



The Pollinator Project - Earth Day Challenge

Week 2

Pillar: STEAM/Outdoor Experience

Outcomes: Learns to identify and solve problems in her community

The Pollinator Project is a 3-week challenge to gear up for Earth Day! Girls like you can take action to help pollinators and the environment in your local communities. The Pollinator Project Earth Day Challenge is for Girl Scouts of all age levels. Through our Discover, Connect, Take Action framework, girls learn to be aware of their surroundings and scan their world for things they want to change, work together to plan that change, and take action to make it happen, becoming strong, confident leaders along the way.

Project Pollinate – Earth Day Challenge – Week Two – **Connect** the dots, this week we find out WHY we absolutely need pollinators to live our everyday lives and HOW we can start taking steps to help them.

Recap - Last week you learned about the pollinators in your local area and took the challenge to begin learning about these amazing creatures. You learned about where they live, when and how they collect pollen. You probably found some areas in your neighborhood that have an abundance of pollinators or areas that lack pollinators.

Connect – This week we are going to learn about how pollinators directly affect almost all the food we eat, the dangers that face our pollinators, and steps you can take as we gear up for next week’s Take Action!

1. Food Glorious Food!

- a. First check out this list of foods declared essential crops by the FDA. 100% of the foods listed REQUIRES pollination in some way. Without bees or other pollinators, these foods would not exist. Here is just a brief list of food we will lose if we continue to lose bees and pollinators.
 - [Crop plants pollinated by bees](#)
 - [Crop plants that require pollinators](#)
- b. From those lists ask yourself these questions:
 - i. Was your favorite fruit or veggie on that list?
 - ii. Were you surprised by the number of crops on that list?
 - iii. What would happen to our world if all of these disappeared?
 - iv. Ask your family – Were any of their favorite foods on the list?
- c. **Pollinator Project Challenge:**
 - i. Daisies and Brownies
 1. Make a collage or mural of all the foods that bees help pollinate. Share it with your family, friends or troop virtually. Use magazines or draw your own!
 - ii. Juniors and Up
 1. Check Out the Food Around Your House and identify what is labeled organic. Tally up what produce in your home is organic vs. conventional. Did you know that 30% or 1 in 3 bites of food that we eat needs pollination?
 2. Learn about **Wind Pollination** – Not all of our food requires “insect pollinators”. Here is a list of crops that require wind pollination only
 - a. [Check out this "Wind Pollination: How it Works" site](#)
 3. Keep a log of the food you eat at dinner each night for one week. Talk with your family over dinner to connect which foods we owe to insect pollination. For example, corn is wind pollinated, so if you’re eating tacos, the tortilla would not fall into the “insect pollinated” category, but if you’re eating salsa with your tacos, the tomatoes, onions, etc. would fall into the “insect pollinated” category.
 4. Help your parents make an organic meal together or make one for your family on your own.



5. Resources
 - a. [Eating Organic on a Budget](#)
 - b. [Organic Meal Recipes for Kids](#)
 - c. [Organic Treat/Snack Recipes](#)

2. The Dangers our Pollinators Face:

- a. **Bee Colony Collapse Disorder** – Sounds scary and it absolutely is! *In just the last 10 years over 40% of Bee Colonies have suffered from BCCD.* Imagine you are a beekeeper, taking care of honeybees. You come out one day to find all your honeybees GONE. No explanation, no reason, just gone. That is what Bee Colony Collapse Disorder is.
 - i. Read More about B.C.C.D. here – [National Pesticide Info Center - BCCD](#)
 - ii. While scientists have only recently begun to discover the causes of BCCD, there is still no one reason why it happens. In one study they found over 61 factors that could possibly lead to B.C.C.D.
 - iii. While this may seem only to add to the list of unknowns it has helped scientists understand and identify multiple factors to begin combatting this event and make a tangible effort to stop it. As native vegetation is replaced by roadways, manicured lawns, crops and non-native gardens, pollinators lose the food and nesting grounds they so desperately need to survive.
 - iv. Here the two largest causes that you can help educate others and help pollinators like bees have a fighting chance
 1. **Habitat Loss:** Is exactly what it sounds like. Pollinators like bees just don't have the habitat in order to live their lives. There are two types of Habitat Loss:
 - a. **Degradation** – The habitat has been destroyed by sidewalks, buildings, roads, and perfect lawns.
 - b. **Fragmentation** – Habitats that can house bees are just too far apart and believe it or not bees get tired. If a habitat or food is just too far away some could die in the journey just to get there.
 2. **Pesticides:** Are unfortunately everywhere! Pesticides include products, such as weed killers and insecticides, which are designed to prevent, destroy, repel or reduce pests such as insects, mice and other animals, weeds, fungi, bacteria and viruses. Pesticides are used in nearly every home, business, farm, school, hospital and park in the United States and are found almost everywhere in our environment.
- b. **Pollinator Project Challenge:**
 - i. Daisies and Brownies
 1. Draw your Dream Garden. Imagine that you could create the most perfect garden. You have an unlimited amount of money and resources, what would it look like? What types of plants and flowers would you have in it?
 - a. Draw it yourself on a sheet of paper or find a home and garden magazine to get inspiration.
 - b. Grab a parent and create a digital garden online with GARDENA
 - i. [Check out this Online Garden Planner](#)
 - c. Send us a picture of you and your garden!! Share it with your siblings, family or Troop!
 2. Work with your parents/guardians to catalog the pesticides you use around your house. Are there non-toxic alternatives you could be using instead? Talk to your parents about switching to natural products that are more sustainable and eco-friendly. There are tons of online resources about safer alternatives to pesticides.
 3. Observe a Plants Life with **Plantale** (Apple) or **Polinizapp** (Google Play).

[Plantale](#) is an augmented reality app where you can learn about the lifecycle of plants and flowers.

[Polinizapp](#) is an interactive game that simulates the pollination process of flowers in nature.
 - ii. Juniors and Up
 1. [Watch this Video – The Death of Bees Explained – Parasites, Poisons, and Humans](#) – Write a summary about what you learned!
 2. Work with your parents/guardians to catalog the pesticides you use around your house. Are there non-toxic alternatives you could be using instead? Talk to your parents about



switching to natural products that are more sustainable and eco-friendly. There are tons of online resources about safer alternatives to pesticides.

3. Participate in this awesome National Citizen Science Opportunity:
 - a. [Check out - Bumble Bee Watch](#)
4. Contribute to the observations of Biodiversity with the iNaturalist App (*in Apple or Google Play*)
 - a. iNaturalist is an app where you can record and collect observations. What are observations? An observation records an encounter with an individual organism at a time and location. This includes encounters with signs of organisms like tracks, nests, or things that just died. When you make an observation, you'll record:
 - i. Who you are?
 - ii. What you saw?
 - iii. Where you saw it?
 - iv. When you saw it and provide the evidence for it?



[Watch video tutorials on how to use the app](#)

More resources:

- iii. [Bee Keeping Tips from MU](#)
- iv. [Missouri State Bee Keepers Association](#)
- v. [Kansas Bee Company – How you can Help](#)
- vi. [Northeastern Kansas Bee Keepers Association – Bee Keeping Classes](#)
- vii. [Bee Keeper Knowledge – Bridging the Gap](#)
- viii. [Milkweed for Monarchs](#)
- ix. [Protect our Pollinators USDA](#)
- x. [Podcast – How to protect pollinators](#)
- xi. [Things kids can do to Help Pollinators](#)
- xii. [Planting Native Plants](#)
- xiii. [Play Pollination Games Online](#)
- xiv. [Pick the Pollinator Game with PBS](#)
- xv. [Games for Change Student Challenges](#)

Share your work on the GSKSMO Virtual Art Show - https://www.gsksmo.org/en/events/virtual_art_show.html -

When you're finished: Completing this 3 Week Challenge will help you on your way to earning the following pieces petals, badges, and journey.

- Daisy
 - Petals: Considerate and Caring, Friendly and Helpful, Make the World a Better Place.
 - Badge: Eco Learner and Good Neighbor
- Brownie
 - Badge: Bugs
- Junior
 - Badge: Animal Habitats, Gardener Badge
- Cadette, Senior, Ambassador
 - Badge – Eco Trekker, Eco Explorer, and Eco Advocate

