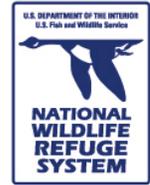


Birds of the Prairie Wetlands



Grade: Preschool
Group Size: 1 class

Season: Spring **Time:** 1 hour
Ratio: One adult to five children

For the Teacher:

| | |
|---------------------------------------|---|
| Overview | Students start indoors with a brief dress-up activity demonstrating the characteristics of birds (wings, beak, feathers for example). For their field investigation, they predict how many different kinds of birds they will see outside. On the trail, they observe birds and describe their physical characteristics. They also make comparisons between the birds they observed. Chaperones tally each different kind observed. Back inside, students compare their results to their predictions and share other discoveries. |
| Subjects Covered | Science, Math |
| MN Science Standards Supported | Helps support 14 standards in three domains. For details, see section: "Early Childhood Indicators of Progress: MN's Early Learning Standards." |
| Skills Used | Characterizing, investigating, exploring, predicting, observing, comparing, contrasting, counting, sharing, following directions, socializing in an outdoor/group setting |
| Performance Objectives | After completing this activity, students will be able to... <ul style="list-style-type: none"> • Name two characteristics of birds • Observe birds with homemade binoculars • Verbally describe or draw characteristics of birds (such as colors, patterns, behaviors) • Compare predictions to results |
| Vocabulary | Bird, binoculars, count, tally, predict, results, discovery |

For the PWLC Instructor:

| | |
|---------------------------|--|
| PWLC Theme | The Prairie Pothole Region |
| Primary EE Message | The prairie pothole region is valuable and in need of restoration and protection. |
| Sub-message | Wildlife: <i>The prairie pothole region is home to a variety of resident and migratory wildlife.</i> |
| PWLC EE Objective | <ul style="list-style-type: none"> • Use scientific methodology to explore the environment (ask questions, hypothesize, collect data, analyze data, form conclusions, make recommendations). (Wildlife and Habitat) • Identify the components and functions of a given ecosystem by observing, counting, and describing the animals and plants in that ecosystem. (Wildlife and Habitat) |
| Materials | <p>Provided by teachers:</p> <ul style="list-style-type: none"> • Toilet paper cardboard tube binoculars • Short yarn scraps and dryer lint <p>Provided by PWLC staff:</p> <ul style="list-style-type: none"> • Wings, beak, and egg for dress-up activity • Clipboards, pencils, and paper for chaperones • Butterfly puppet and bat puppet • Mounted bird specimens • Bird stamp and ink pad • Felt board and laminated Velcro birds • Felt "boards" and velco birds • Loose feathers for touching |
| Location | Classroom or amphitheater and Mallard Marsh trail and/or trail to Adams Pond platform |

Background Information

The purpose of this field investigation is to introduce birds to preschoolers and give them the opportunity to observe a variety of springtime migrants. The investigation is driven by their current knowledge and their inquiry about birds. After reviewing characteristics of birds, they make predictions, help collect data, compare their results to their predictions, and share their discoveries with each other. The outdoor classroom provides them with first-hand experience in exploration and wonder of birds.

During this field investigation, our intent is not to fill preschoolers with facts, nor to show and tell, but to guide them to making and owning their own discoveries. By making the opportunity for discovery possible through direct interaction between each child and the prairie wetlands environment, we are focusing on the whole child and upon the unfolding real experience. The process of ecological concept and skill building are emphasized. Open-ended activities and questions with learning driven by student inquiry are encouraged.

Birds of the prairie and associated wetlands are important because they are relatively easily viewed, they are part of the food chain, they tell us something about the habitat they live in, and they are interesting and beautiful. Studying birds is a chance to differentiate between different kinds of birds and between birds and other organisms. Students witness and wonder about the spectacle of migration first-hand.

Spring is an excellent time to observe birds at the PWLC. The peaceful and quiet winter months have melted away, and many bird species are migrating through our area. Some pass through, others stay awhile to rest and refuel for the rest of their journey north, and yet others stay to nest. Showy males are often busy singing and displaying their vivid plumage in an effort to defend territory and attract a mate. Their calls and visibility make them easy to find.

We expect students will most likely observe (hear and/or see) the following kinds of birds during their investigation:

| Prairie Birds | Wetland Birds | Both Habitats |
|-----------------------|-----------------------|----------------------|
| clay-colored sparrows | ducks | swallows |
| killdeer | red-winged blackbirds | sparrows |
| American goldfinches | marsh wrens | gulls |
| American crows | common yellowthroats | geese |
| bobolinks | | |

However, our emphasis will not be on bird names as much as on bird characteristics -- is it a bird or some other animal? -- and what kinds of colors, markings, or behaviors it displays so we can compare and contrast various birds to group them together or tell them apart.

If desired, students may visit the oak savanna to observe birds such as American robins, woodpeckers, black-capped chickadees, white-breasted nuthatches, grey

catbirds, and yellow-rumped warblers. They may bring nesting material scraps to place on the shrubs.

Birds are more noticeable than mammals in the prairie. Some bird species have adapted well to changes in land use and may be found in farmland and towns as well as prairie. However, others are more choosy or specialized and may only be found on the few remaining remnants of native prairie. Conspicuous but uncommon species include marbled godwits, upland sandpipers, and greater prairie chickens. These three species depend upon native prairie for their survival. Less obvious but more common species include eastern and western meadowlarks, bobolinks, and savannah, grasshopper, and clay-colored sparrows. Probably the most abundant birds are the blackbirds, especially noticeable in spring when nesting; and in fall when migrating in large, waving flocks. Blackbird species include red-winged, yellow-headed, rusty, and Brewer's. Red-winged blackbirds commonly nest in fields removed from cultivation, followed by sedge wrens, bobolinks, common yellowthroats, and savannah sparrows. Prairie birds, therefore, can serve as indicators of particular environmental conditions.

Likewise the presence of certain wetland bird species indicates circumstances such as water depth and food availability. For example, shorter shorebirds (like killdeer) forage for food on mudflats or in shallow water, but those with longer legs (like greater yellowlegs) can venture into deeper water. Dabbling ducks (like mallards) feeding in a wetland suggest shallow water, while diving ducks (like scaup) suggest a deeper basin. Students easily observe waterfowl such as Canada geese and mallards during their visit as they fly overhead, defend their territory, and dabble for food.

The PWLC is part of the Fergus Falls Wetland Management District, which emphasizes waterfowl production and ensures the preservation of habitat for migratory birds, threatened and endangered native species, and resident wildlife. The District encompasses land within five counties of western Minnesota: Otter Tail, Wilken, Wadena, Douglas, Grant. In this area, freshwater prairie wetlands and associated northern tallgrass prairie join to form a zone of transition with the northern hardwood forest. This blend of habitats provides for an impressive diversity of over 290 bird species observed within the District. About 54% of them nest here (156 species). Agricultural changes to the landscape include the loss of most native prairie and the drainage of over 80% of the small wetlands. Nonetheless, the area remains a critical waterfowl production and migration area - the highest waterfowl nesting density in Minnesota was recorded here (3.5 nests/acre). The PWLC is located on the eastern edge of North America's Prairie Pothole Region, 300,000 square miles in size, also known as the "duck factory." Over 50% of the continent's ducks hatch from the Prairie Pothole Region. It is the complex of prairies and wetlands that makes the Prairie Pothole Region the most important breeding and nesting site for the North American population of dabbling ducks (such as mallard, wood duck, and blue-winged teal).

Thank you for caring about our fine, feathered friends! To help birds:

- Make sure bird feeders are cleaned weekly and bird baths, every few days.
- Keep cats indoors as they are the number one predator of songbirds; and cats

are not native to North America.

- Be a responsible landlord or landlady and check and manage bird houses during the nesting season.
- Plant native flora in your yard to attract and feed birds “naturally.” Likewise, restore native prairie and wetlands on your property.
- Children can be encouraged to help feed/water birds, to be kind to birds, and to leave fledgling birds alone as the parents will come back to feed them.
- However, feeding ducks, geese, and swans bread is unhealthy for them, encourages unnaturally high concentrations of birds dependent upon handouts from humans, and allows for disease to spread quickly through the flock.

Teacher Preparation

- Prior to visiting, teachers should collect toilet paper cardboard tubes (two per student) and help them make simple binoculars with them. A paper towel tube cut in half also works. They can be glued, stapled, or taped together. Allow students to decorate them with markers. They may practice using them to observe squirrels and birds outside, or placed bird stuffed animals outside for children to find with their binoculars. Be sure to bring them along to the PWLC.
- Also, if extra time allows, students are welcome to bring short yarn scraps and dryer lint to place on the shrubs in the oak savanna for nesting materials.
- We highly recommend conducting one or more of the suggested extensions before your visit in order to integrate this field investigation into the classroom study of animals, insects, invertebrate, classification, life cycles, adaptations, prairie, or other topics. We believe such integration enhances student motivation for learning in other curricular areas. Please see section, “Teacher-Led Extensions/Adaptations/Assessment Ideas.”

PWLC Staff Preparation

Organize materials and select the start and end location as well as the most appropriate trail to use.

Field Investigation Procedure

1. At the amphitheater or in the classroom, welcome the class and review rules for the trail.
2. Split the class into small groups with one adult chaperone supervising each group. Remind students that they need to stay with their grown up. The role of the chaperones will be to manage their small group of children and make sure they are following through with directions given by the PWLC staff instructor. Their job is not to provide the answers but to guide students to make their own discoveries. The PWLC staff person’s job is to manage and guide the entire large group, distribute equipment to chaperones, and provide trail leadership.
3. Provide a clipboard, paper, and pencil to each chaperone for use later on the trail.
4. Explain to the students that they are visiting the PWLC to find birds and to watch

- and listen to them.
5. Review what makes a bird a bird. Using props, dress up one of the students to demonstrate the characteristics of birds. The props include feathered wings, a beak, and an egg. Differentiate between birds, bats, and butterflies.
 6. Ask the students to tell you a few other things they know about birds. Where do they see birds? What were the birds doing? What kinds live around here?
 7. Ask the students what they would like to find out about birds today. Jot down their questions on a piece of paper and clipboard. Ask them to guess how many different kinds of birds they think they will see today. Choose three students to share with the class, and write down a few of their predictions. Ask everyone to share in their small groups. Each chaperone should write down each child's prediction.
 8. Ask the teacher to distribute their binoculars (or they may do so prior to departing school so they are wearing them upon arrival at the PWLC).
 9. On the trail, observe birds and describe their physical characteristics. Make comparisons between the birds they observed. Chaperones list the names of each different kind observed. Help students discover bird behaviors such as preening, feeding, singing, calling, flying, swimming, diving, etc. Also, guide chaperones and students to finding answers to the other questions that were suggested earlier.
 10. While traveling on the trail, lead students in practicing different types of bird behavior, such as strutting, waddling, paddling, flying, etc. When listening to bird sounds, ask students to close their eyes, listen, and hold up a finger each time they hear a different bird sound. How many did they hear? Where are the birds that made them? What kinds of birds are they?
 11. Back in the amphitheater or classroom, ask each chaperone to total their tally with their students. How many different kinds of birds did they see? Did anyone guess the exact same number as what they saw? Higher? Lower? Provide materials for graphing their results on a felt board. Review the other questions and ask students for the answers. What else did they discover about birds today? Do they think birds are important? Why or why not? How can kids be good friends to birds?
 12. Collect the clipboards and pencils from chaperones. Thank the class for coming, and invite them to come back for a visit with their family. Stamp each child with a bird stamp on their way out the door.

Weather Alternatives

Field investigations take place rain or shine. Everyone should dress appropriately for the weather. In the event of unsafe weather (lightning, high winds) or pouring rain, everyone must come indoors. PWLC staff make every effort to make your travel worthwhile despite the weather and prepare indoor, age-appropriate plans. PWLC staff welcome teacher input into these plans. Some possible alternatives might include:

- Go outside for a very short amount of time, even if only under the deck, to observe birds.
- Tour the exhibit area and watch prairie wetlands videos with the objective of observing birds and completing the investigation based upon those observations.

- Read any of the children’s books listed in the “References and Resources” section. Incorporate movement and/or sounds where possible.
- Set up bird centers in the dining hall for students to rotate among with their chaperones. Possible stations include drawing a bird using taxidermy specimens or drawing bird feathers; zipping bird feathers with finger “beaks;” listening to bird songs on the Identiflyer; latex bird feet and ink pads; bird puppets to play with; and different kinds of kid-friendly binoculars to try.
- Play Bird Charades with older preschoolers. For each small group, whisper the name of a type of bird (such as duck, owl, robin, and hummingbird). Each group acts out the typical behavior of that bird while the rest of the class guesses which bird it is.
- Play Duck, Duck, Goose.
- Use finger plays about birds – see section “Preschool Finger Plays – Birds” for examples.

PWLC Staff-Led Adaptation

If extra time allows, walk to the oak savanna at Mallard Marsh and observe birds there. Bring short yarn scraps and dryer lint for the students to place on the shrubs. Birds will later take them to add to their nests.

Teacher-Led Extensions/Adaptations/Assessment Ideas

- To maximize outdoor classroom time at the PWLC, teachers may conduct steps 6 and 7 in the section “Field Investigation Procedure” at school. Upon arrival at the PWLC, teachers may provide PWLC staff with a written list of what students know and wonder for quick review before completing the remaining steps.
- Provide each small group with a felt board and several pieces of large and small birds. Ask the students how many large and small birds they think they will see at the PWLC and put the corresponding number of pieces of felt on the board. Then they can count the number of small and large birds. Which do they predict they will see more of? After returning to school from their visit to the PWLC, they can compare the actual numbers of small and large birds they predicted to what they actually saw.
- Make pine cone bird feeders to take home or hang up outside. Watch the birds and squirrels that visit. Are they the same kinds they saw at the PWLC or different?
- Adapt the “Migration Headache” activity from Birds! Birds! Birds! (Ranger Rick’s Nature Scope series). Explain to the group that birds migrate (move) in the fall because if they stay, they cannot find food in the winter. Have students pretend to be a bird that migrates, such as a duck. Ask them to ‘migrate’ south for the winter by running from one end of a lawn or gym to the other. Have them migrate back north to find a nest. Nests can be trees or paper plates or carpet squares scattered around the playing field.
- Feed Baby Bird -- Tell the children they are the mommy or daddy bird. The adult becomes the baby bird. Ask the children to make a nest of twigs and grass on the ground, within a designated area. Have “mommy” and “daddy” birds fly to

food source (popcorn in large bowls). Pick it up with their beak (2 fingers in a beak shape) and fly back to baby and feed them. Repeat until popcorn is gone. Mommies and daddies switch with babies so they get to eat the snack, too.

- “Fly” and “sing” with scarves to music or better yet to music with nature or bird songs. Pretend the scarves are wings and dance to the music. Suggested title: Carnival of the Animals, part 10, The Birds (or Aviary) by Camille Saint-Saëns
- Have children “color” a line drawing of a bird with glue sticks (not crayons). Then children add craft feathers on their bird to make their own feathered friend. Try it with masks, too!
- Borrow the “Songbird Blues Traveling Trunk” from the PWLC. It contains bird puppets, a felt storyboard, books, videos, and many other items. The “Shorebird Traveling Trunk” is also available for free loan. Please call the PWLC for availability, 218-998-4480.

Early Childhood Indicators of Progress: Minnesota’s Early Learning Standards

This lesson helps support the following state standards...

Domain II: Approaches to Learning

CURIOSITY

Children show progress in curiosity when they:

1. Show eagerness and a sense of wonder as a learner.
2. Show interest in discovering and learning new things.
3. Think about events and experiences and apply this knowledge to new situations.

Domain III: Language and Literacy Development

SPEAKING

Children show progress in speaking when they:

5. Use increasingly complex and varied vocabulary and language.
6. Initiate, ask questions, and respond in conversation with others.

Domain V: Cognitive Development

SCIENTIFIC THINKING AND PROBLEM-SOLVING

Children show progress in scientific thinking and problem-solving when they are:

Observing

1. Use senses to explore materials and the environment
2. Identify and/or describe objects by physical characteristics

Questioning

3. Express wonder about the natural world
4. Ask questions and seek answers through active exploration

Investigating

6. Use tools (e.g., magnifying glass, binoculars, maps) for investigation of the environment
7. Make comparisons between objects that have been collected or observed

SOCIAL SYSTEMS UNDERSTANDING

Children show progress in scientific thinking and problem-solving when they are:

Understanding the World

5. Share responsibility in taking care of their environment
6. Identify characteristics of the places where they live and play within their community

References and Resources

For Adults

- Birds! Birds! Birds! (Ranger Rick Nature Scope series) edited by Judy Braus
- Minnesota Project Learning Tree Early Childhood Supplement by Minnesota Department of Natural Resources
- Natural Wonders, a Guide to Early Childhood for Environmental Educators by the Minnesota Early Childhood Environmental Education Consortium, Marcie Oltman, editor
- Sharing Nature with Children by Joseph Bharat Cornell
- The Sense of Wonder by Rachel Carson
- Bird Checklist of Minnesota's Prairie Pothole Region, <http://www.npwrc.usgs.gov/resource/birds/chekbird/r3/fergusmn.htm>
- Bird Match and Bird Charades activities, International Migratory Bird Day, www.birdday.org
- Fergus Falls Wetland Management District, <http://www.fws.gov/midwest/FergusFallsWetland/>
- Fergus Falls Wetland Management District Bird Checklist, <http://www.fws.gov/midwest/FergusFallsWetland/birds.html>
- Habitat and Population Evaluation Team, <http://www.fws.gov/midwest/hapet/>
- KinderNature, a Resource for Early Childhood Educators, <http://kindernature.storycounty.com/>
- National Science Teachers Association, Early Years Blog, <http://blogs.nsta.org/EarlyYearsBlog/default.aspx>

For Children

- An Egg is Quiet by Dianna Hutts Aston and Sylvia Long
- Counting is for the Birds by Frank Mazzola, Jr.
- Duckat by Gaelyn Gordon
- Duckling, at Home on the Pond by Sarah Toast
- Ducks Don't Get Wet by Augusta Goldin
- From Egg to Robin by Susan Canizares
- Have You Seen My Duckling? By Nancy Tafuri
- If I Were a Bird by Gladys Conklin
- Our Yard is Full of Birds by Anne Rockwell
- Owl Babies by Martin Waddell and Patrick Benson
- Quacky Duck by Paul Rogers and Emma Rogers
- The Bird Alphabet Book by Jerry Pallotta
- Today at the Blue-Bird Café, a Branchful of Birds by Deborah Ruddell
- Unbeatable Beaks by Stephen Swinburne

- Watch Me Grow, Duckling by Lisa Magloff
- Bird books, songs, and finger plays, <http://stepbystepcc.com/animals/birds.html>
- Finger plays, <http://www.naturallearning.com/fingerplays.html#top>
- Pinecone bird feeder, <http://www.enchantedlearning.com/crafts/birdfeeders/pineconefeeder.shtml>
- Preschool Nursery Rhymes About Animals, <http://www.preschoolrainbow.org/animal-rhymes.htm>

Credits

This field investigation was developed and written by Prairie Wetlands Learning Center Staff, U.S. Fish and Wildlife Service. Thanks to the following teachers for reviewing this lesson plan: Cori Brown, Fergus Falls Head Start; Debbie Walter, teacher and director at Morning Son Christian Preschool; and Laura Holzworth, Kids Care/Head Start, Fergus Falls.

Preschool Finger Plays - Birds

Peter and Paula

Two little birds up on a wall,
(one finger on each knee)
One named Peter, one named Paula.
(wiggle each finger when named)
Fly away Peter, fly away Paula.
(fly finger behind back)
Come back Peter, Come back Paula.
(bring finger back to knee)

Little Birds

Up in the sky, the little birds fly (*flutter hands*)
Down in their nests the little birds rest (*hands in lap*)
With a wing on the left and a wing on the right, (*flutter left hand then right hand-as leader, do the opposite hand if facing the children*)
The little birdies sleep all night (*fold hands under cheek*)

Birds

There was one little bird in a little tree,
He was all alone, and he didn't want to be.
So he flew far away, over the sea,
And brought back a friend to live in the tree.
Substitute two, three, etc. for one as you finish the verse.

Five Little Ducks and Five Little Quail

Five little ducks went out to play
(Wiggle five fingers on right hand.)
And met five quail that came their way.
(Wiggle five fingers on left hand.)
The five little quail went to get a snack,
(Take left hand to behind back.)
And the five little ducks went "quack, quack, quack!"
(Put right hand to mouth like a duck's bill and move fingers as imitating duck quacking.)

Robin Red Breast

Way up high, little robin flying just so.
(hands up high)
Quick down low for a worm he must go.
(hands down low)
With a wing on the left and a wing on the right,
(arms extended one at a time, left first, then right)
Fly to your nest for soon it will be night.
(arms flapping arms as if flying)