

Home School Family Series

March: Iowa Nesting Birds

Start Up: Mounts of Iowa nesting birds, feathers, nests & eggs, bird posters, field guides
(5-10 min) Ask families to make nametags as they arrive.

Welcome/ Staff/Volunteer Names

Introduction: Today's Topic-Iowa Nesting Birds

1 min. **Question: What is it like for birds nesting in Iowa?**

Opener: **Migration guessing game** (see below)-

10 min. Play a guessing game with students/families to review basic migration concepts.

♣ Ask a student from each family to introduce themselves and their family members.

♣ Invite them to pick up a plastic egg, open it, and read the enclosed clue (or get help reading it). They can answer the question as a family or ask the others for help.

♣ Then ask them to place the solved clue in either "Winter Birds" or "Migrating Birds" categories.

Background/ Ask families to recall what makes a bird a bird.

Exploration: (feathers, wings, flight, beaks, scaly feet, eggs, hollow bones, crop or gizzard)

60 min.

Bird groups-Ask families to recall some basic bird groupings.

Ducks/geese, perching/song, wading, birds of prey/raptors. Show examples.

Each bird's body shape and other adaptations help it live its unique lifestyle.

Which of our nesting birds stay here all winter and which migrate?

Briefly discuss neotropical migrants (IAN) and give some examples (songbirds, waterfowl).

Robin, Red-Winged Blackbird, Oriole, Heron, some ducks

Mention raptors-Eagles, hawks, & owls

Iowa Nesting Birds-Share examples of some of our nesting species (IAN). Show pictures.

Mallard duck, Canadian Geese, Chickadee, Cardinal, Owls, Hawks, a few Bald Eagles

What do birds need in order to nest & raise young?

Habitat (space, shelter), food & water, few disturbances/predators, & minimal pollution.

A Bird's Life-Ask families to help highlight the basic sequence.

♣ Migrates back or returns to nesting habitat in spring.

♣ Males' feathers molt and get brighter when it's time to breed.

♣ Male finds and defends a territory.

♣ Male tries to attract a female with song and behavior (fluffing feathers).

♣ Male courts female with different behaviors (bringing food, dancing, flying patterns).

♣ Female accepts male or rejects him.

♣ If male is accepted, the pair bonds and mates.

Some pairs stay together for years-geese, swans, cranes, eagles.

♣ Eggs are incubated (kept warm) by female or both birds.

♣ Eggs hatch.

♣ Parents feed young birds.

♣ Young birds grow feathers and learn to fly and find food.

♣ May eat extra in fall before migrating South with their parents.

Molting-Explain how birds grow new feathers at least once/year (raptors).

Smaller birds and ducks may molt twice a year (spring/fall).

Ask the students how molting is an advantage or a disadvantage to birds.

Attract better attention in spring, can be more camouflaged in fall, can't fly as well during molt

Use a mount or picture to "interview" a specific nesting bird and describe its life cycle:

Our State Bird (*Teacher's Activity Book...*)-Show pictures of the Goldfinch, our state bird.

- ♣ Describe appearance-Gold with black wings, small, molt to olive greenish in winter.
- ♣ Call sounds like 'po -TA-to-chip, po-TA-to-chip'.
- ♣ Goldfinches have short, strong beaks for seeds. Thistle seeds are a favorite food.
- ♣ They nest late in late summer when thistle and milkweed down are abundant.
They line their nests with the down.
- ♣ Goldfinches live in open fields, woodland edges, and backyards.

Birdsong & Calls- Birds have different calls and songs, they sing for different reasons.

- Singing/calling is one way a bird communicates to other birds and animals.
- Singing/calling is an important part of the breeding season.
- Birds sing to stake out a territory, defend their territory, and attract a mate.
- Most singing occurs in the spring during breeding.
- Males do most of the singing.
- Shorter birdcalls have one or a few notes, and are used during feeding, to warn of danger, and communicate during migrating.

Activity:
15 min.

Learn & practice a few common birdcalls with a CD player or *Birdsong Identifier*TM.
Encourage families to try to identify other familiar birdcalls.

Game:
15 min.

Clock Chorus (Lingelbach)-

Hand out cards with bird names, calls, and times.

- ♣ Let Family members practice the calls.
- ♣ Move a model clock through the hours of the day.
- ♣ Encourage people to "sing" at the appropriate hours.
- ♣ What do they notice about birdsong at various times of day?

(Most singing/calling happens for a couple hours in the morning, then again in the evening.)

Nests-Show families examples of different nests & eggs.

- ♣ Most birds nest in spring & summer, some late winter/early spring (woodpecker, owls).
- ♣ Most birds build nests as pairs; male builds the nest to attract the female in some species.
- ♣ Nests must be built with beaks and feet (birds don't have hands).
- ♣ The type of nest depends on the habitat it is built in and the habits of the bird.
- ♣ Nests built in a safe place protect the eggs and young from weather and predators.
- ♣ Many birds like to build their nests near a food source.
- ♣ Nest materials can include grass, twigs, roots, feathers, thistle down, mud, wool/animal hair, lichens, spider webs, leaves, and plant fibers.
Some nests also have human leftovers like paper, yarn, and other trash.
- ♣ Give a few examples linking birds to their nesting materials (see below).

Activity:

Build a Nest (*Teacher's Activity Book...*)-

- ♣ Give families various materials and ask them to construct a "nest".
- ♣ Try taping some fingers together or have them use tweezers (for older students).
- ♣ Is nest-building easy?

Cowbird (Master Moocher, ...*Song of Spring*)-

- A parasitic nester that lays eggs in other birds' nests.
- The cowbird young hatch first and crowd other bird's eggs or babies out.
- Cowbirds used to follow bison herds. Now they're a problem for other songbird populations.
- Robins, catbirds, & some others recognize and get rid of cowbird eggs (or re-nest).

Eggs-Color helps camouflage them.

- Ground nesters lay brownish (often speckled) eggs.
- Brightly colored eggs laid by shady-area nesters.
- Birds with white eggs lay them in holes.
- Most eggs are oval, that shape helps prevent them from rolling away.

Baby birds-

- ♣ Hatch with the help of a small "egg tooth" at the tip of their beaks.
- ♣ This special tool later falls off.
- ♣ Some new baby birds need to be fed and cared for by their parents for several weeks until they grow feathers and learn to fly and find food (altricial-songbirds).
- ♣ Other baby birds hatch with downy feathers, and are soon running around finding food (precocial-game birds).

Prepare to go Outside: 10 min.

Restroom break.

Bring: Water bottles, bird behavior sheets, binoculars

Trail Rules (see *The First Program*).

What we will do/What to look for-Signs of Iowa nesters and their behavior

Predictions-Which birds will we see?

OUTDOOR EXPLORATION: 1 hour, 10 min.

Look for shed bird feathers, signs of birds, nesting & other behavior

Look at bird house examples nearby (Wood Duck house)

Listen for calls and songs.

Use a CD player or a *Birdsong Identifier*TM to share more common calls.

Use the distress call to try to attract some birds.

Activity:

Bird Behavior Bingo (*Teacher's Activity Book...*)-Families mark off behavior on the sheet.

Bluebirds (*Teacher's Activity Book...*)-Describe/explain nesting and box monitoring season.

- Male has sky blue feathers & tail; rusty orange throat & breast.
- Female is duller, young have gray back with a spotted breast, and dull blue wings & tail.
- Prefer open land near wooded areas like orchards, pastures, and croplands.
- Like insects from open areas, but need nearby trees or posts for nesting.
- Eat some fruit like sumac, poison ivy, elderberry, and dogwood.
- Most winter in southern states (MO, AK, MI, TX).
- Males return early in spring (late March/early April) to stake out territory.
- Females arrive to answer call of males, and make final choice of a cavity nesting site.
- Nest is a cup shape made of grasses & weeds.
- Three to six eggs are laid, one per day, and are incubated for 12 days.
- Young are fed constantly-ready to fledge at 16-20 days.
- Parents can raise up to three broods a season with favorable conditions.

Activity: **Bluebird House Prep**-Invite families to help get a bird box ready for spring/summer:

- Open box.
- Clean out old nesting materials.
- Soap underside of ceiling and floor to discourage wasp nests.

Briefly discuss trail monitoring through the season and volunteer opportunities.

- Tap/knock gently on the bluebird box so bluebird parent can fly out.
- Open box and check for nesting materials.
- Observe nests as they form.
Clean out sparrow nests.
Leave chickadee, swallow, or wren nests (box full of twigs).
- Watch any bluebird nests for eggs. Record date of egg appearance.
- Attach wire mesh predator guards to boxes after eggs are laid.
- Spray crawling insect infestations with soapy water.
- Spread petroleum jelly in a ring around nest box pole if ants are seen.
- Monitor growth and health of nestlings.
- Cease opening the box after the 11th day after hatching to prevent early fledging.
- Clean out the bluebird nest after young have fully fledged.

Activity: Build a simple birdhouse (Henderson).
Discuss ways to create and preserve habitat for native birds.

Closing: **Cornell Nest Box Survey**-Describe this program and how to get more information.
(There is a teacher packet with games and activities that goes with it.)

Send Off: Goodbye!
Next Time-Protecting Our Water

Take Home: Bird House
Bird Call sheet
Bird and egg activities
Bluebird monitoring info.

Vocabulary

Migration, neotropical, habitat, molt, territory, incubation, breeding, altricial, precocial, monitor, crop, gizzard, parasite, raptor

Background and Activity References for Naturalists and Parents

www.birds.cornell.edu Cornell University Lab of Ornithology-website also (607) 254-BIRD
<http://www.nwf.backyardwildlifehabitat/> How to create a backyard habitat for wildlife

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Pp. 56-57 egg adaptations; bird and egg observation and activity ideas –send home
- Project Wild Aquatic: Education Activity Guide*. 1992. Council for Environmental Education, Gaithersburg, MD. P. 94 Migration Headache
- Ranger Rick's Naturescope: Birds, Birds, Birds!* 1992. National Wildlife Federation, Washington, D.C.
P. 20 Bird Talk-bird call song; pp. 50-51 People and Birds, conservation problems-send home info.; Take a Bird to Lunch-feeding and feeder poster (center); p. 52 Home-made "binoculars"
- Sisson, Edith A. 1987. *Nature with Children of All Ages*. The Massachusetts Audubon Society-Prentice Hall Press, New York. P. 79 Beak/Feet Illustration-Good for program use and take home;
- Solve the Crime: Save the Song of Spring! Neotropical Migratory Birds and their Midwestern Connections, Middle School Activity Guide*. 1998. Zaletel ed. ICEC, Iowa Ornithologists' Union, Partners in Flight, Iowa Resource Enhancement And Protection, and Iowa Department of Natural Resources.
Pp. 23-28 Interview the Players-beak adaptation exploratory stations, beak matching sheet; pp. 93-99 Master Moocher-background/activity about nest parasites
- Stokes, Donald & Lillian. 1991. *The Bluebird Book: The Complete Guide to Attracting Bluebirds*. Little, Brown and Company, Boston. Background, box plans, trail development and monitoring
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Bird and nest trivia

Robins-mud & twigs	May build anywhere on a ledge or flat surface (house lights)
Hummingbirds-spider webs & lichens	In the crotch of a shrub or small tree
Nighthawks, whip-poor-wills-	Leafy woodland ground
Killdeer-speckled eggs	Bare open ground or gravel , nest called a scrape
Orioles-woven grass	Hanging grass basket nests
Kingfishers-	Tunnel in river bank with a room at the end
Bluebirds, wrens, chickadees, tree swallows-	Nest in cavities, boxes can be built for them
Mourning Doves-	Loose stick nest in a tree

Additional Bluebird information

Bluebirds once ranged across eastern half of U.S.; populations have decreased since the 1930's. Changes in rural habitats responsible: removal of hollow trees, steel fence posts instead of wooden, insect food contaminated with pesticides, competition from sparrows and starlings. Many natural predators, including raccoons, opossum, snakes, cats, and the blowfly parasite.

Extensions/Alternate Activities/Rainy Day

For the nest-building activity, have families try to build specific types of bird nests.

Crops-A large sac at the bottom of a bird's throat which stores food.

Birds can eat a lot (gorge), then slowly digest it later when they need it, or when they are in a safer place.

Some birds gorge before migrating. Others store food to spit out for their young (regurgitate).

Birds of prey store indigestible bones, fur, etc. in their crop and spit it out later.

Gizzards-Birds do not have teeth, so most have a gizzard, a strong muscle that helps crush and grind hard nuts, seeds, etc. before they travel to the stomach.

Many birds swallow small stones and grit that helps their gizzard grind the food up.

Eggs-Unlike mammals, birds lay eggs that later hatch into baby birds.

An egg is a special life-support system which protects and feeds the baby bird as it develops.

Eggs have special sacks inside which provide liquid, food, and air.

The protective egg shell is made partly of calcium, the hard stuff in our bones.

The baby bird can get air through the tiny pores in the shell.

The bird's parent s just need to sit on the egg to keep it warm until it hatches.

EGGperiments-Help the students note the shape of an egg. It is narrower at one end.

Place an egg into a clear measuring cup mostly full of water. Talk about volume.

Compare a hard-boiled egg to a raw egg by shining a flashlight through both.

What happens to each kind of egg when they are gently spun like a top?

A Bird's Life-Make cards with the bird life cycle events on them. Ask family members to draw one at a time and put them in order. The events could be acted out.

Supplies:

Mounts of Iowa nesting birds	Pictures of Iowa birds-Goldfinch
Feathers	Bird posters
Bird nest & egg examples or pictures	Bird field guides
<i>Birdsong IdentiflyerTM</i>	Binoculars (older students)
or Bird call tape/cd	Field guides-bird, nest
Tape/cd player	Nametags & markers
Pencils	Plastic eggs
Bird Behavior Bingo	Migration Guessing clue cards
 	Bird house supplies:
Nest-building supplies-	Boards cut and drilled to size
Grass	Hammers and nails
Yarn	(carpet squares to pound on)
Toothpicks	
Cloth	Bluebird house monitoring:
Hay	Gloves
Tweezers (optional)	Spray bottle
Masking Tape for fingers	Bar of soap
 	Petroleum jelly
Clock Chorus-	
Model clock	
Bird call cards w/times	

**Advance
Preparation:**

Migration guessing game-Copy migration clues, cut apart.
Find some plastic snap together eggs. Place a migration clue in each one.

Buy or make some bird house kits, one per family.

Make a model clock with hands that move.

Copy the Bird Behavior Bingo sheet. Page protectors and overhead markers could be used for repeated uses.

Migration Guessing Game

MIGRATING BIRDS

Geese flock together and fly in a “V” shape

May show up in Iowa in winter
(come from farther North)

May fly as far as South America

Must find places to rest and eat

Eat mostly live insects

Like open water

Eat extra in fall to build up fat layer

May use stars to find their way

Might crash into skyscrapers at night

WINTER BIRDS

Seen at your feeder in February

Have tough, cold-resistant feet

Can find food in cold and snow

Have very warm insulating feathers

High metabolism keeps them warm

May need to eat almost constantly

Eat fall seeds, dormant insects, and other
birds and animals

Need to find shelter from the cold

