - What work did they perform?
  - Which 'B' was the most important?

#### Supplies

- puppets:
  - Foreco
  - Suga
  - Bertha Bee
  - Brody Beetle
  - Blanche Butterfly
  - Brian Bird
  - Breezy
  - Breezy Bat
- props:
  - paper flowers filled with baby powder or flour
- script

### Stage 2. Make a Human Flower: How Plants Communicate!

*This is an in depth activity-Please see full write-up for detailed Procedure instructions.*

#### Procedure:

- Complete **Part A: Make a Human Flower** first, having the children make a 'flower' by role playing.
- Part B: How Plants Communicate:**
1. Have students stay in the flower formations from Part A. Explain that these 2 'flowers' are the same type of plant, but have different characteristics or traits. One plant knows how to grow tall and the other knows how to taste yucky to pests (place pollen message on corresponding 'stamen').
  2. Ask the two children representing the flowers' stamen to exchange their pollen, reminding them that their roots are holding them to the ground.
  3. Cannot throw pollen, so need an animal pollinator. Choose a 'bee' volunteer and explain that bees work for nectar.
  4. Bees find flowers by: **smell** ('flower' learners act as though their wafting their scent toward the bee) and **bright colors** ('flower' learners smile and wave, acting attractive).
  5. The 'bee' goes to the first 'flower' pretending to sip nectar and collects nectar on his back (stick the pollen message to the back of the bee). Then the 'bee' flies to the next flower and gets pollen on his back again, but he also rubs against the stigma (female part) where the pollen from the first flower is deposited (exchange pollen messages). Now the bee flies back to the first flower where some of the pollen from the second flower is left (drop off pollen message). Now the flowers have exchanged their pollen.
  6. Be sure to leave some pollen on the bee. When the bee returns to the hive, he will make honey from some of the nectar that he drank.

#### Supplies

- Pollen messages on construction paper ("Taste Yucky" and "Grow Faster")
- Bee puppet or picture (optional)
- tape

### Stage 3. 1, 2, 3...A Beetle, a Butterfly, a Bee! *Outdoor Inquiry Investigation*

#### Procedure: Part A. Observation

1. Split learners into groups and give each team a clipboard and Standards Checks data sheets, a pencil, a hand lens, and a thermometer.
2. Each group should start off at the checkpoint and walk two paces to the north, south, east, or west, according to their designated location.
3. Have learners spend five minutes recording the kind and number of insects or other animals that visit the patch of flowers directly in front of them. They are to put a tally mark on the data sheet for each flower visitor.
4. Next, the learners are to choose four pollinators and the flowers where the pollinators were observed to describe in the boxes on the data sheet.

#### Part B. Search for Pollinators: *Loop Walk*

1. Choose a loop to walk on your club site and walk the same way each time you do this standards' check.
2. Orient learners to the 'Search for Pollinators!' data sheet.
3. As the group walks the designated loop, learners are to place a check (/) next to each pollinator they see on the site.
4. At the end of the tour, add up the total number of pollinators that were seen.
5. Have learners answer the questions at the bottom of the data sheet and discuss.

#### Supplies

- data sheets
- pencils
- hand lenses
- thermometers

### Stage 4. 'My Life as a Pollinator' *GEN Journaling*

#### Procedure:

1. Discuss the importance of pollinators in continuing the life-cycle of plants. Mention a few different adaptations that pollinators have for the associated plants they pollinate (i.e. hummingbird's long beak for getting nectar out of tubular flowers).
2. Give a brief overview of the *My Life as a Pollinator* journal entry.
3. Allow learners to find a quiet place outside with their journals and/or *My Life as a Pollinator* worksheet. To start, have learners record the date, time, and surroundings of their journal entry.
4. Give learners time to read through and complete the journaling activity (15-20 minutes).
5. Gather learners back together and allow those who want to share to discuss their journal entries.

#### Supplies

- journal or *My Life as a Pollinator* worksheet
- pencil or pen