

LESSON PLAN:

Exploring Birds and Habitats of the Erie Canalway

OVERVIEW:

In addition to transporting goods and people, the waters of Erie Canal and surrounding habitats are critical to birds. This lesson adds a new dimension to studying the Erie Canal by introducing students to the fascinating world of birds and habitats found in the Erie Canalway National Heritage Corridor. Using birdwatching as a learning tool and engaging activities, students will explore and discover the birds that live in New York and their own neighborhoods.

Grade Level: 4 to 6

Note: This lesson can be modified to suit any grade level, making birdwatching an accessible and enjoyable learning experience.

Class Periods: One 30-to-60-minute class period

OBJECTIVES:

- Students will learn how to observe and describe birds using size, color, shape, and behavior.
- Students will understand that birds have special adaptations that help them survive.
- Students will practice being “junior ornithologists” (bird scientists) by recording observations.

MATERIALS NEEDED:

- Clipboards or notebooks
- Pencils
- Optional: Binoculars
- Bird pictures or a live bird cam (if outdoor observation isn’t possible)

VOCABULARY:

- **Aves:** The scientific name for birds.
- **Camouflage:** Colors or patterns that help animals hide.
- **Flock:** A group of birds that live or move together.
- **Habitat:** The place where a plant or animal lives.
- **Migration:** When animals travel far distances during certain seasons.
- **Ornithologist:** A scientist who studies birds.
- **Vertebrate:** Animals with a backbone.

NEW YORK STATE EDUCATION STANDARDS:

- 4-LS1-1:** Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction

BACKGROUND INFORMATION:

The Erie Canalway National Heritage Corridor includes a variety of habitats, including the canal itself, lakes, streams, rivers, wetlands, woodlands, and fields, as well as agricultural areas, cities and towns, and parks. These habitats are home to a variety of bird species. While exploring the Canalway Corridor you might spot Northern Cardinals, Blue Jays, Bald Eagles, Mallards, Ospreys, and many more.

This lesson highlights one of the most important areas for birds in the eastern United States: the Montezuma Wetlands Complex. Located at the northern end of Cayuga Lake, the complex covers about 50,000 acres of marshes, swamps, and grasslands.

- Portions of both the Erie and Cayuga-Seneca Canals run through this wetland system.
- Montezuma Wetlands Complex is part of the Atlantic Flyway, one of the busiest bird migration routes in North America.
- The complex supports more than 240 bird species, as well as many mammals, reptiles, and amphibians.
- The importance of the Montezuma Wetlands Complex comes from the rich habitats it provides for nesting, feeding, and resting for migratory birds, especially waterfowl and raptors.
- The complex is recognized as a globally significant Important Bird Area, making it vital for wildlife conservation and biodiversity in New York State.



Teacher Procedure

► WARM-UP DISCUSSION (10 MINUTES):

1. **Ask:** "What birds have you seen around your home or school?" *Students do not need to be able to name the species.*
 2. **Encourage descriptions:** color, size, where they were, what they were doing. For examples of common birds seen in Upstate New York- refer to the reference page included with this lesson.
 3. **Share fun facts:**
 - The official New York State bird is the Eastern Bluebird.
 - The smallest bird in New York State is the Ruby-throated Hummingbird.
 - The largest bird in New York State is the Mute Swan.
 - Birds have hollow bones, which makes them lighter and helps with flight.
 - Birds use a variety of songs and calls to communicate with each other.
 - Many birds travel long distances every year. They spend the winter in one place and the summer in another.
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► VOCABULARY ACTIVITY (10 MINUTES):

1. Hand out the "Birds: An Introduction" worksheet. This is an introduction to the observation activity and can be done individually or in small groups.
 2. Fill in the blanks using the word bank (Aves, camouflage, flock, habitat, migrate, vertebrate).
 3. Discuss answers together.
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► OUTDOOR BIRD OBSERVATION (15-20 MINUTES):

1. Explain to your students that the class will go outside and look around the schoolyard (or neighborhood, if you have that option) for some local, common birds. Go over tips for observing birds:
 - Students should walk quietly and slowly.
 - Don't get too close, or else they might scare the birds away.
 - While optional, binoculars may be helpful for students to see finer details and birds that are farther away.
2. Distribute the "Be an Ornithologist!" worksheet on clipboards with pencils. Instruct students to watch the birds carefully and record as many details as they can, just as scientists do in the field. You can explain to students that the birds they are watching may fly away or move about as they are observing them. This happens to scientists, too. Encourage them to observe the birds for a few minutes before taking notes. They can change or add to their observations as needed as they continue to watch.



SECTION 1: **TEACHER PROCEDURE**

Optional Modifications:

- Put up photos of common birds around the classroom to help students get familiar with some of the birds they might see outside. If weather or other factors prevent the class from going outside these pictures can be used to complete the observation activity indoors.
- Watch a live feeder cam online, such as the Cornell Lab of Ornithology at Sapsucker Woods to generate interest and excitement. If going outside isn't possible, students can do the "Be an Ornithologist!" worksheet from classroom photos and the feeder cam.
<https://www.allaboutbirds.org/cams/>

► **GROUP SHARING & DISCUSSION (10 MINUTES):**

1. Students share what they saw/sketched. Ask guiding questions:
 - a. "What food might birds find in the city vs. countryside?"
 - b. "Do you think living near people helps or hurts birds?"
2. Review: Birds are vertebrates, lay eggs, and have adaptations like feathers and migration.
3. Celebrate students as junior ornithologists who made real scientific observations!

Optional Extensions:

- Download Cornell Lab of Ornithology's **Merlin Bird Id app**. Use it on your walk to identify birds you hear.
- Create a "Bird Scientist Journal" for ongoing observations.

SECTION 1: **TEACHER KEY**► **BIRDS: AN INTRODUCTION**

Fill in the blanks from the Word Bank on the following page.

Birds belong to a class of animals called Aves. From pigeons in busy cities to penguins in icy places, all birds share some special traits. Every bird has wings, but not all birds can fly. All birds have feathers, and no other animals do.

Just like people, birds need food, water, and safe places to live and raise their families. But not all birds are alike. Some like to live in cities, others like the countryside, some need forests or wetlands or fields. The places where birds find food, water, and shelter are called habitats.

Physical Traits and Appearance:

Birds come in many shapes and sizes. The Bee Hummingbird is the smallest bird. It is only about 2.5 inches long and weighs about the same as a penny. The Common Ostrich is the largest bird. It can weigh up to 320 pounds and grow as tall as a refrigerator. Even though birds can be very different, all birds have two legs, two feet, and a bill.

Feathers can be dull brown or bright and colorful. In many species, males are more colorful than females. Female birds often have duller colors so they can camouflage or blend in while sitting on their nests. Feathers help birds fly, but they also protect them from water, heat, and cold. Many birds use oil from a gland near their tail to make their feathers waterproof.

Birds are warm-blooded, which means they keep the same body temperature no matter what the weather is. They are vertebrates that have backbones like mammals. But unlike mammals, birds lay eggs instead of giving birth to live young.

Behavior and Activity:

Bird's bodies have special features that help them fly. They have light bodies, hollow bones, strong chest muscles, and wings. Still, some birds cannot fly. Penguins use their wings like flippers to dive and swim, and ostriches use their strong legs to run fast.

Birds also behave in different ways. Some birds live alone, while others gather in groups called flocks. Birds make many kinds of sounds, including songs and calls. Most of the small songbirds you see have the most tuneful songs, which they use to attract mates or defend their territory.



NAME _____

Many birds migrate, or travel long distances, during certain seasons. For example, the Blackpoll Warbler flies from northern Canada to South America each fall. It can fly for more than 72 hours without stopping.

Bird nests can be simple or very fancy. Some are just shallow spots in the ground, while others are woven like baskets. Most birds sit on their eggs to keep them warm until they hatch. This can take from 11 to 80 days, depending on the species. Some chicks can walk or swim right after hatching, while others need their parents' care for weeks or even months.

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Attachments





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► BE AN ORNITHOLOGIST!

An ornithologist is a scientist who studies birds. When they work, they watch birds carefully and write down what they see. They also make simple sketches of the bird, and note where it is and what it's doing. Now it's your turn—pick a bird, watch it closely, and take notes like a scientist!

Notes and observations:

Date:
Location:
Bird's Color(s) and Notable Markings:
Size/Shape:
What was the bird doing?
Where was it?
Do you think it migrates?

Make a simple sketch of the bird you studied. It doesn't have to be perfect!

A large, empty rectangular box with a thin black border, intended for a student to draw a simple sketch of a bird.

NAME _____

► COMMON BIRDS OF THE ERIE CANALWAY

The Erie Canalway National Heritage Corridor includes a variety of habitats, including the canal itself, lakes, streams, rivers, wetlands, woodlands, and fields, as well as agricultural areas, cities and towns, and parks. These habitats are home to a variety of bird species. Here are common birds you might see while exploring New York's canals and trails.



1. American Robin



2. Blue Jay



3. Northern Cardinal



4. Canada Goose

NAME _____

► **COMMON BIRDS OF THE ERIE CANALWAY**



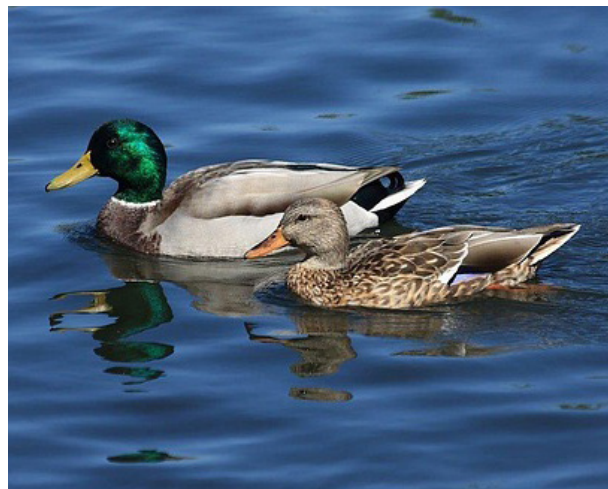
5. Red-winged Blackbird



6. Great Blue Heron



7. Red-tailed Hawk



8. Mallard