

The Environmental Learning Center



Join us for our virtual Nature Near You meetups!

UNBOXING Monday, July 13th *11am-Noon*

SHOW & TELL Friday, July 17th *11am-Noon*

Instructional videos available on our website

Visit our website for more info:

<https://www.discoverelc.org/nature-near-you-kits>

Questions? Or to register for the virtual meetups,
e-mail heatherk@discoverelc.org

Nature Near You Kits were made possible by generous support from:



**Association of Science
and Technology Centers**



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NATURE NEAR YOU

Birds of a Feather

Materials Included:

- Binoculars
- Chopsticks
- Beans
- Yarn
- String
- Embroidery hoop
- Glider template
- Paperclips
- Birdseed
- Craft sticks
- Postcard

Look up! In Birds of a Feather, we invite you to discover the fascinating world of birds. These feathered creatures can be found across the globe from the polar regions to the tropical rainforests- and even in your own backyard or neighborhood.

Use the activities in this kit to uncover the amazing diversity of birds. There are thousands of different species of birds, and while these animals may share some features in common, the activities in this kit challenge you to explore what makes each species unique. The adaptations that allow them to thrive in habitats are as varied as the birds themselves.

From their beaks to their nests to their feathers, we invite you to take a closer look at the birds near you.

VOCABULARY

- **Adaptation:** a special skill or physical feature that helps an animal survive
- **Habitat:** a place where an animal lives where it can find food, water & shelter
- **Observe:** the act or power of seeing or noticing
- **Features:** something especially noticeable
- **Aerodynamic:** the way air moves around an object to help it move
- **Migrate:** to travel from one region to another
- **Navigation:** the act of finding your way
- **Plumage:** the feathers of a bird



Happy exploring!

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BIRD WATCHING

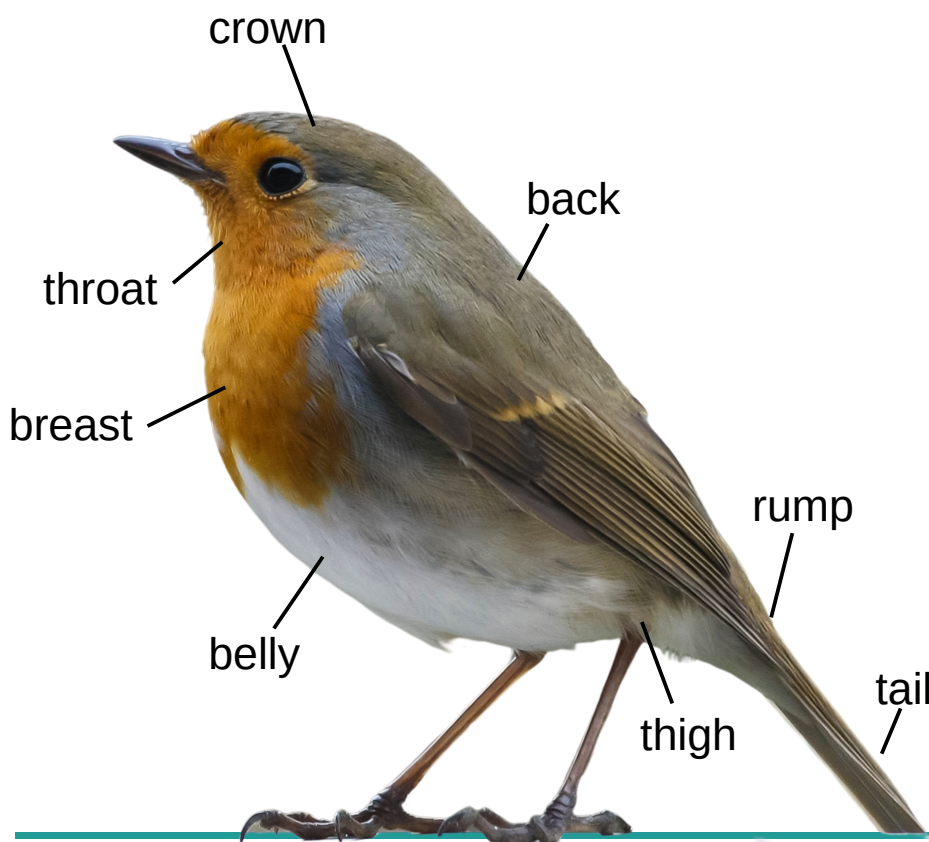
Bird watching is the art of observing birds in their natural habitat, and the more time you spend watching our feathered friends, the more you will begin to notice their unique abilities to survive in our shared habitat. Your binoculars are a great way to get a detailed look at the birds around you, but there are other tricks that can get you *even* closer. Try them out and see how close you can get!

Materials Needed:

- Bird ID card (provided)
- Binoculars (provided)

Birding basics:

When observing a bird it is helpful to quietly say its markings out loud to help you remember its features and identify it after it has flown away. Below are some common bird terms:



Tips & Tricks

1. **Stay quiet.** Birds are often scared away by loud noises. Also, the quieter you are, the more likely you are to hear a bird chirping or rustling in a bush.
2. **Move slowly.** Birds are very aware of sudden movements. This ability helps them to escape predators.
3. **Try to blend in.** Although birds can't see color very well, they will definitely be able to spot a bright t-shirt.
4. **Keep the sun at your back.** This will make you harder to see and ALSO help you see all the beautiful colors of the bird that you may not otherwise see!
5. **Stay patient.** The more you look, the more you'll see!
6. **Take notes** about what you notice; size, shape, color.

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BIRD BEAKS

Take a closer look at some of the birds living near you. What shape are their beaks? Why do you think birds might have different shaped beaks? In this experiment, explore how the shape of a bird's beak is related to what it eats.

Materials Needed:

- Yarn (provided)
- Beans (provided)
- Chopsticks (provided)
- Tweezers (optional)
- Spoon (optional)
- Cup
- Timing device

Instructions:

1. Cut the yarn into 1 inch pieces and place in the center of your work area. These yarn pieces represent worms. Next, place a cup near you. This cups represents your bird stomach. Grab your chopsticks. These chopsticks represent your bird beak.
2. Set the timer for 1 minute and see how many "worms" you can get in your "stomach" using only your "beak." Remember to only grab one worm at a time and only use your chopsticks!
3. Next, repeat this experiment with the beans. What food do you think these beans represent?
4. Compare your results. Some questions to consider are:
 - a. Did you successfully get more of one type of food than the other?
 - b. Which type of food was easier to grab with your chopstick beak?
 - c. What type of bird do you think might have a beak similar to chopsticks? What type of food does this bird eat?
5. If desired, repeat this experiment with different items as your bird beak. A spoon or tweezers are good beaks to try.

What's in a beak? Each of these birds has a unique beak that allows it to catch and eat different foods.



Hummingbirds

*flower nectar, small
insects*



Parrots

*nuts, seeds, fruits,
insects*



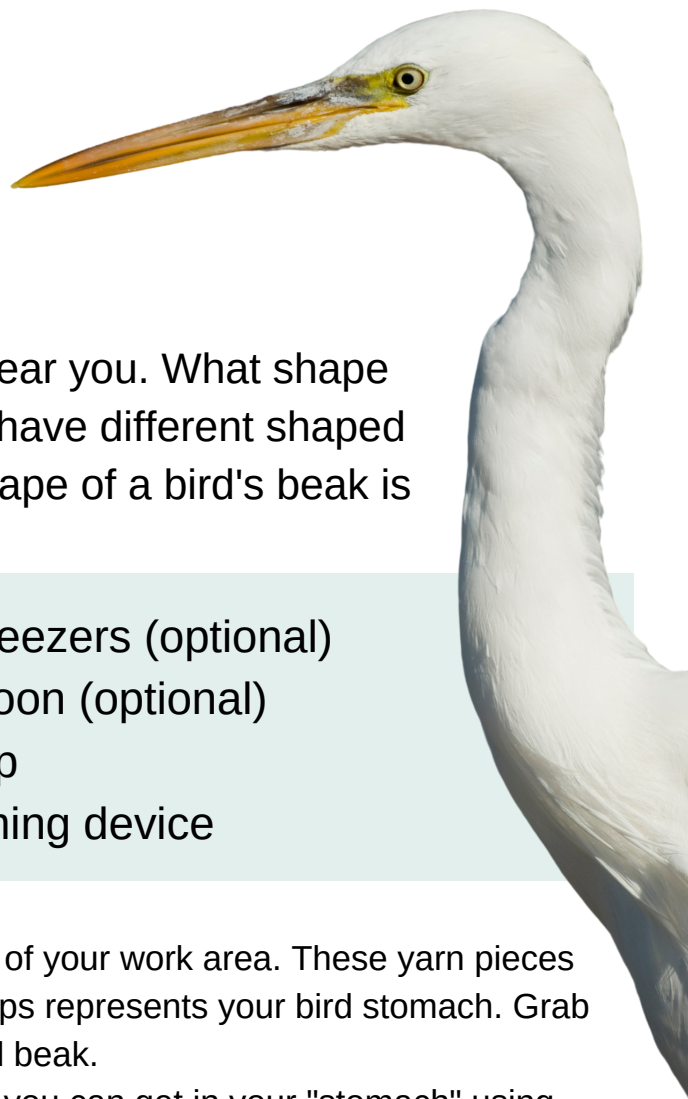
Ducks

*fish, fish eggs, tadpoles,
plants, algae, insects*



Woodpeckers

insects, nuts, seeds



BIRD FEEDERS: A DESIGN CHALLENGE

In this design challenge, test your skills at building your own bird feeder using found and recycled materials. Take note of the different birds you see and try to identify them.

Materials Needed:

- Craft sticks (provided)
- Bird seed (provided)
- Tape or glue
- Found/recycled materials



Instructions:

1. Think about what you know about bird feeders.
 - a. What features are important?
 - b. How big should it be?
 - c. How does the bird access the food?
 - d. Where should it be located?
2. Look around your home and outside to collect found and recycled materials that you think could be used to construct a bird feeder. (We have provided some craft sticks to help you get started.)
3. Build your bird feeder, fill it with bird seed, and place outside for your local birds.

Need some design inspiration?

Check out these bird feeders. Can you make a feeder from a juice carton or a plastic bottle? Will your feeder have a perch for sitting or protection from the rain?



*Note: Make sure your bird feeder stays clean to avoid the spread of disease.
Place in a location where birds are safe from predators.*

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BIRD WINGS

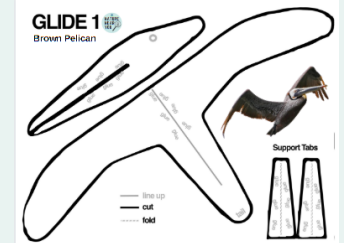
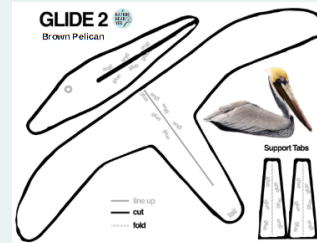
Different kinds of wings can do different kinds of things; from gliding, soaring, quick take-offs and quick turns. The shape of a bird's wing determines how that bird can move through the sky.

In this activity, you will build a pelican glider to fly through the air.



Materials Needed:

- Bird template, 2 pages (provided)
- Paperclips (provided)
- Scissors
- Glue



GLIDE

Birds that can glide are usually found around large bodies of water. Their wingspan is much longer than their bodies, and they can glide for long periods of time without flapping. *Look for seagulls or pelicans gliding on the ocean breeze.*

SOAR

Soaring birds have a wide wing to catch more air, and slatted finger feathers at the end of their wings to help them turn. These birds can often be found soaring in circles above your head. *Look for osprey and red tailed hawks.*

SPEED

This wing shape is built for speed, with sharp points at the end of the wingtips. Birds who have this adaptation can cut through the air like a knife. *Look for tree swallows zipping through the air in every direction.*

QUICK TAKE-OFF

The short - wide shape enables this bird to take-off quickly, which is useful because these birds are often feeding on the ground where predators can pounce. Their slatted-end feathers allow them to steer through tree branches. *Look for blue jays and mockingbirds.*

Instructions:

1. Cut out ALL the pieces along the black lines
2. Fold tabs at a 90° angle along the dotted line and set aside
3. Color each piece like a brown pelican (top, bottom & sides)
4. Glue the two bird body pieces together, design facing out
5. Glue top and bottom wings together
6. Slide bird body onto wings along the gray line as straight as possible (this is important for your bird to fly straight)
7. Glue support tabs along all 4 corners of body and wings, this will help reinforce your bird so it is strong enough to fly.
8. Place a paper clip on the beak to help pull the bird forward when you throw it and experiment with paperclips on other parts of the bird to find **balance**.



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A BIRD'S EYE VIEW

Some birds will fly thousands of miles to find warmer weather. The warm temperature means plenty of food and possible nesting grounds to raise their young. Birds are excellent navigators, finding their way using Earth's magnetic field, the light from the sun and landmarks they can see below.

Materials Needed:

- Watercolors (provided)
- Pen
- Paper
- Cup for water

Steps:

1. Look at the image to the right. It is a bird's-eye-view of Pelican Island, a major rookery, or nesting spot in the Indian River Lagoon. Many birds, both migratory and local can be found here. Questions to ponder: *How do they know which island to stop at? What kinds of landmarks can you identify from this image?*
2. Now imagine you are a bird, flying to a place you visit often. It could be a family member's house, school, your favorite ice cream spot. If you were to fly there, what landmarks would you notice from above that could help guide you where you need to go? A giant building? A road? A forest? A field? A lake?
3. Using a pen, draw the bird's-eye-view from your house to this place.
4. With a cup of water and your paint brush, get the paints wet in your watercolor set and make your birds eye view eye-catching.



Get Inspired:

Check out the BBC film *Earthflight* (2011) to get inspired by the navigation skills of these migratory birds. This film is a great glimpse of what these birds experience from up above.



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BIRD NESTS

From a shallow pit dug in the sand by a shorebird to a massive nest weighing over a ton constructed by a bald eagle, bird nests come a wide array of shapes, sizes, and structures. Birds may construct their nests using many different methods- from digging a burrow, to weaving an elaborate structure out of twigs, leaves, and other found materials. In this activity, try your hand at weaving with materials you find in nature. Can you craft a structure fit for a bird?

Materials Needed:

- Embroidery hoop (provided)
- String (provided)
- Materials from nature such as leaves, twigs, grass, and flower petals



Instructions:

1. Separate the inside hoop of your embroidery hoop from the outside hoop.
2. Wind your string around the inside hoop, looping it around the hoop to create a crisscross pattern that will serve as the base for your weaving.
3. Secure your string by fitting the inside hoop into the outside hoop and tightening.
4. Go on a nature walk and collect items for your weaving, such as leaves, twigs, grass, flower petals, and anything else you find interesting.
5. Weave your items into your hoop, making sure to go over and under the string to secure your design.

A Diversity of Nests

Think all bird nests are the same? Think again! Bird nests are as unique as the species that build them.

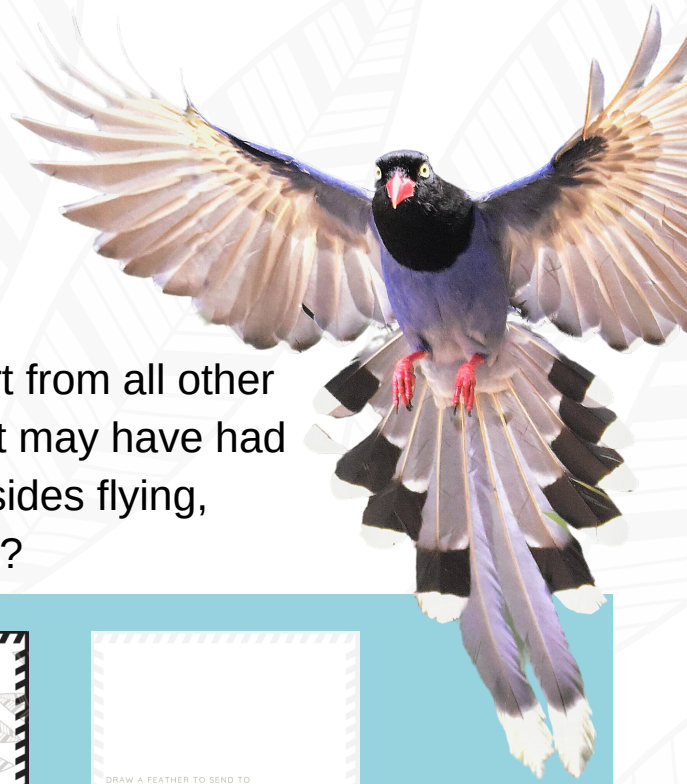
- **Size:** The nest of a hummingbird may be less than an inch wide, while the largest bald eagle nest was 10 feet across.
- **Location:** From the tops of trees to underground, bird nests can be found in many places. Some birds, such as chimney swifts, even get names from where they choose to nest.
- **Materials:** Spiderwebs, feathers, moss, and even items discarded by people may be found woven into bird nests.



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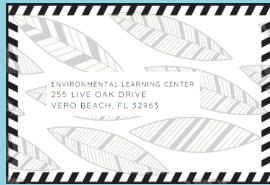
BIRD FEATHERS

Feathers are the one thing that sets birds apart from all other animals on Earth. The only other creature that may have had this feathered adaptation were dinosaurs. Besides flying, what else do you think these feathers good for?



Materials Needed:

- Postcard (provided)
- Stamp (provided)
- Watercolors (provided)



Instructions:

1. Using the postcard provided, use the blank side to draw your favorite feather. It can be a feather you have found, a feather you have seen before or a feather that you invent yourself.
2. Use the water colors to make your feather detailed and amazing!
3. Once your artwork has dried, you can put it in the mail!
4. We are excited to receive your Feather Mail and display your work here at the Environmental Learning Center!



Above image from Keck School Of Medicine,
University of Southern California

Feather Facts

- Feathers are a great way for a bird to stay insulated. They help to keep the bird warm and dry.
- Birds will sometimes pluck their own feathers to help keep their babies warm in the nest.
- Even though feathers are very lightweight, combined they often weigh more than the bird's skeleton.
- When you see bird rustling its feathers with its beak it might be doing the following:
 - Spreading a fine powder produced by the fluffy down feathers to help them stay dry.
 - Spreading wax produced by their glands to help them repel water
 - Rearranging their feathers so they are in the perfect position to fly