

Out and About

CREATE YOUR OWN FIELD GUIDE

When studying a specific animal (or focal species), like a butterfly, scientists also study the other species (plants and animals) that live in the animal's habitat. The interactions between the focal species and the other plants and animals can help scientists understand it better. Because all butterflies are herbivores (they eat plants), plants are particularly important parts of butterfly habitats. Field guides are great tools for helping identify unknown species.

SMART START:

- ★ Collect a selection of different field guides for girls to refer to. You can either purchase these or check them out from your local library (for example, Peterson First Guides, Take Along Guides, or, for older girls, Peterson Field Guides, or many others).
- ★ Plan a visit to a local butterfly garden, park, or field.

Here's how:

1. Introduce field guides. Talk about field guides. Has anyone used one before? Why are they useful? Have groups look through the sample field guides and make a list of what types of information are in the guide. Share as a whole group. The list should contain the following:

You'll Need:

1+ hours

- journals
- pencil
- markers or colored pencils
- plant and animal field guides
- optional: SciGirls Nature Nurture journal
- optional: magnifying glasses, binoculars

- ★ pictures or photos
- ★ name of the species (Latin and/or common)
- ★ description of the species
- ★ location of the species (maps and/or text description)

2. Observe. If possible, visit a butterfly garden or other natural area. (Or collect photos of plants in their habitats.) Introduce the **SciGirls Challenge**: Create a field guide for a local butterfly garden or natural area.³

3. Plan. Have each girl choose one plant and create a field guide page for it. Make sure to represent a variety of plants from the garden. If there aren't enough plants, some girls can create a page for an animal.⁴



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4. Collect data. Visit the location a couple of times to gather additional observations. Each page should include the following items:

- ★ plant name
- ★ plant illustration
- ★ flower color (if the plant has flowers)
- ★ blooming season
- ★ height of plant
- ★ organisms observed on this plant
- ★ optional: butterflies that use the plants, if any, and how they use them

5. Share. Each girl should share her page. Once the girls are happy with their individual pages, combine them into one guide. Encourage the girls to work together to create a cover for the collection. ⁴

6. Continue exploring. Return to the same location multiple times over the course of the year to look for changes in the plants and animals.

Watch Kelly and the SciGirls learn about adult monarch butterflies on the *SciGirls Participate* DVD. (Select **Butterfly Diaries**: Mentor Moment.) ⁷



Monarch Larva Monitoring Project (MLMP)



In the Monarch Larva Monitoring Project (MLMP) volunteers from North America engage in monarch research. The project was developed by scientists at the University of Minnesota to collect long-term data on larval monarch populations and milkweed habitat. The researchers' goal is to better understand how and why monarch populations vary, with a focus on monarch distribution and abundance during the breeding season in North America. mlmp.org



Mentor Moment

Kelly Nail is a research assistant at the University of Minnesota's Monarch Lab where she is pursuing her Ph.D. in conservation biology. She studies how non-native milkweed and climate change might affect the migration of the eastern North American monarch butterfly. Biology has sent Kelly all over the world, to places as diverse as the forests of southern India, rural Mississippi, and Finland. Her favorite trip was when she got to see the monarch overwintering sites in Mexico. Kelly practices aerial arts, including tricks on the trapeze. She loves water parks and trying out new waterslides.