



BIRDS OF A FEATHER

Teacher's Pre & Post Trip Information

Grades: K-6

Theme: Birds have an amazingly wide variety of adaptations to help them survive; and, bird-watching can be an enjoyable pursuit

Objectives:

- Students will be able to name five adaptations of birds
- Students will be able to identify at least two bird calls
- Students will look for signs of birds while hiking (weather permitting)
- Students will practice using age-appropriate binoculars

Learning Plan:

Topics: bird adaptations, identification, food preferences, migration, morphology, and physiology

Student activities: observing birds with binoculars, listening to recorded calls, investigating nests and feathers, hiking through habitats, investigating beak shape and diet, and migration game

Learning Area	Goal #	Standard	Level and Benchmark
Science	11	A	1a, 1f, 2e
	12	A	1a-b, 2a-b
	12	B	1a, 2a-b, 3b
Language Arts	1	B	1d, 2b, 2d
	4	A	1a-d, 2a-c
	4	B	1b, 2b
Social Science	16	E	1 (US)
Physical Education	19	A	1
	19	B	1
	19	C	1, 2a-2b
	21	A	1a-b, 2a-b

Vocabulary:

- **Respect** – to honor, to show concern for
- **Preserve** – to keep safe, to save or protect
- **Migration** – the periodic movement of animals from one area to another and back again as a natural part of their lives
- **Habitat** – the particular type of local environment occupied by a plant or animal; must include food, water, shelter and adequate space
- **Adaptation** – a behavior, physical feature, or other characteristic that helps an animal survive
- **Camouflage** – color, tones, patterns, shapes or behaviors that enable an organism to blend in with its surroundings
- **Down** – soft feathers next to the body that provide insulation
- **Contour feather** – feathers found on the bird's body, wings, and tail
- **Warm blooded** – maintains a constant body temperature independent of the outside temperature
- **Field marks** – markings on a bird that help to distinguish them from all other bird species; includes eye rings, eye stripes, wing bars, and patterns on the throat, belly or other parts of the bird.

Supplemental Activities:

The following activities are suggestions for use in the classroom before and/or after the school program. Not all are appropriate for all age groups. Feel free to adapt them for your students' abilities.

Writing activities:

- Write a story or develop a journal where the author is a migrating bird. Include illustrations. Some suggested points to include are: (www.inhs.uiuc.edu)
 - the urge to fly
 - numbers of birds preparing for migration; mostly young, inexperienced flyers that may not complete the migration
 - eating like crazy to increase fat reserves
 - waiting for proper weather (low pressure - rain and cold) to head south
 - losses of flock before heading south due to predation, starvation, poisons, etc.
 - cruising at heights around 4,000 feet and appearing on airport radar screens
 - flying at speeds up to 30 mph and distances of 270 miles per day
 - reviewing a map and selecting resting locations that include food and cover
 - hazards encountered during flight such as power lines and ice storms
 - arrival on the winter grounds; where; when; losses occurring due to starvation, loss of habitat, predation (animals) and hunting (man)
- Read stories involving birds. Have the children take on the character of a bird and write a story from the bird's point of view.
- Assign a bird to each student. Have each student research their bird then prepare a short classroom report.

Research activities:

- Find magazine pictures that represent the four basic Illinois habitats, wetland, forest, agricultural and urban/suburban. Name one example of a bird species typical of each area. Is it present as a nesting or year-round resident? What does it eat?

Science Activities:

- Display a feather on an overhead projector and discuss the major parts of a feather (quill, shaft, vane, barbule, barb). Hand out a feather to each student or to pairs of student and a hands lens. Have each student find the different parts of feathers.
- Examine cleaned chicken or turkey bones and discuss how hollow bones help birds fly. You can also use cow or pig ribs to show that mammal bones are not hollow.
- Examine a chicken egg. Have them identify the different parts.

Physical Development: (Movement)

- **Courtship rituals of birds** (www.inhs.uiuc.edu)

Materials: The "Sky Dance" from *A Sand County Almanac* by Aldo Leopold, large feathers (made of construction paper), noise makers (party favors, whistles, kazoos), long pieces of several types of bright and dark fabric to be used as bands of coloration; handkerchiefs; reference material on display behaviors of various birds; clothespins and safety pins to attach fabric to clothing.

Procedure: Discuss the different rituals of several types of "real" birds with your group. Read in *A Sand County Almanac* about the courtship ritual of the woodcock in the essay, "Sky Dance." Another example to research would be the spring courtship of the sandhill crane, which includes pointing the beak skyward, walking in a circle, jumping, leaping, tossing grass, whooping and trumpeting. Prairie chickens and the common snipe are other good examples of birds with complex courtship rituals that could be discussed in class. Divide students into groups of 2-4. Explain to the students that each group is a subspecies of a bird known as "Burdis humanis" or commonly known as "bird people." "Bird people" are found in different parts of the world in small, isolated colonies. Each subspecies has developed its own particular courtship ritual and display behaviors.

Each group is to design a courtship ritual that represents their colony. Things for the group to consider are:

Does the ritual involve a dance or series of movements?

Does the ritual have one or several distinguishing traits (color, call, bands of color on any part of the bird)?

Does the ritual involve only the male? Only the female? Both?

What time of day does the ritual take place?

Give students time to develop their group's ritual. Then have each group perform the ritual. Have them explain where the bird lives and the reasons for its particular ritual. Challenge older students to interpret the displays of other groups in the class.

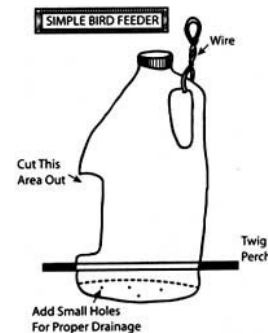
Fine Arts:

- Nest building: Ask each student to collect three different kinds of materials from outdoors and bring to school the next day, keeping materials in separate bags. Give them suggestions for the types of materials (grass clippings, leaves, sticks, string, pine needles, dead weeds, dirt, fur from their dog or cat) they are looking for, but do not tell them how they will be used. Ask each student to make a bird nest. First, students

should determine the type of bird they represent and the size of their eggs in relation to the size of the nest. In class have each student build a nest using their materials. To build appreciation for the skill and craftsmanship involved with nest construction, challenge students to use only two fingers, simulating the beak of a bird. Glue may be used to bond materials. Mud nests make a good outdoor group project.

(www.inhs.uiuc.edu)

- Construct silhouettes of birds of prey and affix them to windows. Birds often fly into windows because the reflection of trees and clouds makes windows appear to be openings in the walls.
- Winter Bird Feeder
Materials: Pine cones, peanut butter, bird seed, string.
Tie a string tightly around the top of a pine cone. Spread peanut butter all over pine cones. Roll the peanut butter pine cones in a bowl of bird seed. Gently shake off excess. Hang outside in a tree for the birds to eat.
- Homemade jug feeder (www.motherearthliving.com)
To make a homemade jug feeder, use a utility knife to cut a window out of the jug, about 2 inches up from the bottom. Poke several small holes in the bottom so rainwater can drain. Add a small stick just below the window for a perch. Some birds will feed inside the jug while others stand on the perch.



Suggested Readings:

- **About Birds: A Guide for Children**
by Cathryn Sill
Teacher and birder Cathryn Sill explains to children what birds are, what they do, and how they live.
- **And So They Build***
Bert Kitchen
Describes, in text and illustrations, twelve animal architects and why and how they build their unusual structures.
- **Birds and How They Live***
David Burnie
Explores the physical characteristics, courtship and Courtship behavior, habitats, and food-gathering activities of many species of birds around the world.
- **Birds, Nests, & Eggs (Take-Along Guide)**
by Mel Boring
A book to help children identify different bird species. Features detailed true-to-life illustrations. -Has fun activities and projects.
- **Birds of North America**
Kenn Kaufman

In 2000 Houghton Mifflin first published the Kaufman Focus Guide to the Birds of North America. Critically acclaimed for its innovative design, the Kaufman guide began introducing a new generation to birding. In 2005, this new Kaufman Field Guide to Birds of North America is now the most up-to-date field guide, including dozens of changes by the American Ornithologists' Union in official names of birds; the addition of new species to reflect the latest scientific discoveries; and dozens of updated range maps. Additional information helps beginning birdwatchers get started, all in the same compact format that has made this guide the easiest to use for fast identification in the field.

- **The Boy Who Drew Birds: A Story of John James Audubon**

by Jacqueline Davies

The story opens with 18-year-old French naturalist John James Audubon roaming Pennsylvania countryside in search of birds. In an effort to determine whether individual birds return to the same nests in the spring, he uses silver thread to band some fledgling peewee flycatchers. He observes them as they grow through the summer, leave for the winter, and return the following year.

- **Fine Feathered Friends: All About Birds** (Cat in the Hat's Learning Library)

by Tish Rabe

Bee hummingbirds, ostriches, flycatchers, chickadees, and bald eagles! Dick and Sally find themselves on a bird-watching tour led by the Cat in the Hat. After a quick lesson on just exactly what a bird is, they go motoring around the world to observe our fine feathered friends in their natural habitats. Time flies, and soon it's late, but the Cat saves the day by shifting his vehicle into Fine Feather All-Weather Flying Machine mode and winging Dick and Sally back home.

- **Flute's Journey: The Life of a Wood Thrush***

Lynne Cherry

A young wood thrush makes his first migration from his nesting ground in a forest preserve in Maryland to his winter home in Costa Rica and back again.

- **One Small Square Woods**

Donald Silver

The woods are full of puzzles to be solved, clues to be found. Inspired by this book's hints and fun-filled experiments and activities, and using only simple equipment, young readers unlock the closely guarded secrets of the woods from the strange meetings of lazy butterflies, to the miraculous "walking" of a twig, to the riddle of why the leaves turn color and fall.

- **Our Yard Is Full of Birds**

by Anne Rockwell

A straightforward introduction to some of the common birds that visit a little boy's yard throughout the seasons: the familiar cardinal, blue jay, and robin, and the less easily recognizable red-eyed vireo, phoebe, and catbird.

- **Owl Babies***

Martin Waddell

Three owl babies whose mother has gone out in the night try to stay calm while she is gone.

- **Owl Moon***

Jane Yolen

On a winter's night under a full moon, a father and daughter trek into the woods to see the Great Horned Owl.

- **She's Wearing a Dead Bird on Her Head***

Kathryn Lasky

In 1896, two proper, Boston women, Harriet Hemenway and Minna Hall, became disgusted and concerned over the growing fashion trend involving the wearing of bird feathers, and sometimes even whole, stuffed birds on the hats of "stylish" ladies of the day. In order to save endangered and potentially endangered birds, the two women urged other concerned women and men to educate the public and pass protective legislation by forming the Massachusetts Audubon Society. Hemenway and Hall also visited schools, encouraging children to join.

Additional Resources:

DNR Education Website: <http://dnr.state.il.us/lands/education/index.htm>

- Educational supplements (CD-ROMs for students and teachers, educational trunks, posters, books, etc.)
- ENTICE workshop schedule
- Project WET, Project WILD, and Project Learning Tree
- Contests and grants

Audubon Illinois Wildlife Series Display Boards*

- Butterflies and Moths
- Amazing Bats
- Illinois Owls

See www.champaigncountyaudubon.org for a list of resources for loan housed at the Education Center at the Homer Lake Forest Preserve.

**Available for loan from the Education Center at Homer Lake Forest Preserve. We have many more items in addition to those listed – please call 896-2455 for more information.*