



LESSON: Who Will Pollinate Our Garden?

GRADE: 2

TIME: 45 min

OBJECTIVES: Iowa Core

Ecosystems: Interactions, Energy, & Dynamics

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

MATERIALS & RESOURCES:

- Paper and pencil
- Clip boards
- Photos of garden plants in bloom and pollinator insects
- Book: Brilliant Bees by Linda Glaser
- Access to websites (optional):
 - Buzz About Bees - <http://www.buzzaboutbees.net/plant-pollination-process.html>
 - Anne Leonard Lab - <http://www.anneleonard.com/buzz-pollination> (good photos and video of bees pollinating)
- Camera (optional)

PRESENTATION / INTRODUCTION:

Pollination is important when we grow vegetables for their seeds, fruit, or seedpods. Without pollination the seeds and fruit will not develop. Most plants need insects to do this work, although there are a few ways in which plants are pollinated. Did you know insects make it possible for you to eat? Wow! Think about that next time you think about killing a bee, fly, wasp, or other crawly organism. We need them! Read aloud Brilliant Bees by Linda Glaser



DIRECTIONS:

1. The best time to do this activity is when the plants are in bloom. If this is not possible, use photos from books, magazines, or Internet to show the kids what the plants look like when blooming and setting fruit. (*See note below about the terms “vegetable” and “fruit”.)
2. Go into the garden and spend some time so the students can observe pollinators.
3. If a camera is available, it could be fun to try to take photos.
4. While in the garden talk about which parts of the plants we eat. Is it the seed, fruit, or seedpod? If so, these are the plants that need pollinators to help them. Also, if you want to collect seed from the plant to grow next season, it will need pollinated. This is true of plants in grown in home and school gardens as well as plants for the grocery store.
 - Vegetables that need pollinators all the time:
 - Cucumbers
 - Melons and watermelons
 - Berries
 - Tree fruits
 - From what plants do we eat the seed, fruit or seedpod?
5. Make a list of plants that need pollination. Have the kids draw pictures of the plants.

Now make a list of pollinators that are likely to visit the garden. Have the kids draw pictures of the pollinators with the plants.

 - Some pollinator examples:
 - Honey bees
 - Bumble bees
 - Flower beetles
 - Hover flies
 - Butterflies
6. After observing and drawing in the garden, talk about how to attract pollinators to the garden. (Encouraging a diversity of plant and animal species, planting species that are specific to the pollinator, abstain from using chemicals and other hazardous substances, doing our part in reducing climate change.) Also, discuss the ways in which humans deter pollinators. (Reducing diversity of plant species, using chemicals, artificial lighting, changing the climate, etc.)

7. Talk about how kids feel about insects. Often they are fascinated and fearful. Their fear is usually a result of something they see and hear from the adults in their life. Adults have the opportunity to role model respect for insects and nature. Though we don't have to cuddle with a honeybee, it does seem a good idea to respect and support them...after all, our food depends on pollinators.
8. Additional activity: study pollination in depth by looking at diagrams and illustrations of plant parts, different ways plants can be pollinated, how pollination occurs, as well as the parts of pollinator insects. Links for informational websites and videos about pollination can be found in the MATERIALS & RESOURCES section above.

**Note about the terms "fruit" and "vegetable" get confusing when discussing this topic. Scientifically, a fruit develops from the ovary of a plant containing seeds. Vegetables include all other edible plant parts: roots, tubers, stems, leaves, flower clusters, and other softer plant parts. However, in common usage, the classification of plants as vegetables is largely determined by custom, culture, and usage. The usual example is the tomato, which is a fruit, but is eaten as a vegetable, as are cucumbers, peppers, melons, and squashes.*

REFLECTION/JOURNAL PROMPT:

WHAT?

- Name something new that you learned about pollinators.
- Did you see lots of insects in your garden?

SO WHAT?

- How do you feel about bees, flies, and other insects now?
- As citizens of this planet, do humans have some responsibility to take care of the habitat in which we, and all the other organisms, live?

NOW WHAT?

- Do you and your classmates need to take action to attract more pollinators to your garden?
- Will you consider being more supportive of insects?