

PROJECT IDEA STARTER

Bats

by Kristi Lekies, Associate Professor; Marne Titchenell, Wildlife Program Specialist; and Education Outreach Assistants Lauryn Bone, Lyndsi Hersch, and Thome Reusser, School of Environment and Natural Resources, and Ohio State University Extension.



What is that—a bird, a big moth, a flying squirrel? No, it is a bat—a very important creature in our environment.

Bats have been on this planet for a very long time—over 50 million years. Although bats fly like birds, they are actually mammals like you and me.

The United States and Canada have more little brown bats than any other species of bats combined. Photo courtesy of Pennsylvania Game Commission.

Bats play important roles in ecosystems around the world. One bat can eat between 1,000 to 2,000 insects, such as moths and mosquitos, in a night. Many of these insects are considered pests in forested, agricultural, and residential areas. In tropical and desert climates, bats help fruit trees grow by pollinating more than 300 species of fruit plants. Bats can also be a source of food for other animals including owls, hawks, weasels, and raccoons. They help support other creatures living in caves too.

Bats use an impressive navigational system called echolocation. Echolocation allows bats to capture their prey in pitch black darkness. A bat's hearing is so sensitive it can hear the beating of a moth's wings. Some bats live in groups, called colonies, with as many as 250-300 bats in one colony. They also groom themselves frequently.



The United States and Canada have more little brown bats than any other species of bats combined. Photo courtesy of Pennsylvania Game Commission.

Bats need to have clean wings in order to fly nightly and successfully catch food.

Many bats in the United States and around the world are endangered and threatened. Ohio currently has 11 species of bats. In all counties throughout Ohio, the Indiana bat is endangered, or in danger of extinction, and the Northern long-eared bat is threatened, which means it could become endangered in the future. Other threats for Ohio's bats include loss of habitat and white-nose syndrome. This fungal disease has killed millions of bats, causing significant declines in their populations.

In addition to the many advantages of bats listed above, bats are critical in the food chain. If bat populations keep decreasing, there will be fewer bats to help our ecosystems (including cave ecosystems), which benefit from them in many ways. Many ecosystems would eventually fail if bats no longer pollinated their plants and spread plant seeds. Learning about these amazing animals allows us to better understand how to help them.

PLAN YOUR PROJECT

Use this idea starter AND publication 4-H 365 *Self-Determined Project Guide* as the starting place for your 4-H self-determined project. The *Self-Determined Project Guide* is available from your county OSU Extension office or on the Web at ohio4h.org/selfdetermined. You may choose to do a little or a lot depending on your level of interest. Be sure to register your project with your county OSU Extension office.

AREAS OF INTEREST AND THINGS TO DO

Every self-determined 4-H project has various areas of interest. Each area offers specific things members can address during their project adventures. Using *4-H 365 Self-Determined Project Guide*, identify at least three areas of interest with at least three activities per area to explore. Take your ideas from the list below or make up your own.



The lesser horseshoe bat gets its name from the shape of its nose.

Get to Know Bats

- ☐ Research basic facts about bats such as their habits, behaviors, physical characteristics, and life cycle. Do they live alone or in groups? How do they communicate with each other?
- ☐ Learn about the different species of bats throughout the United States and the world. Pick a state or country and investigate the bats that live there.
- ☐ Identify different types of foods that bats eat.

- ☐ Research different organizations that study, protect, and/or educate people about bats. Are there any park programs or groups in your area?
- ☐ Look at diseases affecting bats. How are they spreading? Do any diseases spread from bats to humans?
- ☐ What are some myths about bats and what are the facts that dispute the myths?

Discover Ohio Bats

- ☐ Learn about the different species of bats in Ohio. How are they different from each other? Where are you likely to find them?
- ☐ Learn about the endangered and threatened bats in Ohio. Check the U.S. Fish and Wildlife Service website at [fws.gov/midwest/endangered/lists/ohio-cty.html](https://www.fws.gov/midwest/endangered/lists/ohio-cty.html) for a county-by-county listing. What other species are endangered or threatened in your county?
- ☐ Go outside at dusk at different times of the year (late spring, summer, or early fall), and see if you can view any bats in your own backyard. Have you ever seen them outside before?
- ☐ Visit the zoo or a wildlife center that houses bats.
- ☐ Find an expert to help you learn more about bats. The Ohio Department of Natural Resources—Division of Wildlife, Soil and Water Conservation districts, park programs, and Extension specialists are good resources to start with. Email or call an individual for an interview.

- ☐ Keep a bat log. Go out every night for a week to a place where bats might live. What do you see each night? How many bats are there and what are they doing? After you have finished your log, consider sharing your observations with the Ohio Department of Natural Resources, Bat Roosting Monitoring Project at wildlife.ohiodnr.gov/species-and-habitats/fish-and-wildlife-research/bat-roost-monitoring.

Develop Creative Talents

- ☐ Create a poster about the world without bats. Draw the food web, roles that bats play in the ecosystem, and what could happen if bats no longer existed.
- ☐ Write a song about bats. It can be instrumental with only music, or it could have music and words. Think about the ways bats move and how their movements can inspire your musical choices.
- ☐ The lesser horseshoe bat gets its name from the shape of its nose
- ☐ Write a children's book about bats. Make it interesting for children to read or to have the story read to them. Think about illustrating it yourself with drawings and artwork.
- ☐ Write a journal from the point of view of a bat. What is it like hunting at night? What problems might a bat face? How big is your bat family? What do you do for fun? How does one night differ from the next?



Fruit bats are one of the largest of the bat family with wing spans of almost 5 feet to 5.5 feet across.

- ☐ Write a skit about bats. It could address what you have learned, correct myths about bats, or feature the adventures of a particular bat as the main character. Enlist some friends and perform it for your club.
- ☐ Write and illustrate a comic book about bats. What story would you like to tell? Follow some bats on their nightly journey and highlight their adventures.
- ☐ Fruit bats are one of the largest of the bat family with wing spans of almost 5 feet to 5.5 feet across.
- ☐ Work with your school or public library to develop a display on bats.
- ☐ Lead a bat hike. Take your family, friends, or 4-H club on a night walk to look for bats. Share what you have learned about bats with your group.
- ☐ Organize a bat-themed program for your 4-H club. What do you want others to know about bats? Include interactive games, crafts, and other hands-on activities.
- ☐ Make a bat board game. The game could focus on echolocation, catching different kinds of food, finding different kinds of shelter, or anything you find interesting about bats. Create the rules, game board, and playing pieces. Play it with friends, family, and your 4-H club.
- ☐ Create a bat buffet. Help plan and cook a meal inspired by the foods that bats pollinate.

Educate Others

- ☐ Prepare a public service announcement for school, radio, television, or the internet on how white-nose syndrome affects bats.
- ☐ Create informative social media posts about bats.

Keep in mind the different kinds of plants that bats pollinate all over the world.

Help the Bat Population

- ☐ Look for ways to get involved to help bats. For example, the Ohio Department of Natural Resources—Division of Wildlife needs volunteers to monitor bat roosts. Visit **wildlife.ohiodnr.gov/species-and-habitats/fish-and-wildlife-research/bat-roost-monitoring** for more information.
- ☐ Think about ways you can help make your school grounds more bat-friendly. Talk with your friends, student clubs, teachers, and school officials about your ideas.
- ☐ Hold a fundraiser. Find an organization that helps bats and raise money for it. Use any of the items you have created for this project, such as your drawings, journal, or public service announcement, to provide support about why it is important to help protect bats.
- ☐ Build a bat box. This project requires the use of tools, so ask an adult to help you. Research the best types of bat boxes



Endangered Indiana bats clustered during hibernation. Photo courtesy of U.S. Forest Service.

and create your own. Talk with bat experts or staff from a park program about the best locations to hang it.

- ❑ Turn your backyard into a bat habitat. What do bats in Ohio need to survive? How can you provide this in your backyard?
- ❑ Investigate careers that involve the protection of bats.
- ❑ Endangered Indiana bats clustered during hibernation. Photo courtesy of U.S. Forest Service.

RELATED RESOURCES

Bat Conservation International, batcon.org.

Bat House Information, batcon.org/resources/getting-involved/bat-houses.

Bat Week, batweek.org.

Celebrating Bats! A Cookbook of Goodies and Treats Using Bat-Dependent Ingredients, batweek.org/wp-content/uploads/BatCelebrationCookBook-UPDATED2018.pdf.

“It’s a Scary Time for Bats” by Bryan Carstens, Ohio State University College of Arts and



Eastern red bats live in eastern North America. Instead of living in caves, they are tree dwellers. Photo courtesy of Cindy Parks from Pixabay.

Sciences, artsandsciences.osu.edu/news/bats.

National Park Service, nps.gov/subjects/bats/index.htm.

Ohio Department of Natural Resources, Ohio Bat Roosting Monitoring Project, wildlife.ohiodnr.gov/species-and-habitats/fish-and-wildlife-

research/bat-roost-monitoring.

U.S. Fish and Wildlife Service, fws.gov/midwest/endangered/lists/ohio-cty.html.

U.S. Fish and Wildlife Service, White-nose Syndrome, whitenosesyndrome.org1.

ohio4h.org/selfdetermined



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