



Citizen Science Kit: OBSERVING POLLINATORS

**Identify and count pollinators
as they visit flowering plants.**

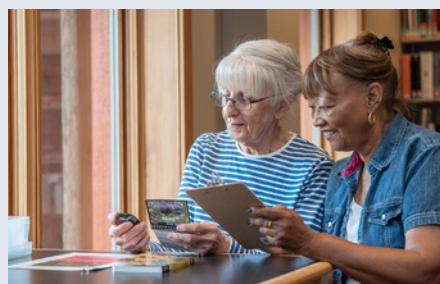
OBSERVING POLLINATORS

Identify and count pollinators as they visit flowering plants.

Pollinators are animals that assist plants in their reproductive cycles and are critical to the world's food supply. Pollinators include ants, bats, bees, birds, butterflies, and more.

WHY THIS MATTERS

In recent years, critical pollinator populations have suffered severe declines, especially among honey bee colonies. By gathering observations of pollinators visiting flowering plants in your area, you can help scientists understand pollinator populations and locations while advancing knowledge about the types of plants pollinators prefer.



Emily Maletz / SciStarter

KIT COMPONENTS

Binoculars – to observe pollinators from a distance

Data sheet, clipboard, and dry-erase marker – to record observations from the field

Stopwatch – to time observations

Local bee and pollinator identification guides

Local flower guide – to identify local flowering plants

Community field journal – to share your findings with your neighbors

REQUIRED, BUT NOT INCLUDED

Smartphone or tablet

Wi-Fi or cellular data

OPTIONAL, NOT INCLUDED

Printable pollinator coloring page and worksheets – to introduce aspiring citizen scientists to pollinators – cfpl.info/colorpollinators

Lemon Queen sunflower seeds – to plant and attract future pollinators to observe!

PREPARE

STEP 1: Scan this QR code or visit cfpl.info/pollinators for an online version of these instructions, how-to videos, and other resources. This is also where you can **create your free SciStarter account** (optional) if you haven't already. SciStarter is an online citizen science hub connecting millions of people from all walks of life to thousands of opportunities to participate in citizen science.



STEP 2: Learn how to adjust the binoculars included in the kit:

- Fold the binoculars until they are comfortable for both eyes.
- Close your right eye and rotate the center adjusting knob until you can see clearly through your left eye.
- Close your left eye and open your right eye, turn the right eyepiece ring (diopter) until you can see clearly. The image should now be clear in both eyes.

KEY TERMS

Pollination: the act of transferring pollen grains between flowers

Pollinator: an animal or insect that transfers pollen from plant to plant

STEP 3: Look over the bee and flowering plants guides as well as the community field journal (perhaps someone added an interesting tip or question in regard to pollinators near them!).

PLAN

STEP 4: Search for a flowering plant to observe, ideally one that attracts pollinators. Check your public library's garden, insect, bird, and plant sections for guidebooks that will help identify the plant and pollinator information that is needed when submitting your observation.

The Smithsonian Gardens' website - **Gardens.si.edu** - provides easy to use pollinator resources to help you plan, including when to observe, where to observe, and what to observe (types of plants and pollinators). Check out their article "**The Why, What, When, Where, Who, How of Pollination**".

PARTICIPATE

STEP 5: Now you're ready to make and share your observations! You have the choice of when to enter and submit data to **SciStarter.org/Pollinators**. Either enter data while making observations directly into the web-based data page with a smartphone or tablet using Wi-Fi or cellular data, or use the data sheet, clipboard, and dry-erase marker to record your observation(s), and then enter data at a later time.

STEP 6: Proceed to your selected location to make your observations and find a comfortable place to sit. Refer back to your local flower guide to identify the flowering plant you've selected. Focus on one site or plant each time you engage in this project to help you better understand your local pollinator community.

On the data entry form (or directly on your device), record the date, time, and location of the flowering plant you selected. Enter the type of plant you're observing and the approximate number of flowers on that plant.

Set the stopwatch for at least five minutes and write down the types of pollinators that visit and the number of visits they make during the observation time. If the same pollinator flies away and comes back, count it twice. Remember, you are counting the visits. If possible, record the type of pollinator.

STEP 7: If you recorded your observations on paper, be sure to add the data to the website at SciStarter.org/Pollinators. Click "Enter Data" and fill in the form for the Great Sunflower Project. You can make as many observations as you would like over time.

NOW WHAT?

Use the worksheets found at SciStarter.org/Pollinators, developed with the help of professional elementary-level educators, to learn about pollinators.

ADD TO THE COMMUNITY FIELD JOURNAL

Share your experience with other citizen scientists! Record your thoughts, sketches, or notes in the community field journal. Share tips, draw a picture of your observations, or just say hello to your fellow citizen scientists.

TAKE ACTION!

Learn how to improve pollinator habitats by taking the Great Sunflower Project My Garden Habitat Assessment at **GreatSunflower.org**.

PLANT SUNFLOWER SEEDS!

Sunflowers are great for pollinators. Planting sunflowers or other flowering plants helps keep pollinators healthy and is perfect for future pollinator observations.

Check with your local library to find materials related to bees and Colony Collapse Disorder. Locate state and local beekeeping organizations through the American Beekeeping Federation - **abfnet.org**.

COMMUNITY CONNECTIONS

Are you a member of the Girl Scouts, 4-H, NASA Night Sky Network, or NSTA? Check out **SciStarter.org/library-partners** to learn about how this project connects back to your organization.



Check that all items have been placed back into the kit before you return it to the library.

Thank you for participating in citizen science!

LOOKING FOR MORE?

Find more projects on your SciStarter Dashboard: **SciStarter.org/dashboard**

Citizen Science Kit: Observing Pollinators Contents

- A Community field journal
- B North American bee guide
- C 2 identification guides
- D Pollinator data sheet with clipboard
- E Dry erase marker
- F Binoculars case
- G Binoculars
- H Stopwatch



Total Replacement Cost: **\$110**