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This 2020 edition features a new design. No changes in the content or project requirements have been made.

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Member Project Guide for First Year of Project

Introduction

Welcome to Ohio Birds! This is an exciting two-year project for members of any age who are interested in learning about birds. Younger members who take this project need the support of a knowledgeable adult who is available to offer guidance and direction. Your study of birds does not have to take place two years in a row, and you are welcome to complete more of the book than is required below.

The first year includes observing and identifying 20 different bird species and building and using two types of bird feeders. The second year is about observing and identifying 30 more bird species and about conducting field studies.

Check your county’s project guidelines (if any) for additional requirements, especially if you choose to participate in county project judging or prepare an exhibit for the fair.

Learn About Birds Together

Bird watching is a popular group activity enjoyed by people all over the world, and Ohio Birds makes a great group activity too. By completing the project as a group, 4-H members benefit from each other’s knowledge and see more birds because more people are involved. Consider making this project a family activity.

General Project Guidelines

1. Complete the Planning Your Project section of this guide (steps 1 through 4).
2. Explore all Interest Areas.
3. Complete the project activity (or activities) and discovery questions in each Interest Area.
4. Observe and record at least 20 different species of birds.
5. Take part in at least two Learning Experiences.
6. Become involved in at least two Leadership/Citizenship activities.
7. Write a one-page story of the important things you learned from this project.
Planning Your Project

Step 1: Activity Guides
Explore all five Interest Areas listed below. As you begin to explore an Interest Area, place the current date (month and year) next to it.

<table>
<thead>
<tr>
<th>Date Started</th>
<th>Interest Areas</th>
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<tbody>
<tr>
<td></td>
<td>1. Getting Prepared, page 6</td>
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<tr>
<td></td>
<td>2. Getting Acquainted with Birds, page 9</td>
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<tr>
<td></td>
<td>3. Learning to Identify Birds, page 11</td>
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<tr>
<td></td>
<td>4. Learning About Birds and Their Nests, page 19</td>
</tr>
<tr>
<td></td>
<td>5. Birds at Your Feeder, page 27</td>
</tr>
</tbody>
</table>

Step 2: Things to Do
Complete the project activities and all discovery questions for each Interest Area. Have your parent or advisor initial and date what you complete. The Digging Deeper activities are optional, but would be a lot of fun to do!

<table>
<thead>
<tr>
<th>Interest Area</th>
<th>Date Completed</th>
<th>Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Getting Prepared</td>
<td></td>
<td>1. Getting Access to Field Guides and Binoculars</td>
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<td>2. Completing Your Bird-watching Record Sheet</td>
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<tr>
<td>2. Getting Acquainted with Birds</td>
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<td>3. Bird Parts</td>
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<td>3. Learning to Identify Birds</td>
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<td>4. Birds and Their Habitats</td>
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<tr>
<td></td>
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<td>5. Birds and Their Size</td>
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<tr>
<td></td>
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<td>6. Heads and Beaks of Birds</td>
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<tr>
<td></td>
<td></td>
<td>7. Birds and Their Colors</td>
</tr>
<tr>
<td>4. Learning About Birds and Their Nests</td>
<td></td>
<td>8. Birds and Their Nests</td>
</tr>
<tr>
<td></td>
<td></td>
<td>9. Bird Nest Matching</td>
</tr>
<tr>
<td>5. Birds at Your Feeder</td>
<td></td>
<td>10. Building Your Feeders</td>
</tr>
</tbody>
</table>
Step 3: Learning Experiences

Select two of the Learning Experiences listed below and plan your involvement in the “Report of Learning Experiences” chart. Before starting your project, write your choices in the section labeled “Plan to Do.” Once you have taken part in an activity, record what you did and when. You may add or change Learning Experiences at any time.

Learning Experiences

☐ Attend a meeting of a local chapter of the Audubon Society.

☐ With an adult chaperon, go on a camping trip and count how many different bird species you see.

☐ Participate in your county’s project judging.

☐ Using birds and bird feeders as your topic, give a demonstration to your local 4-H club.

☐ Go on a field trip to a local park and talk to a ranger or naturalist who works there about the kinds of birds that can be found in the park.

☐ Attend a meeting of your local 4-H club that has been dedicated to studying birds.

Or, plan your own activities here:
___________________________________________________________________________
___________________________________________________________________________
___________________________________________________________________________
___________________________________________________________________________

Report of Learning Experiences

<table>
<thead>
<tr>
<th>Plan to Do</th>
<th>What I Did</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>(example) Camping</td>
<td>Went on a camping trip and was able to identify 12 different species of birds.</td>
<td>June 10</td>
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</tbody>
</table>
Step 4: Leadership/Citizenship Activities

Place a check mark by the activities you wish to do or plan your own in the space provided. Do at least two. Keep track of your progress by dating (month and year) what you complete. You may add or change Leadership/Citizenship activities at any time.

<table>
<thead>
<tr>
<th>Plan to do</th>
<th>When I Finished</th>
<th>Leadership/Citizenship Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>❑</td>
<td>_________</td>
<td>Organize a 4-H bird walk in your community.</td>
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<tr>
<td>❑</td>
<td>__________</td>
<td>Invite someone to talk to your club about birds in Ohio.</td>
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<tr>
<td>❑</td>
<td>__________</td>
<td>Prepare and exhibit a poster on Ohio birds at your local 4-H club meeting.</td>
</tr>
<tr>
<td>❑</td>
<td>__________</td>
<td>Build and donate bird feeders to a hospital, rest home, or school.</td>
</tr>
<tr>
<td>❑</td>
<td>__________</td>
<td>Have your club buy and donate books about birds to your local library.</td>
</tr>
<tr>
<td>❑</td>
<td>__________</td>
<td>Arrange for your club to install and maintain a community bird feeder for the winter.</td>
</tr>
<tr>
<td>❑</td>
<td>__________</td>
<td>Organize a fundraiser for an environmental organization in your community.</td>
</tr>
<tr>
<td>❑</td>
<td>__________</td>
<td>Or, plan your own activities here:</td>
</tr>
<tr>
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<td>__________________________________________________________</td>
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Project Review

Once you complete your project, write a one-page story on the next page focusing on what you learned in your project. Then have your parent or advisor review your project accomplishments with you. Depending on your county, you could participate in county project judging.
Observing Birds Around You

Welcome to the world of birds! You are about to begin an adventure that will show you some brilliant colors of the rainbow, invite you to some incredible homes, and tease you with the wonder of flight. You are about to learn more about some of our most intriguing neighbors—Ohio birds.

Interest Area 1: Getting Prepared

While you can certainly enjoy birds by just watching, there are several items that will be necessary for you to use.

Binoculars Are Desirable

Even if you have a feeder close to your house, you will find binoculars helpful in your study and observations of the birds. However, buying a good pair of binoculars may be expensive. One idea is to borrow a good pair while you are working on this project. But if you decide to purchase a pair, take good care of them and they can last a lifetime.

If you decide to buy binoculars, there is some basic information you should know. The size of the binoculars is described by two numbers—the power times (x) the diameter of the front lens. For example, a 7x35 (which reads “seven by thirty-five”) means a magnification power of seven and the lens diameter of 35 millimeters. For beginning bird-watching, binoculars that are 7x30, 7x35, and 8x40 will provide adequate magnification of your target object. They will also be lightweight and convenient for carrying. For more information about binoculars, consider doing your own research at the library.

FUN FACT

Binocular Vision in Birds

Ever wonder how well birds can see? Actually, they can see much better than humans because of “high visual acuity.” This means that they can see more details from a greater distance than people can. A hawk can see a mouse in a field two to three times farther away than you could see the same mouse.
A Good Bird Field Guide Is Important

Good bird field guides include written descriptions of the birds and their **habitats**, as well as maps that designate the birds’ nesting, winter, and migratory range. You can find inexpensive ones with reliable information at almost any store that sells books. A few of the most well-known titles are listed here:

*National Geographic Field Guide to the Birds of North America* (Sixth Edition) by Jon L. Dunn and Jonathan Alderfer

*Peterson Field Guide to Birds of North America* by Roger Tory Peterson

*Kaufman Field Guide to Advanced Birding* by Kenn Kaufman

*Birds of North America, Revised and Updated: A Guide to Field Identification* by Chandler S. Robbins, Bertel Bruun, and Herbert S. Zim


Activity 1: Getting Access to Field Guides and Binoculars

Answer these questions about your field guide and binoculars.

What is the name of the field guide you are using? ____________________________

_____________________________________________________________________

Did you purchase or borrow your field guide? ____________________________

Are your binoculars borrowed or did you purchase them? ___________________

What is the magnification of your binoculars? ____________________________

What is the lens diameter of your binoculars? ____________________________

Complete the sentence below to describe your binoculars.

“My binoculars are _______ x _______ which means a magnification power of _______ and a lens diameter of _______ millimeters.”

Additional Resources

A notebook and pencil are two items you should always have on hand so you can record the name of the bird, identifying **characteristics**, date seen, and other observations such as what the bird was doing, what it was eating, etc. Other equipment that might be helpful includes a first-aid kit, compass, and pocket knife. You may also wish to have a camera with you so you can photograph the birds or nests you find. You can use the pictures for later identification.

Bird watching is an extremely popular past time, and the number of resources available to hobbyists is constantly increasing. The public library in your community may have good bird books and recordings of bird songs that can be used as reference. Look online too—plenty of good sound recordings and videos are available.

**WORDS TO KNOW**

- **characteristic**: a distinguishing trait, quality or property.
- **habitat**: the natural home of an animal where it finds food and shelter and raises its family.

Many of the best publishers of bird books also offer apps for mobile phones and tablets. They are popular with birders because they are easy to take into the field. Look for ones by Audubon, Peterson, and many others.
free on the Internet. The following agencies provide print and online publications specific to the state of Ohio:

- The Ohio Department of Natural Resources at [dnr.state.oh.us](http://dnr.state.oh.us). Click on “Wildlife,” and continue to look around until you find a page called Birding Resources. It includes recommendations for good birding locations and trails, and information about specific species, attracting birds, and current Division of Wildlife Projects.

- The Ohio Ornithological Society at [ohiobirds.org](http://ohiobirds.org). This resource is about the very active birding community in Ohio. Use it to find out what the society does, who’s involved, their publications, and much more.

You may find resource people near where you live. You could use them to answer questions you may have or just to talk with them about their experiences with studying birds. These resource people could include local game protectors, biology teachers, park naturalists or rangers, members of a local bird-watching society, and your county’s Ohio State University Extension staff.

**FUN FACT**

Mother Nature has lots of jobs! If you think you might want to work outdoors when you grow up, don’t forget to consider natural resources. Park rangers, game protectors, environmental scientists, wildlife rehabilitators, recreation specialists, and firefighters are just a few of the different types of jobs you might want to consider.

**Tips for Bird-watching**

During the first year of your project, you will be expected to identify at least 20 birds species. Use some of these tips to help you in your search.

- Refer to the list of common birds in your region on page 61. When you go bird-watching, you will want to browse through your field guide and its maps to learn when certain birds live in or migrate through Ohio.

- Birds are one of our most abundant and readily observed forms of wildlife. They have good hearing and eyesight. They also have little or no sense of smell. Since birds can see well, try to wear dark-colored clothes when on a bird hike or when outside and viewing birds at your bird feeder. These dark clothes can make you less noticeable to the birds. Remember to wear the proper clothes for the weather.

- Move very slowly and quietly. Don’t talk loudly or make a lot of noise when you walk. This could scare the birds away before you have a chance to see them.

- You will have greater success if you observe birds when they are more likely to be active. Many birds are very busy early in the mornings, so mornings will be a better time for you to plan your bird-watching hikes.

- You can buy birdcall devices for calling crows, ducks, and small songbirds. You may also call some birds by bird squeaking, which is done by kissing the back of the hand vigorously and slowly, producing a long squeaking sound. You should wait a few seconds and repeat the sound. The sound produced is similar to the cry of young nesting birds or an older one in distress. You can also try imitating some of the common birds you hear. For example, the tufted titmouse will respond quickly to an imitation of his call (sometimes it sounds like this bird is saying “peter ... peter ... peter”). Try some of these methods when you are near your bird feeders or on your field trips.
• Laws, Rules, and Common Sense •

- Don’t go on a bird-watching hike alone.
- Don’t go bird-watching in areas where hunting is taking place.
- Make sure you have a parent’s permission to go on bird walks. Always let an adult know when and where you will be on a bird-watching hike.
- Know and follow the laws. Look but don’t touch! Federal and state laws prohibit the collection of birds, nests, eggs, etc., without a scientific collector’s permit.
- If you plan to hike on private property, be sure you have the owner’s permission.
- Remember to “take memories and leave only footprints.”

Activity 2: Completing Your Bird-watching Record Sheet

On page 36 of your project book, you will find the bird-watching Record Sheet for First Year of Project. This record sheet will help you keep track of the birds that you have seen, some of their characteristics, and when and where you observed them. Record a bird species only once. You will learn more about habitats and the physical characteristics of birds in the next section of this book. Until you complete that section, go ahead and begin recording the birds that you are seeing, and jot down a few notes that include what the bird looked like and where you saw it.

Interest Area 2: Getting Acquainted With Birds

Have you ever sat quietly and watched around you? Maybe you sat by a pond or stream, in the woods, in a pasture, or in your back yard. Each place will have its own mix of bird species. Whether the observation is your first experience or you have been doing it for years, watching birds is certainly an enjoyable experience.

Birds may be found anywhere. They are more likely to be found where the surroundings provide food (berries, insects) and water (a bird bath or small pond), protective cover (bushes, trees), and a good place to raise their young. These surroundings are called the bird’s environment or habitat. The habitat requirements vary widely with different kinds of birds. Some birds eat seeds, others eat insects, and some eat fish and marine life. The black-crowned night heron, for example, lives near water and feeds on small frogs and fish found in and around streams and ponds. The American Robin eats earthworms, insects, and fruit and can be found in back yards, gardens, or parks. Some birds nest on the ground and others nest in trees and shrubs. Since birds have different needs, you can expect to find different kinds of birds in a specific habitat.

The birds you see in Ohio may be summer residents, winter residents, year-round residents, or birds that have stopped to feed and rest during their migratory flight. Most migration flights are during the night, with the resting and feeding periods during the day. The best place to look for migrating birds is in an area along the route that resembles their summer home. For example, in the spring and fall, many of the ducks and geese you see on the water are actually in the process of migrating.
**WORDS TO KNOW**

- **prey**: animals that are killed and eaten by other animals.
- **carnivore**: an animal that eats meat.
- **predator**: an animal that kills and eats other animals.
- **ecosystem**: the interactions between all the living and nonliving things in a distinct area.
- **game birds**: birds whose populations are managed by hunting under state and/or federal regulations.

**FUN FACT**

**A Very Long Trip**

During migration, some birds such as the Clark’s nutcracker only fly a few miles, from the top to the bottom of a mountain. Other birds may fly thousands of miles to migrate. Many of the songbirds that make Ohio their summer home travel to the Gulf Coast, Central America, or South America for the winter. An amazing distance is traveled by the arctic tern, which flies 11,000 miles to migrate from the southern tip of South America to above the Arctic Circle for the summer. The worm-eating warbler, a bird that nests in Ohio during the spring and summer, migrates to the warm climate of Central America during Ohio’s cold winter months.

**Birds as Team Members in the Environment (or How Birds Help Us)**

Our fine-feathered friends have many important roles. Think about how birds fit into the food chain. One of the greatest benefits of birds is destroying harmful insects. They are better fitted to prey on insects than are other animals. Birds are definitely helpful in controlling unwanted insects. Plus many meat-eating animals (carnivores) depend on birds as their source of food. Birds such as hawks and owls are predators that benefit the ecosystem by killing mice, rats, and other rodents. Vultures eat the remains of dead animals. The hunting of game birds provides many people with sport and food.

Another service provided by birds is the consumption of weed seeds, which helps to control the growth of nuisance weeds. The birds that live in Ohio during the winter are mostly the seed-eating type. The Northern bobwhite is one of the most valuable of these birds. Additionally, the survival of many plants depends on these seeds being eaten by birds because their seeds cannot germinate (or sprout) until they have gone through the digestive tract of birds or other animals.

The raising, building, and selling of bird feed, feeders, nest boxes, and other supplies provide many jobs. And last but not least, birds are interesting, beautiful creatures and we can all enjoy listening to their songs and watching them.
Interest Area 3: Learning to Identify Birds

There are more than 9,200 species of birds in the world, and of those 9,200 species, there are more than 150 that can be commonly seen in Ohio.

In this project, you will need to be able to identify different species of birds. To do that you must be familiar with the different characteristics of birds such as habitat, size, shape of the head and beak, behavior, color patterns, and voice or songs and calls. You must also know the external parts of a bird.

**WORDS TO KNOW**

**behavior:** an animal’s actions. Look at behaviors such as feeding, nesting, and grooming to help identify specific birds.

---

**External or Outside Parts of Birds**

To study the external parts, use the diagram below to learn these different external parts.

**Activity 3: Bird Parts**

Now, draw your own bird on a piece of paper and label each of the parts of the bird you have drawn. (Feel free to draw a picture of one of the birds in your bird field guide.)
Habitat

A habitat is the space where a bird or another living thing (plant or animal) normally lives. It is a specific environment with its own set of features that may include:

- plant life—the type of plants that live in the habitat; trees, shrubs, flowers, grasses
- geology—this includes the kinds of soils (sandy, clay, rocky) or landforms (cliffs, hills) of an area
- water—the source of water for the wildlife and plants in the area; a stream, pond, lake, underground water
- climate—average weather conditions such as rainy and cold, snowy, hot and dry

Different birds live in different habitats according to what the bird eats, how and where it nests, whether it lives on land or near water, and the weather conditions it can survive. You can use the type of habitat to identify birds that you see. For example, woodpeckers are typically found feeding in forests or residential areas with large trees. Likewise, ducks are found in areas with water. Some of the habitats you can find in Ohio are forests (woodlands), fresh water (lakes, reservoirs, ponds, wetlands, and rivers), grasslands (farmland or open country), and urban and residential areas.

Activity 4: Birds and Their Habitats

On the drawing below, circle the names of the types of habitats that can be found close to where you live.
Below is a list of the different habitats that are most common in Ohio. Beside each habitat name, write down two bird species that can be found in that particular habitat in any season. Use the descriptions of birds in your field guide to find the birds for the different habitats. Some answers are provided in the back of this book, but try to answer the activity questions before you look at the answers provided.

Forests/Woodlands

Pond/Stream

Grasslands/Fencerow

Farm/Cropland/Fields

Urban/City

Suburb

Remember that some birds are in Ohio only during certain times of the year. Although the dark-eyed junco (also known as the slate-colored junco) is found in forested areas of Ohio, it is only in Ohio during the winter. These birds migrate to Canada to nest and breed during the spring and summer, and travel to warmer climates during the fall and winter. The range maps in your field guide will help you know when a species is in Ohio.

Size

Avid bird-watchers also use the size of the bird to help them identify a specific species of bird. To do this, you can compare the size of the birds you see to the sizes of four standard birds: the goose, crow, robin, and sparrow. Look at the silhouettes below to see how the sizes of these four birds differ when compared to one another.

![Silhouettes of birds: Goose, Crow, Robin, Sparrow]

Goose
(25–43 inches long)

Crow
(17–21 inches long)

Robin
(9–11 inches long)

Sparrow
(5–7 inches long)

Number of inches long refers to the length of the bird measured from the top of its crown to the tip of its tail.

If a bird is larger than a goose, it might be a heron or vulture. If a bird is between the size of a goose and a crow, it might be a hawk, owl, or gull. If it is between the size of a crow and a robin, it might be a blue jay, cuckoo, or some species of woodpeckers. A bird smaller than a sparrow might be a warbler, wren, kinglet, or chickadee.
Activity 5: Birds and Their Size

Using a tape measure or ruler, measure a total of 7 inches from the tips of your fingers toward your shoulder and see how long a sparrow is compared to the length of your arm. Now measure a total of 11 inches from the tips of your fingers toward your shoulder and see how long a robin is compared to the length of your arm. Now compare the length of your arm to how long a crow is by measuring a total of 21 inches from the tips of your fingers toward your shoulder. Now measure a total of 43 inches from the tips of your fingers toward your shoulder and see how long a goose is compared to the length of your arm. (It’s probably longer than your arm!)

Shape of the Head and Beak

Below are pictures of several types of bird beaks. The shape of a bird’s head and its beak indicates how it obtains food. By observing the type of beak and shape of the bird’s head, you can more easily identify the specific bird species.

Activity 6: Heads and Beaks of Birds

Picture 1

Seed eaters, such as grosbeaks, sparrows, and finches, crack their food before swallowing. These birds have rounded heads and short, cone-shaped beaks.

Using your field guide, name two species of sparrows.

1. ________________________________  2. ________________________________

Picture 2

Herons, bitterns, and other birds that eat fish have long, sharp-edged bills for spearing.

Using your field guide, name two species of herons.

1. ________________________________  2. ________________________________
The large spoon-like bill of the duck has comb-like teeth on the inside edge for straining food.

Using your field guide, name two species of ducks.

1. ________________________________ 2. ________________________________

Birds such as the common snipe have long, slender, sensitive bills suited for probing in the mud.

Using your field guide, name two other species of birds that have a similar shaped head and beak.

1. ________________________________ 2. ________________________________

Flesh-eating birds, such as hawks and owls, have strongly hooked bills with knife-like edges.

Using your field guide, name another hawk species and another owl species.

hawk ________________________________ owl ________________________________

Woodpeckers have straight chisel-like bills for drilling into wood to get insects. Their tongue is barbed and pointed for spearing the soft-bodied insects and dragging them from the insects’ tunnels.

Using your field guide, name two species of woodpeckers.

1. ________________________________ 2. ________________________________

The common nighthawk has a small bill that is used to feed on insects that are taken from the air during flight. Their bill is similar in shape to the swifts and swallows.

Using your field guide, name two species of swallows.

1. ________________________________ 2. ________________________________
Behavior

As you begin observing specific species of birds, you will see that some of them have characteristic behaviors. Behaviors are actions or motions that a bird may make while flying, mating, swimming, or feeding. Some of these behaviors can only be seen in certain species of birds. For example, warblers, vireos, and flycatchers are all small birds that feed on insects. The warblers make short flights from twig to twig and are almost constantly in motion. The vireos are slower and more deliberate feeders. They pause and seem to peer up at the leaves above them. A short warbling song is given constantly as they search for food. The flycatchers eat flying insects. They perch on a limb and when they spot flying insects, they fly out, snap them up, and return to the perch.

**FUN FACT**

Eastern Phoebe is well known for flicking its tail. Some birds flick their tail as a sign of nervousness or alarm. Others will flick their tails relatively continuously. Have you seen any birds flick their tail?

When you are bird-watching, observe the bird’s actions and record these behaviors on your record sheet. Ask yourself if the bird’s behavior is something you’ve seen before or if you think it is unique to this species of bird.

**FUN FACT**

In order to keep their bodies in a stationary position over their food, some birds can hover by rapidly beating their wings. Hummingbirds are most famous for their hovering, but the kestrels, kinglets, and gnatcatchers are also experts in this flight technique.

Color Patterns

Almost every color can be found in the plumage of birds. While some birds are entirely one color, most birds show a combination of colors that create patterns.

The male bird of a species is almost always more brightly colored than the female of the same species. The brightly colored plumage of one male serves as a warning to other males to stay away from his already claimed territory. Females that are more dull colored tend to not draw attention to their nest or young. We learn to identify the females by seeing them in company with their brightly colored mates. It is also important to remember that brightly colored birds have their brightly colored plumage in the spring and summer, and they are more dull colored during the winter. Other color patterns include wing bars, eye stripes, tail stripes, and markings on the chest of the bird.

You can use the colors you see in a bird to help you identify one species from another. But looking at color may not be enough. You may also have to look at the kind of patterns that are on the bird. For example, during the summer, there are several yellow and black birds that are common in Ohio.
Activity 7: Birds and Their Colors

Using your field guide, look up the birds that are in the pictures below, and color in where the male bird has yellow or black. You can also color in any other colors that occur in the bird’s color patterns.

- Hooded warbler
- American goldfinch
- Common yellowthroat
- Eastern meadowlark

(Answer key on page 37.)
Voice or Songs and Calls

Knowing bird songs and calls is important. Songs can help you locate the bird and identify it. For example, some sparrows look nearly alike but have different songs. What’s the difference between a bird call and a bird song?

**Bird calls:**
- are made by both males and females
- are usually short and simple sounds that the bird will make, most often they are only one syllable
- are used to express alarm, threaten other birds, or scold predators
- help a bird maintain contact with other members of its flock
- can be heard any time of the year

**Bird songs:**
- are only made by males
- are generally longer and more complex than calls
- will be used by males to attract a mate or to lay claim to a nesting or feeding territory
- are most often only heard when the birds are nesting in spring and early summer

**FUN FACT**

**Birdsong Mnemonics (pronounced neh-MON-icks)**

First, what is a “mnemonic”? It is something that we can say or think to help us remember something else. For example, we use the word “moo” to help us remember and imitate the sounds that cows make. Imitating the sounds that birds make can be a fun way to remember their call or song. You can also use them to catch the attention of a bird you hope to see. Try some of these sounds. Remember to try to make your voice sound like a bird’s voice when you are using these sound patterns.

<table>
<thead>
<tr>
<th>Birdsong Mnemonics</th>
<th>Sounds</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>American goldfinch</strong></td>
<td>po-ta-to-chip</td>
</tr>
<tr>
<td><strong>American robin</strong></td>
<td>cheer-up, cheer-a-lee, cheer-ee-o</td>
</tr>
<tr>
<td><strong>Barred owl</strong></td>
<td>who-cooks-for-you, who-cooks-for-you-all</td>
</tr>
<tr>
<td><strong>Carolina chickadee</strong></td>
<td>chick-a-dee-dee-dee</td>
</tr>
<tr>
<td><strong>Blue jay</strong></td>
<td>jay-jay-jay</td>
</tr>
<tr>
<td><strong>Common loon</strong></td>
<td>cooo-lee, cooo-lee (slow, sadly)</td>
</tr>
<tr>
<td><strong>Eastern meadowlark</strong></td>
<td>but-I-DO-love you</td>
</tr>
<tr>
<td><strong>Eastern phoebe</strong></td>
<td>fee-beee (last syllable raspy)</td>
</tr>
<tr>
<td><strong>Killdeer</strong></td>
<td>kill-deeeeer, or kee-dee, kee-dee, kee-dee</td>
</tr>
<tr>
<td><strong>Mourning dove</strong></td>
<td>hooo-ah hoo-hoo-hoo</td>
</tr>
<tr>
<td><strong>Eastern whip-poor-will</strong></td>
<td>whip-poor-will</td>
</tr>
<tr>
<td><strong>Tufted titmouse</strong></td>
<td>peter-peter-peter</td>
</tr>
</tbody>
</table>

Recorded bird songs and calls are available and might be obtained through an Audubon Society or your public library. These would be of great help in learning the different songs and calls. Bird songs and calls have thrilled us through the years. Knowing birds by studying them helps us appreciate their songs and calls.
Interest Area 4: Learning About Birds and Their Nests

Birds do not need to be taught how to build nests by their parents. Even a hand-raised bird will build a nest similar to others of its kind. The area in which birds live determines what type of nesting materials they use and where the nest is located. Bird nests vary greatly in construction. Birds may use natural materials such as their own feathers, sticks, moss, mud, or animal fur. Human-made items such as strips of plastic, yarn, string, and paper are also sometimes used to make nests.

Some bird nests are very simple structures made of sticks placed on a limb. Mourning doves build these kinds of nests. More complicated ones are composed of grass, sticks, and mud woven together to form the nest. An example of this type is the robin’s nest. Some birds, like the great horned owl, do not build their own nests but use old nests of other birds.

For this project, you need to find and describe the habitat of at least three different bird nests. The best time to find these nests is in the winter when the birds are not nesting and there are no leaves on the trees hiding the nests. You may also want to find and observe some nests in the summer, but it should be done with caution. Avoid scaring the bird by getting too close to the nest. Observing the nest from a distance with a pair of binoculars is desirable.

During nesting season, the singing of the male birds may help you locate nests. The killdeer may disclose the site of its nest by feigning injury when you are near it. It is always interesting to watch birds collect nesting materials and build their nests. You might consider putting out dead leaves, dry (pesticide-free) grass, pine needles, or plant fluff or down (cattail fluff or cottonwood down). Offer these items in piles on the ground, pushed into tree crevices, or in a clean, mesh suet cage. Perhaps you will be able to watch them build a nest close to your home.

Because of over-collecting that has occurred, there are now state and federal laws protecting all native birds, eggs, and nests. DO NOT COLLECT ANY BIRDS, EGGS, OR NESTS.

Bird Nest Identification

It is easy to identify nests if the birds are using them. If the birds have gone, look for the following characteristics. The size of the nest is an obvious clue to the size of the bird. The habitat in which the nest is found is another clue. Note the location of the nest, which might be on the ground, in a bush, or in a tree. The type of construction is also important. Observe the inside depth of the nest and the kinds of nesting materials used. A good bird nest guide you can use is A Field Guide to Birds’ Nests (Peterson Series).

In the space below, list five materials found in bird nests.

1. _______________________________________________________________________
2. _______________________________________________________________________
3. _______________________________________________________________________
4. _______________________________________________________________________
5. _______________________________________________________________________
Activity 8: Birds and Their Nests

Locate three different bird nests and record nest descriptions on the sheets below.

**Bird Nest 1**

Date Found: ____________________________________________________________

Where was the nest located? In a shrub, a tree, on the ground, near the water?

___________________________________________________________________________

___________________________________________________________________________

How big was the nest? Use a ruler to measure its depth and its diameter (how far across).

___________________________________________________________________________

___________________________________________________________________________

What type of materials were used to build the nest? _____________________________

___________________________________________________________________________

___________________________________________________________________________

Is the nest being used? If so, what species of bird is in the nest? ________________

___________________________________________________________________________

If it is not being used, what kind of bird do you think built the nest? ____________

___________________________________________________________________________

List any details you can note that would help you to identify this nest, such as its exact position on a tree. Is it suspended from a branch, built in a fork, built out on the limb, in a cavity of a hollow tree?

___________________________________________________________________________

___________________________________________________________________________
Bird Nest 2

Date Found:___________________________________________________________

Where was the nest located? In a shrub, a tree, on the ground, near the water?
___________________________________________________________________________
___________________________________________________________________________

How big was the nest? Use a ruler to measure its depth and its diameter (how far across).
___________________________________________________________________________
___________________________________________________________________________

What type of materials were used to build the nest?___________________________
___________________________________________________________________________
___________________________________________________________________________

Is the nest being used? If so, what species of bird is in the nest?______________
___________________________________________________________________________

If it is not being used, what kind of bird do you think built the nest? __________
___________________________________________________________________________

List any details you can note that would help you to identify this nest, such as its exact position on a tree. Is it suspended from a branch, built in a fork, built out on the limb, in a cavity of a hollow tree? _________________________________
___________________________________________________________________________
___________________________________________________________________________

FUN FACT

Small and Big Houses
The ruby-throated hummingbird has one of the smallest nests, measuring only 1 inch across and 1 inch deep (think of a 1-inch-thick quarter). Bald eagles have large nests that are 5 feet across and 6 feet deep.
Bird Nest 3

Date Found: ____________________________

Where was the nest located? In a shrub, a tree, on the ground, near the water?

___________________________________________________________________________

___________________________________________________________________________

How big was the nest? Use a ruler to measure its depth and its diameter (how far across).___________________________________________________________________________

___________________________________________________________________________

What type of materials were used to build the nest? ________________________________

___________________________________________________________________________

___________________________________________________________________________

Is the nest being used? If so, what species of bird is in the nest?____________________

___________________________________________________________________________

If it is not being used, what kind of bird do you think built the nest? _____________

___________________________________________________________________________

List any details you can note that would help you to identify this nest, such as its exact position on a tree. Is it suspended from a branch, built in a fork, built out on the limb, in a cavity of a hollow tree? ____________________________

___________________________________________________________________________

Check when section is complete.
Activity 9: Bird Nest Matching

Using the nest pictures and descriptions of birds, match the bird species with the appropriate nest.

1. **European starling**—This bird is often found in city areas. It likes to eat fruit and seeds. It nests in an area with other birds of its kind and will locate its nest in any cavity such as holes in trees, eaves of houses or buildings. The male begins building the nest and then the female completes it.

2. **Eastern bluebird**—You can find this bird in open field areas. It likes to eat insects, fruit, and earthworms. It lays four to five bluish eggs in an already excavated cavity of a tree, such as the former nest of a woodpecker or in a nesting box.

3. **Common nighthawk**—This bird is common to city areas where it eats insects at night. It doesn’t make a nest but will lay its eggs (usually two white eggs with green spots) on gravel rooftops or old tree stumps.

4. **Red-tailed hawk**—This bird is a raptor and likes to eat insects, small birds, and snakes. Both the male and female build the sturdy nest, which is found high in a tall tree or on a rocky ledge and is made of sticks lined with bark and green vegetation.

5. **Downy woodpecker**—These birds live in forested areas and eat insects that are in the bark of trees. Each year it makes a new nest by digging a hole in a tree and then padding it with lichens and moss.

6. **Ruby-throated hummingbird**—This bird has the smallest nest. Its walnut-sized nest is found in a tree. It is held together by spider silk and covered with green lichens. The bird likes to feed on the nectar of flowers.

7. **Blue jay**—This bird is often found in back yards and likes to eat a variety of plants and animals, but mostly feeds on insects. It lays four to five greenish eggs. Its nest is made of sticks and grass and is cradled in the notch of a tree, typically an evergreen.

Use the ruler as a guide to help you estimate nest size.

(Assignment key on page 37.)

Check when section is complete.
Discovery Questions: Putting It All Together for Interest Areas 1, 2, 3, and 4

What have you learned about birds and bird-watching? Answer the questions below.

1. What type of clothes should be worn on a bird hike? Why? ________________
   ________________________________________________________________________
   ________________________________________________________________________
   ________________________________________________________________________

2. What equipment will you take on bird hikes? _____________________________
   ________________________________________________________________________
   ________________________________________________________________________
   ________________________________________________________________________

3. What characteristics do you use most often to identify a bird you are observing?
   ________________________________________________________________________
   ________________________________________________________________________
   ________________________________________________________________________

4. What five bird species have you most frequently seen?______________________
   ________________________________________________________________________
   ________________________________________________________________________
   ________________________________________________________________________

5. What different habitats do you plan to go birding in for this project?
   ________________________________________________________________________
   ________________________________________________________________________
   ________________________________________________________________________
6. How can you usually distinguish the male from the female of a species?

_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________

7. Using your field guide and your own observations, where would you expect to find the nest of a bluebird? ____________________________________________
_____________________________________________________________________
_____________________________________________________________________

8. What other sources of information have you used so far with this project?

_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________

9. What have you learned about identifying birds? In the squares on the following page are pictures of four different birds. Use your field guide to color in the bird pictures, including the noted color patterns and markings that would be found on the bird.
Color in the bird pictures below following the instructions in question 9 on the previous page.

Wood duck
Eastern towhee
Killdeer
Red-tailed hawk
Interest Area 5: Birds at Your Feeder

As part of this project, you will build, use, and exhibit a bird feeder. Plans for different kinds of bird feeders are included in the project book.

**FUN FACT**

**Bird Houses or Feeders?**

Putting bird houses up is another exciting way to see some beautiful birds. What’s the difference between a bird feeder and a bird house? The feeder is where the birds eat the food that has been provided for them, while a bird house is where they will find shelter to establish a nest. As birds are different sizes, so are the shapes and sizes of the houses they like to nest in. Bird houses are not “one size fits all.”

If you would like to build a bird house for your backyard or a woods or field nearby, check your local library for instructions and patterns.

**Bird Feeding Tips**

Fall is a great time to plan for birds who spend the winters here. Start in the early fall so that the birds will learn of the feeding station and its location before cold weather. After you have started feeding, it is very important that you continue it through to the summer. A great deal of harm can result if the birds depend on you feeding them and you stop before their native food is available.

Spring is also a good time to start a bird feeding project. Just remember that your feeder may become less attractive to the birds as the natural spring and summer fruits, seeds, and insects become available.

**Food**

Birds differ in the foods they eat. Birds that ordinarily eat insects must be fed animal food such as suet. Seed-eating birds will eat little but seeds. Some will eat both. You can attract particular kinds of birds with the types of feeds you put in your feeder. The following are some of the most satisfactory foods:

- **Suet**—Firm, white beef suet is the best bird food. Suet chunks may be poked into a suet log feeder, or put in a wire basket or onion bag and hung from a tree (see instructions on page 32). Only birds driven by cold and hunger will feed on stringy or bloody suet. Woodpeckers will eat very little other than suet. Blue jays, chickadees, nuthatches, and others will feed on suet.

- **Cornmeal**—Cornmeal may be added to melted lard to make a thick pudding. This mixture can be put in holes in a suet log feeder.

- **Sunflower seed**—Chickadees and many other birds eat these large seeds. Birds tend to prefer the black-oiled sunflower seed more than the larger black stripe or gray stripe sunflower seeds. If you grow your own sunflowers, leave the seeds in the flower head to be eaten by the birds.
**Millet**—This is the common name for several plants of the grass family. Proso millet is the primary cereal cultivated in Africa and Asia, while Foxtail millet is the common millet in the United States. Most seed-eating birds will eat millet.

**Cracked corn**—This is eaten by juncos, sparrows, cardinals, blue jays, and others.

**Thistle** (also known as niger seed)—These black seeds are a favorite of many birds.

**Commercial bird seed**—Commercial seed mixes, often sold by the bag, are mixes of a variety of seeds. Although these commercial mixes may seem less expensive per pound than other feed, they may not be a good investment because some types of seed are not eaten. This means that you may be buying 20 pounds of bird feed, but the feed includes 5 pounds of a seed that the birds around your home will not eat.

### Digging Deeper: Birds and Their Feed (Optional)

If you purchase a commercial bird seed mix, use this activity to discover what kinds of seeds are eaten, and what kinds of seeds are not eaten by the birds that visit your feeder.

1. Take a trip to a nearby hardware or general store and record the different types of commercial bird seed mixes that are available. List the variety of seeds in three different mixes.

   **Variety 1** _______________________________________________________________

   **Variety 2** _______________________________________________________________

   **Variety 3** _______________________________________________________________

2. Purchase a small amount of commercial bird seed. Put the seed in your feeders. Observe and record the types of seeds the birds are eating. Then go out to your feeders and record the types of seeds that the birds are scattering on the ground.

   **Seeds that are eaten** _______________________________________________________

   **Seeds that are scattered** ___________________________________________________
**What Not to Feed the Birds**

It makes sense that the dietary needs of birds would be different than our nutritional needs. Likewise, not all food that people eat is good for birds. There are three foods you should avoid feeding to birds: bread, rice, and popcorn. Even though they love bread scraps and rice, the refined flours commonly used to make the bread or converted or wild rice are not healthy for the digestive systems of birds. And the salt and butter flavor on popcorn is not healthy for our feathered friends.

**Water**

Water is one of the most important substances of life—second only to air. Like you or me, birds can live only a few days without water. You can provide a source of water for birds by setting up a bird bath. Make your own by using a large cake pan or another shallow container. Be sure to clean the bird bath weekly and replace or replenish the water every three to four days. To prevent water from freezing in the winter, you can purchase bird bath heaters at a hardware store.

There is nothing we can substitute for water. Since it is so important to life of all kinds, it is very important that we protect the supplies of clean water. Keeping rivers, lakes, and underground water areas clean benefits both birds and people.

There is more than enough water on the earth to meet all needs. The problem is it is not always in the right place or is not clean enough. We must all help keep our water clean and safe. You can help by properly disposing of used oil products like motor oil, cooking oil, paint, etc., and other chemical products used around the house. Do not dump them down the drain or throw them in the trash. For information on proper disposal of waste products, check with your county Extension office.

**Where to Put Your Feeder**

Since you want to observe the birds that come to your feeder, place it in a location where you can see it easily. Also be sure to place the feeder close to shrubs or trees so your guests can fly into the branches for protection and shelter.

**Keeping Feeders Clean and Healthy**

No matter what type of bird feeder you use, you will want to keep it clean. The birds at your feeder will likely remain healthier if you can keep the feeder free from molds, fungus, and diseases. When you feed the birds, you should replace the feed in your feeders often to make sure it is not wet. Wet food can easily become moldy or spoiled.

Also, twice a year you should clean your feeders. Ask an adult to help you with this step. To clean the feeder, scrub it with a mixed solution of bleach and warm water (1 part bleach to 9 parts warm water). **Always have an adult help you when you use bleach.** The bleach in the water solution will kill harmful bacteria, fungus, and molds. Rinse the feeder well and then let it dry for 48 hours before replacing the feed and returning it to its location outdoors. Be sure to wash your hands after cleaning your feeder!
Discovery Questions: Reviewing Birds and Planning Your Feeder

Take just a few minutes to think about all that you have learned so far. The next step is to use this information to plan the feeders you will be putting out to attract the birds you want to see. Answer the questions below.

1. Why is it important to feed birds during the winter? 
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________

2. What would happen if you suddenly stopped feeding the birds you attracted to your feeders? 
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________

3. What kinds of birds are currently visiting near your home? 
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________

4. Are there some birds that need food more than others during the winter? 
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________

5. When is the best time to start and stop feeding the birds in your area? 
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
6. What types of birds do you hope to attract to your feeders? __________________
   ______________________________________________________________________
   ______________________________________________________________________
   ______________________________________________________________________

7. Using the resources you have discovered, what type of feeds will you plan to put out for the birds to eat? ________________________________
   ______________________________________________________________________
   ______________________________________________________________________

8. Thinking about the size of the birds you want to attract, what type of feeders do you plan to build? ________________________________
   ______________________________________________________________________
Activity 10: Building Your Feeders

Complete at least two of the four following building activities: (1) plastic milk jug feeder, (2) suet feeder, (3) paper milk carton feeder, (4) platform feeder.

Plastic Milk Jug Feeder

What you will need:
• plastic milk jug (keep the cap on the top of the jug to keep out rain)
• kitchen knife and/or heavy duty scissors (adult use only)
• small sticks (less than one-half inch in diameter and about 18 inches long)
• cord or wire

Follow these directions:
1. With the help of an adult, cut four holes in the four sides of the jug—one hole per side. Each hole should be 2–3 inches in diameter.
2. Cut a small hole (about one-half inch in diameter) about 1 inch below each of the large holes.
3. Using the two small sticks, insert them through the small holes so that they cross each other inside the jug and project equal amounts out of each side of the jug.
4. Fill the bottom of the jug with bird seed.
5. Use a cord to hang the jug from a tree limb or other support.
6. Have fun watching the birds that come to your feeder.

Suet Feeder

What you will need:
• small piece of one-half inch hardware cloth
• nails or tacks
• hammer
• log
• drill (adult use only)
• screw hook and wire

Follow these directions:
1. Choose to build one or both of the suet feeders below.
2. For the tree suet feeder, simply tack a small piece of one-half inch hardware cloth to a tree. The hardware cloth should not lie flat against the tree, but be shaped like a bowl and then tacked onto the tree. Add suet chunks into the open space between the hardware cloth and the tree.
3. For the suet log, drill holes 1 inch deep into a log that is 3 inches in diameter and at least 2 feet long. Fill the holes with chunks of suet or peanut butter. Attach the screw hook and wire to one end of the log and hang from a tree.
4. You can buy suet chunks at a local hardware or general store.
Common Species of Ohio Birds

To help you learn to identify different bird species, here are some full-color pictures of birds you may see around your home or in your daily travels.

Northern cardinal, female

Northern cardinal, male

Eastern bluebird

American robin

American crow

Mourning dove
Turkey vulture

Carolina chickadee

Ring-billed gull

Eastern screech owl

Downy woodpecker

Blue jay

SUMMER 2020
Paper Milk Carton Feeder
What you will need:
• half-gallon milk container
• stapler
• tape
• hole punch
• wire or pipe cleaners
• kitchen knife or scissors (adult use only)

Follow these directions:
1. Close and staple together the sides of the spout of a half-gallon paper milk container. Seal the whole top edge with tape and then punch a small hole about a quarter of an inch from the top. Thread a wire or pipe cleaner ring through the hole.
2. Set the carton upright. With the help of an adult, cut two small holes about an 1 1/2 inches from the bottom on opposite sides. Poke a chopstick or unsharpened pencil through the holes so it sticks out on both sides. This is the perch.
3. One-half inch above the perch on one side, have an adult help you cut a 2 inch square flap that swings up. Fasten the flap in the open position with a wire or pipe cleaner (see illustration).
4. Use a funnel to pour bird seed into the flap opening. Hang the bird feeder by attaching a wire from the loop in the top of the feeder to a tree branch.

Platform Feeder
Have an adult help you with all the steps of building this feeder.

What you will need:
• 12-by-18-inch piece of 3/4-inch plywood for tray
• 3/4-by-2-inch strips of scrap lumber
• drill (adult use only)
• hammer
• nails
• post hole pipe or screw eyes and rope/wire

Follow these directions:
1. Nail the 2-inch strips as a lip all around the platform made from the 12-by-18-inch piece of plywood.
2. Drill a few 1/8-inch holes into the tray to allow for drainage of water.
3. Mount the platform on the post pipe or hang from a tree by placing screw eyes in four corners and tying with rope cord or wire.
Other Tidbits

Fill holes in a small section of log with suet mixed with grain or sunflower seeds. Small shallow cans filled with the same mixture and tacked onto trees are also good. A piece of suet or an ear of corn will attract blue jays and woodpeckers. For the seed eaters, a mixture of sunflower seeds, cracked corn, and unsalted peanut hearts is good. Pine cones smeared with peanut butter and then rolled in bird seed or raisins can be hung from trees to feed some birds.

Keeping Records

Remember to keep track of the kinds of birds that are attracted to your feeders or birds that you have seen on bird-watching field trips.

Digging Deeper (Optional)

Invited Summer Guests: Hummingbird Feeders

Have you ever wanted to see a hummingbird up close—to watch as it hovers like a helicopter and then flies forward, backward, or even sideways? If hummingbirds live in your area, you can. In summer, seed-eating birds may not be as plentiful at the feeders but it is an excellent time to feed hummingbirds. All you have to do is follow the directions for building a hummingbird feeder. Then fill your feeder with homemade nectar and hang it outdoors.

In Ohio, hummingbird feeders should be put out mid-April and left until mid-October.

Hummingbird Feeder

What you will need:
• three small jars with lids
• hammer
• three nails
• waterproof paint
• stiff wire
• 1 cup water
• 1/4 cup sugar

Be sure to ask an adult to help you with the construction of these feeders. Hammer a nail through each of the lids to make a hole about 1/8 inch in diameter. Turn each lid over and flatten the rough edges by tapping lightly with your hammer. Using waterproof paint, paint a large red flower on top of one lid, a large flower in the color of your choice on the second lid, and leave the third plain. Wrap some stiff wire around the neck of each jar. Twist the wire just tight enough to stay on.

Next, make some hummingbird “nectar.” Bring 1 cup of water to a boil and add 1/4 cup sugar. Make sure the sugar dissolves completely. Do not substitute honey for the sugar. A honey mixture may cause a disease in the birds. Food coloring is not necessary.

After the syrup is cool, fill each feeder. Store any extra syrup in the refrigerator. Put the lids on the feeders and hang them in a spot that doesn’t get direct sunlight.
When a hummingbird sees the red “flower” on your feeder, it will think the flower is real. And the bird knows that most red flowers have lots of nectar. (A hummingbird loves nectar. It may drink up to seven times its body weight in nectar in one day.) So while the hummingbird drinks your nectar, you can get a really good look at this incredible flying machine.

Red seems to be a preferred color, but a good experiment would be to measure the same amount of nectar into each feeder. Watch, if you can, to see how many visits hummingbirds make to each of the three feeders in any period of time. At the end of two weeks, compare the contents of each feeder to see what was the order of preference. Which color of lid was preferred more by the hummingbirds?

Wash your feeder every four days (with the exception of the experiment described above). Pour a little vinegar into the jar and scrub it with a brush. When the jar looks clean, rinse it well and fill it with fresh syrup.

### Hummingbird Feeder Record Sheet

<table>
<thead>
<tr>
<th>Date Nectar Checked</th>
<th>Red Flower on Lid</th>
<th>Other Color Flower Lid</th>
<th>Plain Lid</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Amount of Nectar Left</td>
<td>Amount of Nectar Left</td>
<td>Amount of Nectar Left</td>
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<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
Record Sheet for First Year of Project
(Make copies of blank form before using and keep copies with your project book.)

<table>
<thead>
<tr>
<th>Date</th>
<th>Bird Name</th>
<th>Habitat (Where did you see the bird?)</th>
<th>Characteristics (What did the bird look like when you saw it?)</th>
</tr>
</thead>
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<td></td>
</tr>
</tbody>
</table>
Answer Key for First Year of Project

Activity 4: Birds and Their Habitats (from page 12)

Possible Answers

Forests/Woodlands: Eastern towhee, great horned owl, barred owl, downy woodpecker, American robin, turkey vulture

Pond/Stream: Great blue heron, mallard, double-crested cormorant, American widgeon, Canada goose, ring-billed gull, hooded merganser

Grasslands/Fencerow: Canada goose, chipping sparrow, eastern bluebird, killdeer, turkey vulture, American woodcock, Eastern bluebird

Urban/City/Suburb: American robin, northern cardinal, European starling, mourning dove, blue jay, house sparrow

Activity 7: Birds and Their Colors (from page 17)

See these birds in full color at allaboutbirds.org. Listen to their calls, see where they live, and learn about their life histories.

Answers

Yellow and black distinctive features to be drawn/colored:

**Hooded warbler:**
- yellow—forehead and cheek, breast and belly
- black—hood (crown), neck collar, and chin

**American goldfinch:**
- yellow—cheek, chin, neck, back, chest, and belly
- black—crown and forehead, wings, and tail

**Common yellowthroat:**
- yellow—chin, throat, and breast
- black—forehead and cheeks (black mask)

**Eastern meadowlark:**
- yellow—chin, chest, belly, and eyebrow in front of eye
- black—eyestripe and “necklace” in front of neck and throat

Activity 9: Bird Nest Matching (from page 23)

Member Project Guide for Second Year of Project

Introduction

Welcome to Ohio Birds! This is an exciting two-year project for members of any age who are interested in learning about birds. Younger members who take this project need the support of a knowledgeable adult who is available to offer guidance and direction. Your study of birds does not have to take place two years in a row, and you are welcome to complete more of the book than is required below.

The first year includes observing and identifying 20 different bird species and building and using two types of bird feeders. The second year is about observing and identifying 30 more bird species and about conducting field studies.

Check your county’s project guidelines (if any) for additional requirements, especially if you choose to participate in county project judging or prepare an exhibit for the fair.

Learn About Birds Together

Bird watching is a popular group activity enjoyed by people all over the world, and Ohio Birds makes a great group activity too. By completing the project as a group, 4-H members benefit from each other’s knowledge and see more birds because more people are involved. Consider making this project a family activity.

General Project Guidelines

1. Complete the planning section of this guide (steps 1 through 4).
2. Explore all Interest Areas.
3. Complete the project activity and discovery questions in each Interest Area.
4. Observe and record at least 30 different species of birds in addition to the 20 recorded for the first year of this project.
5. Take part in at least two Learning Experiences.
6. Become involved in at least two Leadership/Citizenship activities.
7. Write a one-page story of the important things you learned from this project.

Planning Your Project

Step 1: Activity Guides

Explore both Interest Areas listed below. As you begin to explore an Interest Area, place the current date (month and year) next to it.

<table>
<thead>
<tr>
<th>Date Started</th>
<th>Interest Areas</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1. Bird Identification Review, page 42</td>
</tr>
<tr>
<td></td>
<td>2. Adaptations to Habitats</td>
</tr>
<tr>
<td></td>
<td>a. Water Habitats, page 44</td>
</tr>
<tr>
<td></td>
<td>b. Wooded Habitats, page 47</td>
</tr>
<tr>
<td></td>
<td>c. The Meadow or Grassland Habitats, page 50</td>
</tr>
</tbody>
</table>
Step 2: Things to Do

Plan to complete the project activities and discovery questions in each Interest Area. Have your parent or advisor initial and date what you complete. You must also complete two of the three Digging Deeper activities in the second year portion of this project.

<table>
<thead>
<tr>
<th>Interest Area</th>
<th>Date Completed</th>
<th>Activities and Discovery Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Bird Identification Review</td>
<td>_______</td>
<td>1. Similarities and Differences</td>
</tr>
<tr>
<td></td>
<td>_______</td>
<td>2. Using the Record Sheet for Year Two</td>
</tr>
<tr>
<td>2. Adaptations to Habitats</td>
<td>_______</td>
<td>Discovery Questions About Birds in Water Habitats</td>
</tr>
<tr>
<td>Water Habitats</td>
<td>_______</td>
<td>Discovery Questions About Birds in Wooded Habitats</td>
</tr>
<tr>
<td>Wooded Habitats</td>
<td>_______</td>
<td>Discovery Questions About Birds in the Meadow or Grassland Habitats</td>
</tr>
<tr>
<td>The Meadow or Grassland Habitats</td>
<td>_______</td>
<td>3. Water Habitat—Bird Count</td>
</tr>
<tr>
<td>Digging Deeper Activities</td>
<td>_______</td>
<td>4. Wooded Habitat—Bird Symbols in Our Culture</td>
</tr>
<tr>
<td>(Must complete 2 of 3)</td>
<td>_______</td>
<td>5. Grassland Habitat—Make a Behavior Map</td>
</tr>
</tbody>
</table>

Step 3: Learning Experiences

Select two of the Learning Experiences listed below and plan your involvement in the “Report of Learning Experiences” chart. Before starting your project, write your choices in the section labeled “Plan to Do.” Once you have taken part in an activity, record what you did and when. You may add or change Learning Experiences at any time.

Learning Experiences

- Plan to give a presentation about something you have learned in this project to a local chapter of the Audubon Society.
- Create an exhibit about birds and their habitats and display at your local library.
- With an adult chaperon, visit one of Ohio’s state parks or natural areas and record the different habitats at each park and count how many and what kind of different birds you see in each habitat.
- Participate in your county’s project judging.
- Tour the natural history section of a museum.

(Continued on next page)
Report of Learning Experiences

<table>
<thead>
<tr>
<th>Plan to Do</th>
<th>What I Did</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>(example) Tour</td>
<td>Traveled with club to the Field Museum of Natural History in Chicago.</td>
<td>April 10</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Or, plan your own activities here:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<tr>
<td></td>
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</tbody>
</table>

SUMMER 2020
Step 4: Leadership/Citizenship Activities

Place a check mark by the activities you wish to do or plan your own in the space provided. Do at least two. Keep track of your progress by dating (month and year) what you complete. You may add or change Leadership/Citizenship Activities at any time.

<table>
<thead>
<tr>
<th>Plan to Do</th>
<th>When I Finished</th>
<th>Leadership/Citizenship Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐</td>
<td>______</td>
<td>Encourage someone to take an Ohio Birds project.</td>
</tr>
<tr>
<td>☐</td>
<td>______</td>
<td>Help someone with his or her Ohio Birds project.</td>
</tr>
<tr>
<td>☐</td>
<td>______</td>
<td>Organize a 4-H bird-watching club in your community.</td>
</tr>
<tr>
<td>☐</td>
<td>______</td>
<td>Arrange for your club to tour a wildlife rehabilitation facility.</td>
</tr>
<tr>
<td>☐</td>
<td>______</td>
<td>Work with club members to improve a forest, field, or marsh area for birds.</td>
</tr>
<tr>
<td>☐</td>
<td>______</td>
<td>Have your club buy and donate books about birds to your local library.</td>
</tr>
<tr>
<td>☐</td>
<td>______</td>
<td>Help a member prepare for project judging at the county fair.</td>
</tr>
<tr>
<td>☐</td>
<td>______</td>
<td>Organize a fundraiser for an environmental organization in your community.</td>
</tr>
<tr>
<td>☐</td>
<td>______</td>
<td>Take your club on a tour of your favorite birding spot and let them observe and try to identify the birds.</td>
</tr>
<tr>
<td>☐</td>
<td>______</td>
<td>Or, plan your own activities here: _______________________</td>
</tr>
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<td>______________________________________________________</td>
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<td>______________________________________________________</td>
</tr>
</tbody>
</table>

Project Review

Once you complete your project, write a one-page story on a separate piece of paper focusing on what you learned in your project. Then have your parent or advisor review your project accomplishments with you. Depending on your county, you could participate in county project judging.
Observing Birds in Different Habitats

During the first year of this project, your emphasis was on observing the birds in your nearby area. The next step in your adventure is to visit different habitats and observe the variety of birds at each place. Most of the birds you will see in each of the habitats are there because that is where they find their favorite food, nesting and resting sites, and protection from enemies.

Interest Area 1: Bird Identification Review

Activity 1: Similarities and Differences

Practice the identification skills you learned in the first part of this book. Take a look at these two pictures of Ohio birds, the Northern mockingbird and the Mourning dove. What similarities and differences do you see in the characteristics of size, shape of head and beak, and color patterns? Record your findings on the chart on the next page. You may use your field guide to help you with this exercise.
<table>
<thead>
<tr>
<th>What characteristics are similar?</th>
<th>What characteristics are different?</th>
</tr>
</thead>
<tbody>
<tr>
<td>(If there are no similarities, write “none.”)</td>
<td>(If there are no differences, write “none.”)</td>
</tr>
<tr>
<td>Size</td>
<td></td>
</tr>
<tr>
<td>Shape of head and beak</td>
<td></td>
</tr>
<tr>
<td>Color pattern</td>
<td></td>
</tr>
<tr>
<td>Behavior</td>
<td></td>
</tr>
<tr>
<td>Voice (if you hear them)</td>
<td></td>
</tr>
<tr>
<td>Habitat features</td>
<td></td>
</tr>
<tr>
<td>Diet</td>
<td></td>
</tr>
<tr>
<td>If looking at just their silhouettes, what characteristics can you identify?</td>
<td></td>
</tr>
</tbody>
</table>

Remember to watch the habits of the different birds closely. The best time of day to see and hear birds in the different habitats is early morning or late afternoon and evening. When going on a birding field trip, schedule the trip to begin one hour before sunrise and continue for one or two hours after sunrise. You will enjoy the experience. Through the heat of the day there is little activity. The best times of year are spring and fall.

Remember to do your bird-watching quietly. If possible, walk slowly along a trail or sit on a stump and wait quietly. Few birds will be seen if you crash into their habitat at top speed. A bird's sense of taste, touch, and smell are not as good as ours but their sight and hearing is keener. Often they will see or hear you first and head for cover.

To help you see more birds, try lying on your stomach and conceal yourself well. Birds that are scared when seeing the upright figure of a person may show no fear of someone stretched out on the ground. They may be curious enough to approach you. If this is tried in the summer, do not forget insect repellant. One slap at a pesky mosquito will scare the birds. This is a good time and place to try calling birds. Imitate some of the birds you hear. Refer to the suggestions earlier in the book on calling birds.
Activity 2: Using the Record Sheet for Year Two

To start the second year of this project, take some time to review the Record Sheet for Second Year of Project on page 59. As you observe new species of birds, and drawing upon what you learned in the first year about the different characteristics of bird species, be sure to note the many details requested on the record sheet.

Interest Area 2: Adaptations to Habitats

Water Habitats

There are many water habitats in Ohio where birds may live. Water habitats may include ponds, lakes, wetlands, marshes, streams, and rivers. These water habitats provide the birds with a food source (from fish, insects, and other animals that live in or near the water), nesting locations, and safety from predators.

When you think of water birds, probably the first that come to mind are ducks and geese. There are many other birds that you will see in a water habitat. These include snipes, rails, coots, grebes, loons, sandpipers, gulls, and herons. By observing, you will learn a number of details about some of the birds you can find in and around Ohio’s water habitats. As you observe birds that live near or on the water, notice how they are well adapted to living in this type of habitat.

Visit different water habitats to observe waterfowl and other birds that live near water. Use the Record Sheet on page 59 to record what birds you observed.
FUN FACT

Dabblers and Divers

What’s the difference between a “dabbler” and a “diver”? While watching ducks feed on an open body of water, notice that some ducks disappear under the water, while some ducks are always on the surface. “Dabbling” ducks skim their food from the water’s surface or in the top few inches of water. They may tip their bodies into the water or use their beaks to skim the surface to eat seeds and plants that grow in water. Divers, on the other hand, eat fish and aquatic invertebrates and must dive deeper into the water to find their food. Also, most “diving” ducks are only seen in Ohio during spring and autumn, when they are migrating through to other destinations.

Discovery Questions About Birds in Water Habitats

1. What kind of birds have you observed during your explorations to different water habitats? ______________________________________________________
   ______________________________________________________
   ______________________________________________________

2. How have birds adapted themselves to this habitat? Consider physical characteristics, housing, feeding habits, and rearing of young. __________
   ______________________________________________________
   ______________________________________________________
   ______________________________________________________
3. What birds in water habitats live there year-round?

_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________

4. What birds migrate from the water habitat during winter and to where do you think they migrate?

_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________

5. What are the main food resources that provide nourishment to birds in water habitats?

_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________

6. Using information in your project book and in your field guide, explain the differences between surface feeding (dabbling) ducks and diving ducks.

_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
**Wooded Habitats**

Forests provide food and shelter for many types of wildlife. Your visits to a forest or heavily wooded area will provide you with a wonderful variety of birds to see in their natural habitat.

There are different kinds of trees that make up the forest, too. Different types of forests are homes to different birds. Trees can be categorized into two large groups: broadleaf or deciduous, and conifer or evergreen. Deciduous trees lose their leaves in the fall while evergreen trees typically maintain their leaves year-round. Most of the Ohio forests are deciduous trees with the major forest types being oak-hickory, maple-beech-birch, and elm-ash-red maple.

**FUN FACT**

**Ohio Forests**

The forests in Ohio are considered to be a part of the Appalachian Hardwood Region based on the kinds of trees commonly found here. The most abundant species of trees are the red and white oaks (25 percent of the tree volume) followed by the red and sugar maples (18 percent).

Where can you go to find a forest habitat? If you live in rural parts of Ohio, you will have no difficulty going to the forest. If you live in the city, go to a metro park, nearby game preserve, or camp area to see the birds that live there. Birds are such versatile creatures that they can make their homes in many places.
One of the first and most common birds you will see in the woods will be the woodpecker. They get their food supply of grubs and insects from bark and decaying wood of trees. They lay their eggs in deep cavities in tree trunks. You could safely say if there were no trees there would be no woodpeckers. They can be found anywhere in Ohio woods, any season of the year.

Some other common birds to look for in the woods are the Eastern towhee, various warblers, the owls (especially the great horned owl), cardinals, juncos, tufted titmice, nuthatches, and chickadees.

Visit different wooded habitats to observe the birds that live there. Use the Record Sheet on page 59 to record what birds you observed.

**FUN FACT**

**The Ruffed Grouse**

In the rugged wooded hills of southeastern Ohio, the ruffed grouse can be seen and heard drumming on logs. Do not miss this demonstration if you have an opportunity. They drum at any time of the year, but more often in April and May. The ruffed grouse is one of the prize game birds of the state.

**FUN FACT**

**Ohio Natural Areas and Preserves**

Ohio has many wonderful natural areas and preserves that you can visit. You can contact the Department of Natural Resources at (614) 265-6565 to receive a complete listing of these areas and their locations.

**Discovery Questions About Birds in Wooded Habitats**

1. What kind of birds have you observed during your explorations in a forest habitat? ____________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

2. How have birds adapted themselves to this habitat? Consider physical characteristics, housing, feeding habits, and rearing of young. __________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
3. What birds in the forest habitat live there year-round?

_____________________________________________________________________

_____________________________________________________________________

_____________________________________________________________________

4. What birds migrate from the forest habitat during winter?

_____________________________________________________________________

_____________________________________________________________________

_____________________________________________________________________

5. What benefits do birds provide to the forest habitat?

_____________________________________________________________________

_____________________________________________________________________

_____________________________________________________________________

6. What are some of the behavioral characteristics of the birds that live in this habitat?

_____________________________________________________________________

_____________________________________________________________________

_____________________________________________________________________

Check when section is complete.
The Meadow or Grassland Habitats

By now you are well on your way to becoming a “seasoned” ornithologist. An ornithologist is a person who studies birds.

What is a meadow or grassland? For the purposes of birding, the meadow is an area where grasses are the dominant plants. Your trip to the meadow can include visiting open fields such as cornfields, grassy meadows, or even the fence rows along pastures. Check the brushy fence rows as well as the ground and small trees for birds and nests. Many of the birds of the meadow are ground nesting birds that feed on insects and weed seeds.

A common bird of the open fields and meadows that is easily identified is the Eastern meadowlark. It is slightly larger than a robin and the main identifying mark is a bright yellow breast with a broad black “V” on the yellow. Refer to the first year of your book (p. 17) where you colored in a picture of the meadowlark. The nests of these birds are well hidden under a tuft of clover, sedge, or grass. The nests are made of stems and coarse grass and are lined with fine blades of grass. They have a short winding path with a covered, arched entrance. The female meadowlark lays four to six eggs that are crystal white and spotted with chestnut and reddish brown.

Other common birds to look for in the meadows are the field sparrows, red-winged blackbirds, song sparrows, American goldfinches, and American kestrels.

You will soon understand how the birds of the meadow have adjusted to living in this habitat.

Besides making ground nests, what other adjustments have these birds made to survive in the meadow? Pay special attention to the colors and behaviors of the birds.

Visit different meadow habitats to observe the birds that live there. Use the Record Sheet on page 59 to record what birds you observed.

WORDS TO KNOW
ornithologist: a person who studies birds
Discovery Questions About Birds in the Meadow or Grassland Habitats

1. What kind of birds have you observed during your explorations in a meadow or grassland habitat? ______________________________________________________
   ___________________________________________________________________
   ___________________________________________________________________
   ___________________________________________________________________

2. What are some characteristics of their behavior? ________________
   ___________________________________________________________________
   ___________________________________________________________________
   ___________________________________________________________________
   ___________________________________________________________________

3. How have birds adapted themselves to this habitat? Consider physical characteristics, housing, feeding habits, and rearing of young. __________
   ___________________________________________________________________
   ___________________________________________________________________
   ___________________________________________________________________
   ___________________________________________________________________
   ___________________________________________________________________

4. What birds in the grassland habitat live there year-round? __________
   ___________________________________________________________________
   ___________________________________________________________________
   ___________________________________________________________________
   ___________________________________________________________________

5. What birds migrate from the grassland habitat during the winter? ______
   ___________________________________________________________________
   ___________________________________________________________________
6. What benefits do birds provide to the grassland habitat? __________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________

7. Imagine that the population of the carnivores (meat eaters) of the grassland had been greatly reduced due to people over hunting the area. What changes would you predict would happen to the grassland? Think about changes that might happen to the population of the bird species, their food supply, and their nesting spaces._______________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________

FUN FACT

Birding on the Internet
The internet is a great way to learn more about birds. Just search for “birding resources” or “all about birds” to get started.
Digging Deeper Activities

Complete two of the following three activities.

Activity 3: Water Habitat—Bird Count

For this activity, you will visit two separate water habitats to determine the difference between the two habitats and observe what birds you see in each habitat. Here are a few guidelines:

1. Select two different water habitats that you will be able to visit. You will want to visit each habitat three times. This means that you will be going on six field trips—three visits to each of the two habitats you have selected.

2. When you visit each water habitat, try to make your visits at the same time of the day. You will want to spend at least one-half hour on each visit. This will give you enough time to observe and count the birds.

3. You will be listing all of the birds you can identify, as well as an approximate number of how many birds of that same species you observe during your visit. These birds can be on or near the water.

Here’s an example of how you will complete your observation data.

Date: Example  Time of day: 8:30 a.m. to 9:00 a.m.

Weather: Cloudy, and the radio weather report said that the temperature was 52 degrees Fahrenheit.

Birds species that you see and numbers of each species.

22 Canada geese, 15 mallards, 2 blue-winged teals, 2 great blue herons flew over, 2 northern orioles and 5 song sparrows were in a tree nearby, and 1 pied-billed grebe.

Questions

1. At which location did you see the most bird species? Why? ________________  

____________________________________________________________________

____________________________________________________________________

____________________________________________________________________

2. At which location did you see several individuals of the same bird species? Why? ________________  

____________________________________________________________________

____________________________________________________________________

____________________________________________________________________
3. What bird species did you see at both of the water habitats you visited?

_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________

4. For bird species that you found at both water habitats, did you see the same number of birds? Were there similar vegetation types at both sites?

_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________

Once you have completed recording all of your observations, report the data you found to your 4-H club at one of your meetings.
Water Habitat 1

Fill in this information to describe the site of the first water habitat you are studying.

Location: ____________________________________________________________________

(Where is it? A state park, the backyard of your neighbor, a city park down the street from your house?)

Is the site a pond, lake, marsh, stream, or river? _______________________________________

What kind of vegetation is at the site? Look around the site and circle all the descriptors that are approximately within 100 yards (length of a football field) of the water habitat.

Shrubs

Forested area

Small clumps of trees

Grasslands

Sandy beach

Cattails and other plants growing in the water

Other ____________________________________________________________________________

You will make a total of three visits to this same water habitat. On each visit, be certain to record all of the information requested in the spaces provided.

Trip 1. Date: ______________  Time of day: ________________________________

Weather: ________________________________________________________________________

Birds species that you see and numbers of each species. ________________________________

___________________________________________________________________________

___________________________________________________________________________

___________________________________________________________________________

Trip 2. Date: ______________  Time of day: ________________________________

Weather: ________________________________________________________________________

Birds species that you see and numbers of each species. ________________________________

___________________________________________________________________________

___________________________________________________________________________

___________________________________________________________________________

Trip 3. Date: ______________  Time of day: ________________________________

Weather: ________________________________________________________________________

Birds species that you see and numbers of each species. ________________________________

___________________________________________________________________________

___________________________________________________________________________

___________________________________________________________________________
Water Habitat 2

Fill in this information to describe the site of the second water habitat you are studying.

Location: ________________________________________________________________________

(Where is it? A state park, the backyard of your neighbor, a city park down the street from your house?)

Is the site a pond, lake, marsh, stream, or river? _________________________________

What kind of vegetation is at the site? Look around the site and circle all the descriptors that are approximately within 100 yards (length of a football field) of the water habitat.

- Shrubs
- Forested area
- Small clumps of trees
- Grasslands
- Sandy beach
- Cattails and other plants growing in the water
- Other _______________________________________________________________________

You will make a total of three visits to this same water habitat. On each visit, be certain to record all of the information requested in the spaces provided.

---

Trip 1. Date: ____________  Time of day: ________________________________

Weather: ______________________________________________________________________

Birds species that you see and numbers of each species. ______________________________

______________________________________________________________________________

______________________________________________________________________________

______________________________________________________________________________

Trip 2. Date: ____________  Time of day: ________________________________

Weather: ______________________________________________________________________

Birds species that you see and numbers of each species. ______________________________

______________________________________________________________________________

______________________________________________________________________________

______________________________________________________________________________

Trip 3. Date: ____________  Time of day: ________________________________

Weather: ______________________________________________________________________

Birds species that you see and numbers of each species. ______________________________

______________________________________________________________________________

______________________________________________________________________________

______________________________________________________________________________
Activity 4: Wooded Habitat—Birds Symbols in Our Culture

In this activity, you will explore symbols of birds (such as the eagle, turkey, etc.) that can be found in songs, advertising, education, and other aspects of culture.

Make a Collage: Birds as Symbols

Many times, birds and animals are used as symbols to represent something else. The bald eagle symbolizes the American spirit. The turkey represents Thanksgiving. Look through magazines, newspapers, and music to find birds used as symbols. Make a collage that features the birds you find.

What Does It Mean?

Now that you have discovered birds being used in print, what do they represent? For example, a bird flying alone in the sky in the mountains might symbolize being alone, independent, or climbing to the top. What do you think the birds from your clippings represent? You may want to ask an adult for their opinions, too.

___________________________________________________________________________
___________________________________________________________________________
___________________________________________________________________________
___________________________________________________________________________
___________________________________________________________________________
___________________________________________________________________________
Activity 5: Grassland Habitat—Make a Behavior Map

For this activity, you will visit the same grassland habitat two times, in the spring and early summer. On a separate sheet of paper, draw a map of this grassland, being sure to indicate fencerows, shrubs, pools of water, etc.

Identify as many breeding pairs of three species as you can. Using your observation skills, find the locations of these birds’ nests in the field. Mark the location of their nests on your map.

Notice, too, where the birds spend their time when not at the nests. Where do they tend to do most of their feeding? Where do they go when they are calling others? Mark the locations where you observe these behaviors.

Now that you have observed these species of birds, what can you determine about the locations of nests and other activities of birds such as hunting or gathering food or attracting mates? Are there differences in where the females and males do these activities?

Once you have completed your map, report your findings to your 4-H club at one of your meetings.

Behavior Map Example

![Behavior Map Example](image)
Record Sheet for Second Year of Project

Date | Time | Weather | Habitat | Bird Name | Shape of Head and Beak | Size | Color | Behavior | Voice
--- | --- | --- | --- | --- | --- | --- | --- | --- | ---
Glossary

behavior. An animal’s actions. Look at behaviors such as feeding, nesting, and grooming to help identify specific birds.
carnivore. An animal that eats meat.
characteristic. A distinguishing trait, quality or property.
ecosystem. The interactions between all the living and nonliving things in a distinct area.
environment. The surroundings of a plant or animal.

game birds. Birds whose populations are managed by hunting under state and/or federal regulations.

habitat. The natural home of an animal or plant where it finds food and shelter and raises its family.
migration. An animal’s seasonal travel. Birds migrate to avoid bad weather and to collect food that is only available at certain times of the year.
ornithologist. A person who studies birds.
predator. An animal that kills and eats other animals.
prey. Animals that are killed and eaten by other animals.
How to Use This List

Below is a list of birds that can be seen in Ohio. Birds marked with an asterisk (*) are most commonly found. Use this list to keep track of the birds you have observed for your project. For the first year of the project, you are encouraged to identify and observe at least 20 different birds from a variety of habitat areas. For the second year of the project, you should identify and observe an additional 30 birds. You can study your field guide to learn more about each of the birds in the list (especially the birds with an asterisk). After studying your field guide, check off the birds that you can identify. Remember, many of the birds seen in Ohio can only be observed during certain seasons. Check the range maps in your field guide to determine when these birds will be in Ohio.

This is not a complete list of Ohio birds. You may observe birds that are not on this list. For a complete list, refer to your own field guide or one of the other suggested bird field guides on page 7.

When you see and identify a bird, place a check mark next to the bird’s name and record the date of the first time you saw the bird.

---

### A Checklist of Some of the Birds of Ohio

<table>
<thead>
<tr>
<th>Can Identify</th>
<th>Observed and Date</th>
<th>* Most commonly found in Ohio</th>
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<tr>
<td>Loons, Grebes</td>
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<td>☐ ☐ _________</td>
<td>Common loon</td>
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<td>☐ ☐ _________</td>
<td>Pied-billed grebe</td>
<td>☐ ☐ _________ Mallard*</td>
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<td>Herons, Bittern</td>
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<td>☐ ☐ _________</td>
<td>Great blue heron*</td>
<td>☐ ☐ _________ Northern pintail</td>
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<td>☐ ☐ _________</td>
<td>Black-crowned night heron</td>
<td>☐ ☐ _________ Northern shoveler</td>
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<td>American bittern</td>
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<td>Least bittern</td>
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<td>Geese, Ducks</td>
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<td>Canada goose*</td>
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<td>Eastern Wood Pewee, Eastern Phoebe, Great Crested Flycatcher, Eastern Kingbird</td>
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<td>Blue Jay*, American Crow*</td>
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<td><strong>Chickadees, Titmice</strong></td>
<td>Black-capped Chickadee* (all but SW Ohio), Carolina Chickadee* (all but northern edge of Ohio), Tufted Titmouse*</td>
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<td>Black-throated green warbler</td>
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<td>Blackburnian warbler</td>
<td>Common grackle*</td>
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<td>Cerulean warbler</td>
<td>Brown-headed cowbird</td>
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<td>Black-and-white warbler</td>
<td>Orchard oriole</td>
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<td>American redstart</td>
<td>Baltimore Oriole</td>
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<td>Hooded warbler</td>
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<td>Yellow-breasted chat</td>
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<td>Common yellowthroat</td>
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**Tanagers**

| Scarlet tanager |

**Cardinals, Grosbeaks**

| Northern cardinal* |
| Rose-breasted grosbeak |
| Indigo bunting |

**Towhees, Sparrows**

| Eastern towhee |
| American tree sparrow |
| Chipping sparrow |
| Field sparrow |
| Vesper sparrow |
| Fox sparrow |
| Song sparrow* |
| White-throated sparrow* |
| White-crowned sparrow |
| Dark-eyed junco |

**Meadowlarks, Blackbirds**

| Bobolink |
| Red-winged blackbird* |

**Grosbeaks, Finches**

| Purple finch |
| House finch* |
| American goldfinch* |
| Evening grosbeak |
| Pine siskin |

**Weaver Finches**

| House sparrow* |
Credits

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Alvin E. Staffan, Staff Photographer, Ohio Department of Natural Resources

Gary Meszaros, Photographer

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Forests of Ohio, The Ohio State University (1994)


Marilyn Ortt, 4-H Volunteer, Washington County

Project Wild, Western Association of Fish and Wildlife Agencies and The Council for Environmental Education (1992)


I pledge
My head to clearer thinking,
My heart to greater loyalty,
My hands to larger service,
My health to better living,
for my club, my community,
my country, and my world.