

**NACD**

**Pollinator Field Day  
Curriculum Guide**



# **NACD Pollinator Field Day Curriculum Guide**



National Association of  
State Directors of  
Special Education

**POLLINATOR  
PARTNERSHIP**



DAVID  
ROCKEFELLER  
FUND

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## PRE-FIELD DAY LESSONS

### 6-8 LESSON : OUR CONNECTIONS TO POLLINATORS

#### Alignment to NGSS

**LS2.A** • Organisms and populations are dependent on their environmental interactions both with other living things and with nonliving factors, any of which can limit their growth. Competitive, predatory, and mutually beneficial interactions vary across ecosystems but the patterns are shared.

**Time:** 1.5 - 2 hours, can be divided into two 45-minute or 1-hour segments

**Materials** - A variety of fruits that depend on pollination. Examples include:

- Almonds
- Apples
- Avocado
- Coffee
- Chocolate
- Pumpkin
- Strawberries
- Tomato
- If you are unable to find these items, illustrations are provided.
- Butcher paper or student page
- Markers or colored pencils
- Access to the internet via a computer or other device



#### Background Information

Humans and pollinators are deeply connected. We are both a part of the same food web, with humans relying on pollinators to help many of the plants we eat reproduce and produce the food that we consume.

While some plants are able to self-reproduce, three-fourths of the world's flowering plants and about 35 percent of the world's food crops depend on animal pollinators to reproduce.

Think about the produce section of the grocery store. Pollinators make most of this selection possible. Without pollinators, not only would we not have fresh fruit, sugarcane, some spices, nuts and products like coffee and chocolate, but the farmers that grow these crops would also be affected. Pollinators tie us all together in ways that we may not have even thought of. Don't forget, pollinators impact approximately one in every three bites of food we eat!

When honeybee populations are impacted by disease or other external environmental factors, it has the possibility of creating a ripple effect throughout an entire system.

To analyze how we interact with pollinators, it is useful to look at or create a food web. More complex than a food chain, a food web illustrates the complex interactions in an ecosystem between organisms and their environment. Food webs can help us see how organisms interact both directly and indirectly, and what may happen in a system if an organism is removed.

#### Students Will...

- Describe and explain how humans and pollinators are connected
- Create a model of a food web that includes pollinators
- Explain what would happen to the food web if pollinators were removed

## PRE-FIELD DAY LESSONS

### LESSON

#### Engage

Place the food items where all students can see them, or show them illustrations. Ask if they can think of what they all have in common. Field a few responses. If students are unable to come up with the answer, ask them how fruits are formed. Fruits are the ripened ovary of a flowering plant. And many plants, like the ones that these food items came from, depend on pollinators to reproduce and produce fruits.

Record any questions or ideas that may arise during this discussion on a whiteboard or large sheet of paper.

#### Explore

Give students an example food web. Allow them to observe it independently for a few moments. After reviewing, ask students:

- Which organisms are the producers (the ones forming the base of the food web)?
- Which organisms are consumers? Which are carnivores, omnivores or herbivores?
- What would happen if a producer was removed?
- What would happen if one of the other organisms was removed?

Tell students that they will create their own food web (or chains, based on time) that include at least one pollinator, one food item and humans. They may include up to 5 additional organisms. Students may work either individually or in small groups.

To create their food web, have students pick one of the food items and let them research which pollinator(s) it relies on to reproduce. Students should draw their food web or chain on a large sheet of butcher paper or the student page.

Allow students to share their food webs with the rest of their peers. If students worked individually, allow them to share in pairs. Smaller groups can share with the entire group.

#### Explain

Bring students back together in a large group. Ask them if any patterns emerged. Additional questions may include:

- What were some of the other organisms that you included based on your research? Did anything surprise you?
- What would happen to the food web if an organism, other than a pollinator, was removed due to disease or pollution?
- What would happen to the food web if the population of one of the organisms doubled?
- What do you think would happen if an invasive species was introduced?

Review the concept of a food web and a food chain. Ask students what does a food web illustrate that a food chain does not? Which one is more accurate and reflective of an actual ecosystem?

# Example (continued):

## PRE-FIELD DAY LESSONS

### LESSON

#### Elaborate

Let students keep a food journal and review it to see which items they eat rely on pollinators. Don't forget to read all the ingredients on processed or pre-packaged food.

Let students research their area to see if there are any farms that grow crops that rely on pollinators. If possible, reach out to a community member to see if they would be willing to come and speak to your students or allow you to visit for a field trip.

#### Evaluate

- Students should be able to explain the relationship between humans and pollinators.
- Students should be able to create a model of a food web that includes pollinators, crops and humans.
- Students should be able to explain that pollinators impact many systems, including agriculture and the economy.
- Revise questions, if any, that were generated at the beginning of the lesson.

### OUR CONNECTION TO POLLINATORS: FOOD WEB

Create a Food Web that illustrates our connections to pollinators and many of the foods we eat.

#### Additional Resources

Complexity Explorer

<https://www.complexityexplorer.org/news/26-the-web-of-life-and-the-ecological-human-in-summary>

Food Chains and Food Webs: Examples Of Food Chains and Food Webs

<https://k8schoollessons.com/food-chains-food-webs/>

Food Web: Concept and Applications

<https://www.civics.com/available/knowledge/primary/food-web-concept-and-applications-44077181/>

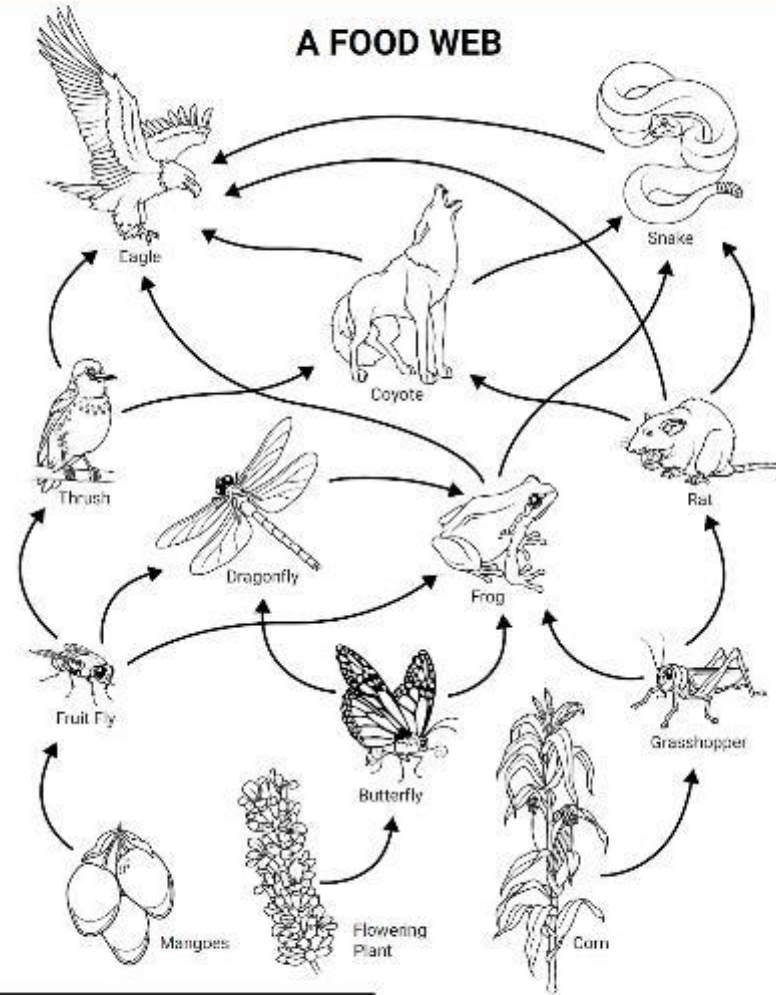
Insects & Pollinators | Nrcs

<https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/plantsanimals/pollinate>



## PRE-FIELD DAY • STUDENT PAGES

### A FOOD WEB





National Association of Conservation Districts

About What We Do News Events Get Involved Resources Who We Are Member Login

Conservation Education Hub

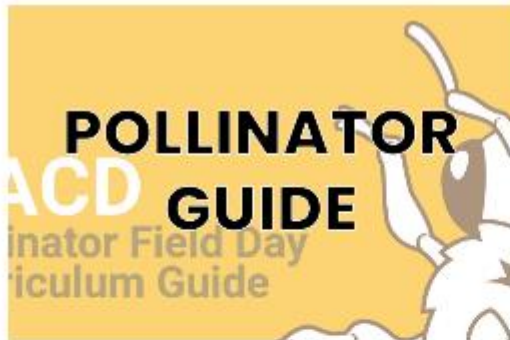
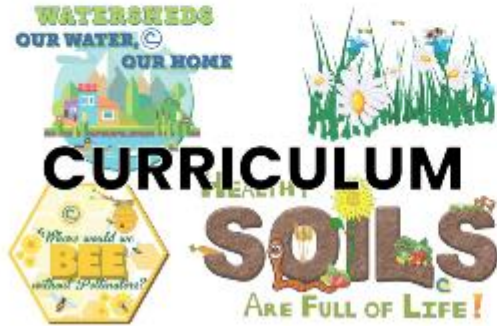
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# How to access the guide?

Visit NACD Conservation Education Hub at <https://www.nacdnet.org/conservation-education-hub/> and download it for free!



# Additional Pollinator Guide Resources

## 1. Pollinator Guide Blog Post

## 2. Pollinator Guide Flyer



**NACD POLLINATOR FIELD DAY CURRICULUM GUIDE**

**A NEW CURRICULUM DESIGNED FOR CONSERVATION DISTRICTS**

This guide to a Pollinator Field Day contains more than just instructions for hosting a great event. It's a complete guide, including pre- and post-activities, strategies for evaluation, and resources.

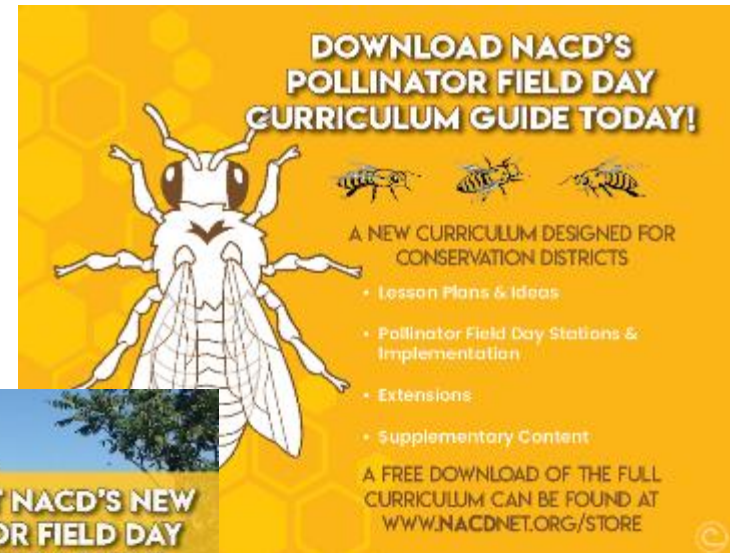
Here's what you'll find inside:

- **Lesson Plans & Ideas:** Included in the guide are pre- and post- activities and lessons of interest for grades K-8. The activities can be used in the classroom or in informal learning settings. To make them easy to use in the classroom, each activity highlights alignment to the Next Generation Science Standards. Activities include background information, time involved and materials. Additionally, each activity includes evaluation and extension ideas.
- **Pollinator Field Day Stations & Implementations:** Includes information for planning and implementing a Pollinator Field Day, including information on how to contact local professionals, station information, sample agendas, guidelines for implementation and more.
- **Extensions:** If you enjoy your Pollinator Field Day experience, there are many ways to extend the fun. We'll show you how to do it in our field guides, and help you build the community science efforts and more.
- **Supplementary Content:** Present webinars, and bring in special guests and presenters to help you learn about the Pollinator Field Day and email templates for outreach.

A FREE DOWNLOAD OF THE FULL CURRICULUM CAN BE FOUND AT [WWW.NACDNET.ORG/STORE](http://WWW.NACDNET.ORG/STORE)

## 3. Pollinator Guide Webinar and Video Demonstration of Activities.

## 4. Pollinator Guide Social Media Graphics



**DOWNLOAD NACD'S POLLINATOR FIELD DAY CURRICULUM GUIDE TODAY!**

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**CHECK OUT NACD'S NEW POLLINATOR FIELD DAY CURRICULUM GUIDE**

CHECK OUT THE FIRST-OF-ITS-KIND POLLINATOR CURRICULUM GUIDE AND PROVIDE A UNIQUE LEARNING EXPERIENCE FOR K-8 GRADERS!

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