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I AM A BIRDWATCHER

What to Know About This Kit

Ornithology is the branch of zoology that concerns the study of birds. Birdwatching is a form of wildlife observation in which the observation of birds is a recreational activity. Birdwatching can be done with the naked eye, through binoculars and telescopes, and by listening for bird sounds. Many bird species are more easily detected and identified by ear than by eye.

Birdwatching is a great way for children to develop their observation skills. Using the tools and equipment within this kit, children will be able to use their senses to gather information about local species of birds, their feeding habits, feathers, songs, nesting and more!

The chart below shows the seven major activities included in this kit that explore birds and birdwatching. Each activity offers one or more activities that highlight science, language, and math literacy skills. Hands-on activities included in the kit also provide suggested vocabulary, fun facts, and further reading.

In addition, the activities in this kit offer opportunity to incorporate the practices of singing, playing, talking, reading, and writing into the learning experience with your child. *Current early literacy research has shown that regularly sharing these five practices with young children can help them to become ready to read by the time they start school. *(from "Every Child Ready to Read," 2011)

Activity #1	Activity #2	Activity #3	Activity #4	Activity #5	Activity #6	Activity #7
Take a Backyard Bird Walk	Make a Simple Birdfeeder	Birds of a Feather	Sing Like a Bird	Eat Like a Bird	Bird Homes	Pretend You Are A Bird

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#1: Take a Backyard Bird Walk

SUMMARY: There's no better place for young children to begin to learn about the natural world than in their own backyards. Watching birds is one of the most accessible activities they can experience—outside or from a window. You can see birds any time of the year, and almost any time of the day, though the best time for watching birds is early morning or late afternoon. Encourage children to explore their outdoor environments on short walks and to observe the behavior of birds in general. This is a great start to fostering a lifelong interest in nature—and birds.

*Remember to practice birding etiquette: observe birds without significantly disturbing them by using low voices, avoid chasing birds and stay away from nests and feeding areas.

WORDS TO USE:

- Beak/Bill—the hard, outside covering of a bird's jaw
- Bird—an animal that lays eggs and has wings and a body covered with feathers
- Call—a sound, generally shorter than a song, made by both male and female birds to send messages to each other
- Crest—a group of decorative feathers at the top of a bird's head
- Egg—a hard-shelled, oval or rounded body that birds and other animals use to reproduce and from which the young hatches out
- Feather—the soft, light growths covering the body of a bird
- Field Marks—the distinctive stripes, spots, patterns, colors, and highlights that identify birds from a distance
- Flock—a group of birds or animals
- Fly—to move in or pass through the air with wings
- Habitat—the place where an animal lives or grows in nature
- Immature—a bird that is not fully developed, and not yet an adult
- Juvenile—a young bird wearing its first coat of feathers, after the down it hatched in
- Migration—movement from one place to another often on a regular basis
- Molt—to shed old feathers and replace them with new growth
- Nest—a shelter made by an animal, especially by a bird for its eggs and young
- Nocturnal—active at night, asleep during the day

- Ornithologist—a scientist who studies birds
- Plumage—all of the feathers that cover a bird's body
- Predator—an animal that lives by killing and eating other animals; a hunter
- Primary feathers—the "fingertip" feathers, the longest and narrowest on a bird's wing; used to push the bird forward in flight
- Roost—to sleep; a place where birds rest or sleep
- Song—a pattern of notes usually sung by a male bird (sometimes a female) to attract a mate or defend a territory
- Species—a group of similar living things
- Tail Feathers—the feathers in a bird's tail, used to steer in flight
- Territory—an area that is occupied and defended by an animal or a group of animals

MATERIALS NEEDED:

- sketchbook or notebook
- pencil (and pencil sharpener)
- crayons or markers
- bird field guide (*included in this kit*)
- binoculars (*included in this kit*)
- water
- snack
- sunscreen
- appropriate dress for the weather

ACTIVITY:

- Explore your backyard and observe the birds you see. Together with your child, use the field guide included in this kit to try to identify them. Write the date and time in your notebook and list the birds you see. Try to observe every day at the same time and for the same amount of time (for example: 9:00 am, for five minutes).
- Discuss together the questions listed in the "Observations" section below as you search for and notice birds in your backyard.
- Children can use crayons or markers to draw the different birds they see. This enhances thinking skills by learning to identify by shape, size, and color.
- Make some predictions about how many birds you might find if you sit in the yard or look out the window for five minutes, or even less time, if necessary. Then test your prediction.
- Count the birds you see in your yard every day for a week. Using the chart below, create a simple picture graph in your notebook or on a large piece of paper posted on a wall to track your findings. Children can draw a picture of a bird on the graph for each bird spotted on a given day.

The Birds We Saw in Our Backyard

Monday 1/01/15	Tuesday 1/02/15	Wednesday 1/03/15	Thursday 1/04/15	Friday 1/05/15	Saturday 1/06/15	Sunday 1/07/15

OBSERVATIONS:

- How big is the bird?
- What color is the bird?
- Does it have any field marks (spots, stripes, etc.)?
- What is the bird's shape? Is it slender or plump? Does it have a long or short neck? Does it have long or short legs?
- Where did you see the bird: high in a tree, low in a bush, or near water?
- What is the bird doing?
- What does the bird sound like?

DID YOU KNOW?

- At different times of the year, you can see different birds.
- Male birds are often brighter in color than female birds.
- A bird will often look different as a juvenile than as an adult.
- A bird's feathers may change from one season to another.
- The shape of a bird's beak (or bill) will indicate the kind of food it eats.
- Most birds sleep at night and take short naps during the day (they are not nocturnal).
- Many birds sing to attract mates, to tell other birds where they are, or to warn enemies away.

EXTRA ACTIVITIES:

- Look in places where you don't usually look: low to the ground, under bushes, or high up in the trees.
- Look for birds at different times of the day (morning, noon, and dusk).
- Keep a list of birds that you see in your backyard. Write down the date. Many birdwatchers keep a list of all the birds they have even seen. This is called a "life list." Encourage your child to do the writing. Even if your young child scribbles, this practice teaches him or her that the print seen on the page represents people, places, ideas and things in the world. This is an important pre-reading skill for young children.
- Hang a birdfeeder near an accessible window in your house. This will bring birds to the house and easily allow kids to gather near the window to watch when they arrive (without scaring off any feathered friends before getting a good look).

SUGGESTED READING:

- J 598.072 C *Look Up! Bird-Watching in Your Own Backyard*
- J 598.072 R *Birdology: 30 Activities and Observations for Exploring the World of Birds*

SUGGESTED WEBSITES:

- <http://www.nickjr.com/printables/bird-watching-guidebook.jhtml>
- <http://gbbc.birdcount.org/> (The Great Backyard Bird Count by the Cornell Lab of Ornithology and the National Audubon Society)

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#2: Make a Simple Birdfeeder

SUMMARY: Homemade birdfeeders can be very simple to make, and provide easy opportunities for young children to interact with nature. By making a birdfeeder, children can learn about seeds, simple construction, how to make things stick together, and how to make things meant for nature. By observing the birds that visit a homemade birdfeeder, children can learn all about different types of local birds, their similarities and differences, how beaks help birds eat things like seeds, bird feeding patterns, and interactions between wild animals, such as birds and squirrels. This can be an ongoing activity, as long as you keep your birdfeeder clean and well-stocked so it is a healthy source of food for your backyard birds.

WORDS TO USE:

- Beak/Bill—the mouth of a bird
- Birdseed—a mixture of seeds used to feed birds
- Habit—a usual way of behaving
- Observe—to watch carefully
- Perch—a roost for a bird
- Species—a group of similar living things

MATERIALS NEEDED:

- cardboard paper tube
- yarn or string
- birdseed
- flat pie pan or dish
- peanut butter (creamy)
- hole puncher
- plastic knife
- wax paper or newspaper

ACTIVITY:

- *Note: Your child can have as much independence in completing this activity as you think is appropriate. Only adults should do any tasks involving sharp objects, but children of various ages can do much of this activity themselves.*

- Decide where you want to put your birdfeeder outside. This will determine the length of the string (it's a good idea to overestimate). If possible, try to hang your birdfeeder where squirrels can't reach it.
- Set up a workstation using wax paper or newspaper to keep your table clean.
- Pour some of the birdseed into a flat pie pan or dish.
- Punch two holes in the top of the cardboard paper tube, not too close to the top.
- Cut a length of string double the length needed to hang in the spot you chose.
- Pull the string through the holes and tie the ends together at the top. This is how you will hang the birdfeeder, so you might want to wait to tie the ends together until then.
- Spread peanut butter on to the paper tube to cover it fully, but without a lot of excess.
- Roll the paper tube in the birdseed to cover the peanut butter.
- Hang the birdfeeder outside by tying the ends of the string or hooking the string loop over a tree branch or outdoor structure. Again, try to place it where squirrels cannot reach it, although this might be unavoidable.
- Check your birdfeeder about once a week to make sure it is clean and none of the birdseed has spoiled.
- Remove the birdfeeder during heavy rains or when it is empty of seeds.
- Start again with a new feeder to keep the birds coming to your yard.
- Be aware that in the warmer months, your birdfeeder may attract bugs.
- Keep a log or journal of your observations and a list of the birds.
- Watch how birds perch on the feeder.

ALTERNATIVE BIRDFEEDERS:

- Core an apple and cut slices from the top and bottom (so it looks like a doughnut). Spread peanut butter on the cut sides, and dip the apple in birdseed to cover the peanut butter. Thread a string or yarn through the hole at the core and hang the apple birdfeeder outside.
- String together popped popcorn and fresh cranberries to hang outside.
- Tie yarn or string around one end of a pinecone. Carefully spread peanut butter on the pinecone, roll it in birdseed, then hang it outside.
- Cut out a large window in a clean milk carton, and fill the inside with birdseed. Punch a hole in the top of the carton, thread it with string or yarn, and hang it outside.
- Punch a hole in a plain rice cake and thread it with string or yarn. Spread peanut butter on the rice cake butter and dip it in birdseed, then hang it outside.
- Thread plain cheerios onto a pipe cleaner and wind one end around a tree branch or outdoor structure to hang it.

OBSERVATIONS:

- Look up the birds that visit your feeder in the Peterson Field Guide included in this kit, or on-line, and keep a list of their names in your log book or journal.
- If several birds of the same species visit, look carefully for differences between them. Are they different in size, color, shape, or markings?
- Watch how the birds use their beaks to grab and crack open the seeds. How are their beaks similar and different? Can you tell which birds might prefer which seeds?
- Do certain birds come to feed at certain times of day?
- Do some birds stay longer at the feeder than others?
- Are certain birds more aggressive than others?

- Do you see any birds in your yard that do not eat at the feeder?
- Can you tell what kind of seeds are in your birdseed that you purchased from the store? Is there corn, sunflower, thistle, or millet?
- Imagine what might happen if you moved your feeder to a different location. Or move your birdfeeder and note any differences in the number and type of birds that visit it.
- Write a fictional story together about the birds you see or hope to see.

DID YOU KNOW?

- Birds can become dependent on your feeders for food.
- Dirty birdfeeders and rancid birdseed can make birds sick.
- Long, skinny beaks can help birds reach insects in trees.
- Birds need strong beaks to crack seeds.

SUGGESTED READING:

- J 690.8927 S *Birdfeeders*
- J 598 S *Feeding Our Feathered Friends*
- J 690.8927 H *Make Your Own Birdhouses & Feeders*

SUGGESTED WEBSITES:

- http://www.pbs.org/parents/curiousgeorge/activities/pc_plastic_bottle_birdfeeder.html
- <http://www.nickjr.com/crafts/pinecone-birdfeeder.jhtml>

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#3: Birds of a Feather

SUMMARY: Children love to learn about the world around them. Focusing on bird feathers can help children learn important concepts like colors, shapes, sizes, and patterns. This activity also provides opportunities for children to develop their observation and comparison skills, to focus on details through a magnifying lens, and to build their fine motor and hand-eye coordination skills with the homemade quill. Older children can also explore introductions to important science concepts, like weight, gravity, buoyancy, and magnification.

WORDS TO USE:

- Down feathers—soft, fine feathers that keep birds warm but don't help them fly
- Examine—to look at or check carefully
- Feather—the soft, light growths covering the body of a bird
- Float—to rest on the surface of a liquid
- Heavy—having great weight, not light
- Light—having little weight, not heavy
- Magnify—to enlarge in appearance
- Molt—to shed old feathers and replace them with new growth
- Quill—a pen made from a feather

MATERIALS NEEDED:

- feathers
- mild soap or dish soap
- magnifying glass (*included in this kit*)
- bowl of water

ACTIVITY:

- As you complete Activity #1: Take a Backyard Bird Walk, and on any other outdoor outings, gather feathers you find on the ground.
- Carefully clean the feathers in a basin of water with a little mild soap or dish soap. Gently swirl them in the soapy water to clean them, and softly brush the hairs or fibers toward the narrow tip (with the grain) to remove dirt and debris. Rinse the feathers with warm water and let them air dry, or blow dry them on low.
- Examine the feathers with and without the magnifying glass.
- Use both of the magnifier's lenses, and note differences in the details you can see.

- Try to match the feathers with birds pictured in the books.
- Hold the feathers high in the air and watch them fall slowly.
- Try to keep a feather afloat in the air by blowing on it.
- Place them in a bowl of clean water to see if they float.
- Using grape juice as ink, try writing with the point at the base of a feather. First, cut the end of the feather at an angle, then cut one vertical slit into the point you just made. Dip it into grape juice in a small cup, and try to write on paper. Larger feathers work best, especially ones with hollow centers at the base. Note that this can be messy.

OBSERVATIONS:

- How can you describe the feathers? What colors, shapes, sizes, and markings do you see? Compare the different feathers that you find.
- Do you think the feathers came from small, medium or large birds?
- Can you tell if a feather was on a bird's wing, body, or tail?
- Why do you think birds have feathers?
- Why would a bird lose a feather? Does this hurt the bird?
- Why do feathers fall to the ground so slowly?
- If the feathers float in water, what does that mean for birds? Why is this important?
- What does the magnifying glass help you do when you look at the feathers? How does it work?
- Does it make sense to use a feather as a pen?
- What else could you use a feather for?

DID YOU KNOW?

- All birds have feathers, and birds are the only type of animals with feathers.
- There are many types of feathers, including flight feathers, down feathers (to keep birds warm), and contour feathers (covering the body, wings, and tail).
- Some feathers are oily to keep birds dry when they are swimming.
- Birds use tail feathers to steer when they fly.
- The pink feathers on flamingos are caused by the pink shrimp that they eat.
- Feathers can help birds camouflage, or blend into their natural surroundings.
- Some birds, like the kiwi, ostrich, and penguin, cannot fly. Chickens cannot fly long distances or very high off the ground.
- Many years ago, people would use feathers dipped in ink as pens for writing.

SUGGESTED READING:

- J 811.6 Y *Birds of a Feather*
- J 598.147 S *Feathers: Not Just for Flying*

SUGGESTED WEBSITES:

- <http://www.raptorresearchfoundation.org/education/feather-facts>
- <http://www.birds.cornell.edu/AllAboutBirds/studying/feathers/feathers>
- <http://kids.sandiegozoo.org/animals/birds>

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#4: Sing Like a Bird

SUMMARY: Singing is one of the five practices of early literacy, because children learn so much through song. Listening carefully to bird songs can help children learn about patterns, communication, music, and nature. Imitating bird calls is also a great opportunity for hands-on, interactive learning. This activity also allows children to explore nature through their sense of hearing, and to engage with nature through song.

WORDS TO USE:

- Bird Call—an instrument people use to imitate or mimic the cry of a bird
- Call—the cry or characteristic sound of an animal
- Habitat—the place where an animal lives or grows in nature
- Mimic—to imitate or copy closely, usually through sounds or actions
- Song—a characteristic sound or series of sounds birds use to communicate

MATERIALS NEEDED:

- birdsong toys (*included in this kit*)

ACTIVITY:

- Listen to each of the songs of the 3 plush birds (robin, cardinal, and blue jay) included in this kit.
- Look at a picture of each bird in one of the included books as you listen to its song.
- Take a walk outside and listen to the birds around your home. Try to locate the birds just by following the sounds they make.
- Try to mimic, or copy, some of these birdsongs. While outside, try to call back to the birds you hear.

OBSERVATIONS:

- Can you tell the difference between the songs of the robin, cardinal, and blue jay? How are they different? How are they alike?
- Do any of the birds you hear outside sound like a robin, cardinal, or blue jay?
- Do some birds sing more at certain times of day?
- Do some birds sing more in certain seasons or weather?
- Do some birds have more than one song or call?

- Is it easy to mimic birdsongs? Are some harder than others?
- When you call back to the birds outside, do they respond? Do you think they understand you? Can you imagine what they are trying to communicate?

DID YOU KNOW?

- Singing birds are usually male, and they sing their songs to attract mates.
- Female birds are quieter and more dull in color so they can blend into their nests and protect their young.
- Birds sometimes sing to defend their territory.
- A mockingbird will mimic other birdsongs.
- Most birds are not born knowing how to sing. They learn how to sing from their fathers or other male birds around them.
- Baby birds sometimes sing loudly from the nests to beg their mothers to feed them.
- Even though birds of the same species will have similar songs, each individual bird has a distinctive song.
- Some birds, like mynah birds and parrots, can mimic human voices.

SUGGESTED READING:

- E Franco *Birdsongs*
- E Sandall *Birdsong*
- ICR J 598 H *Why Do Birds Sing?*
- J 598.1564 G *Have You Heard the Nesting Bird?*
- J 598.8 J *Songbirds: The Language of Song*

SUGGESTED WEBSITES:

- <http://biology.allaboutbirds.org/>
- <http://biology.allaboutbirds.org/bird-song-hero/>
- http://mrnussbaum.com/birds-2/bird_songs/

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#5: Eat Like a Bird

SUMMARY: Children learn best through play, and many learn especially well through hands-on activities and dramatic play. By pretending to be different kinds of birds and trying to eat using tools like various bird beaks, children can learn about birds and their characteristics through experience. This activity also provides opportunities for children to develop their fine motor skills and hand-eye coordination.

WORDS TO USE:

- Beak/Bill—the horny jaw and mouth parts of a bird
- Crack—to break with a sudden sharp sound
- Habitat—the place where an animal lives or grows in nature
- Seed—the grains of plants used to grow new plants
- Sip—to drink in small quantities or little by little

MATERIALS NEEDED:

- tweezers or tongs (*included in this kit*)
- straw
- slotted spoon
- water
- edible seeds (like sunflower seeds)
- cheerios, goldfish crackers, or another small grain snack
- noodle soup or other chunky soup

ACTIVITY:

- Look at the tweezers, straw, and slotted spoon. Guess which tool would work best for eating each food.
- Use the various tools as beaks to try to eat the various types of food like a bird.
- If you'd like more practice, look around the kitchen for other foods you can try to eat like a bird.
- Look at the different beaks of the birds in the books included in this kit. Read about what kinds of foods various birds eat, and how their beaks work for them. What kinds of birds have beaks like the tools in this activity?

OBSERVATIONS:

- Which “beak” works best for each food? Why is a narrow bill better for small seeds, a sharp beak better for hard shells, a straw-like thin bill better for sipping liquids, and a wide, flat beak better for scooping food out of water?
- Think about the birds you saw in Activity #1: “Take a Backyard Bird Walk” and Activity #2: “Make a Simple Birdfeeder.” Why do the birds that live in your neighborhood have the types of beaks they do?

DID YOU KNOW?

- Just like humans, birds cannot move their upper jaws, or the top halves of their beaks.
- Birds don’t just use their beaks for hunting and eating food. They also use their beaks for building nests, drinking, preening or cleaning themselves, defending themselves and their chicks, and feeding their chicks.
- Birds of prey, like falcons, eagles, and great horned owls, have a special triangular “tooth” inside the top of their beaks to help them hunt.
- Hummingbirds have very long, thin bills like needles, which they use to drink nectar from inside flowers.

SUGGESTED READING:

- J 573.355 C *Beaks!*

SUGGESTED WEBSITES:

- <http://projectbeak.org/adaptations/beaks.htm>
- http://fsc.fernbank.edu/Birding/bird_beaks.htm

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#6: Bird Homes

SUMMARY: Birds use twigs, sticks, mud, moss, feathers, and whatever else they can find to make a safe and cozy place to lay their eggs. No one teaches birds how to construct a nest; they are born with this knowledge. Children can learn to become “citizen scientists” as they observe the world around them and look for birds’ nests and nesting materials. In this activity, children will use found objects to try to build a nest like a bird does. Encourage your young birds’ nest engineer to ask, imagine, plan, create, and improve as he or she attempts to design and construct a nest. Sometimes, we can give nature a helping hand, and providing nesting material or building a bird house are projects that do just that! It may also give your family the chance to observe the life cycle of birds native to your area.

WORDS TO USE:

- Egg—a hard-shelled, oval or rounded body that birds and other animals use to reproduce and from which the young hatches out
- Habitat—the place where an animal lives or grows in nature
- Immature—a bird that is not fully developed, and not yet an adult
- Juvenile—a young bird wearing its first coat of feathers, after the down it hatched in
- Nest—a shelter made by an animal, especially by a bird for its eggs and young
- Observe—to watch carefully
- Predator—an animal that lives by killing and eating other animals; a hunter
- Roost—to sleep; a place where birds rest or sleep
- Species—a group of similar living things
- Territory—an area that is occupied and defended by an animal or a group of animals

MATERIALS NEEDED:

For the *Build a Nest* activity:

- Natural materials found in your yard, neighborhood, or local park, such as twigs, dry leaves, dry grass, moss, straw
- Scrap materials, such as strips of paper, string, yarn, or bits of fabric
- Mud

For the *Nesting Materials Ball* activity:

- Mesh produce bag or other container to hold nesting materials, such as a suet basket, wire whisk, plastic berry basket, grapevine ball
- Natural materials found in your yard, neighborhood, or local park, such as twigs, dry leaves, dry grass, straw, cattail, milkweed, or thistle fluff
- Soft material, such as hair, horse hair, dog fur, cotton, strips of fabric
- Shredded paper
- Yarn – not longer than 6"

ACTIVITIES:

Build a Nest

- *Note: This activity will be messy, and is probably best done outdoors.*
- Look around outside to see if you can find a nest, or look at the photographs included in this kit. (*It is best to look for nests in the fall. In the spring, you could disturb nesting birds, who might leave their eggs. Be sure not to touch the nest!*) Another fun way to see a nest up close is to view one on a computer through a webcam. The website of The Cornell Lab of Ornithology (<http://cams.allaboutbirds.org/>) has links to a variety of nests across the country, and occasionally hosts a live penguin cam. A little closer to home, the Friends of Blackwater National Wildlife Refuge in Cambridge, Maryland (<http://www.friendsofblackwater.org/camcentral.html>) host a Bald Eagle Cam and an Osprey Cam.
- Look closely to see how birds' nests are made and what kinds of materials birds use.
- Which of these nesting materials do you think you can find? Make a list of the things you think are most important.
- Look around your yard, neighborhood, or local park and gather materials that you think you can use to build a nest. Gather things like twigs, straw, string, paper, moss, leaves, bits of fabric, and maybe even mud!
- Think about how the materials you've gathered can be put together to make a nest. Which materials might work best for you? Make a plan by drawing your design or talking with a grown-up.
- Choose your best idea and follow your plan and create a birds' nest from the materials you gathered. Can you get the materials to hold together in a bowl shape? If not, what might work better?
- Now it is time to test your nest. How sturdy is it? Would it hold an egg? Try putting a small rock in your nest. Does it sit safely in the nest, or fall out? Think about what you can do to make it better, and try again!

Make a Nesting Materials Ball

- Gather an assortment of nesting materials, such as twigs, dry leaves and grass, straw, cattail, milkweed, or thistle fluff, hair and/or dog fur, cotton, strips of fabric and yarn, and shredded paper.
- Stuff the materials into the container you have chosen.
- Attach the nesting materials ball to a tree trunk or branch, fence post, or deck railing. The birds will pull out the material through the holes and carry it to their nest.

OBSERVATIONS:

- Be still and quiet as you watch for birds near your home. Do you notice the same kinds of bird in the same location? There may be a nest nearby!
- Can you spot a nest?
- What materials do birds use to build their nests?
- Can you tell which birds made the nest you see?
- Look around and think about why birds chose the materials they used for their nests.
- Did any birds find your nesting materials ball?
- Did any other animals use your nesting materials?

DID YOU KNOW?

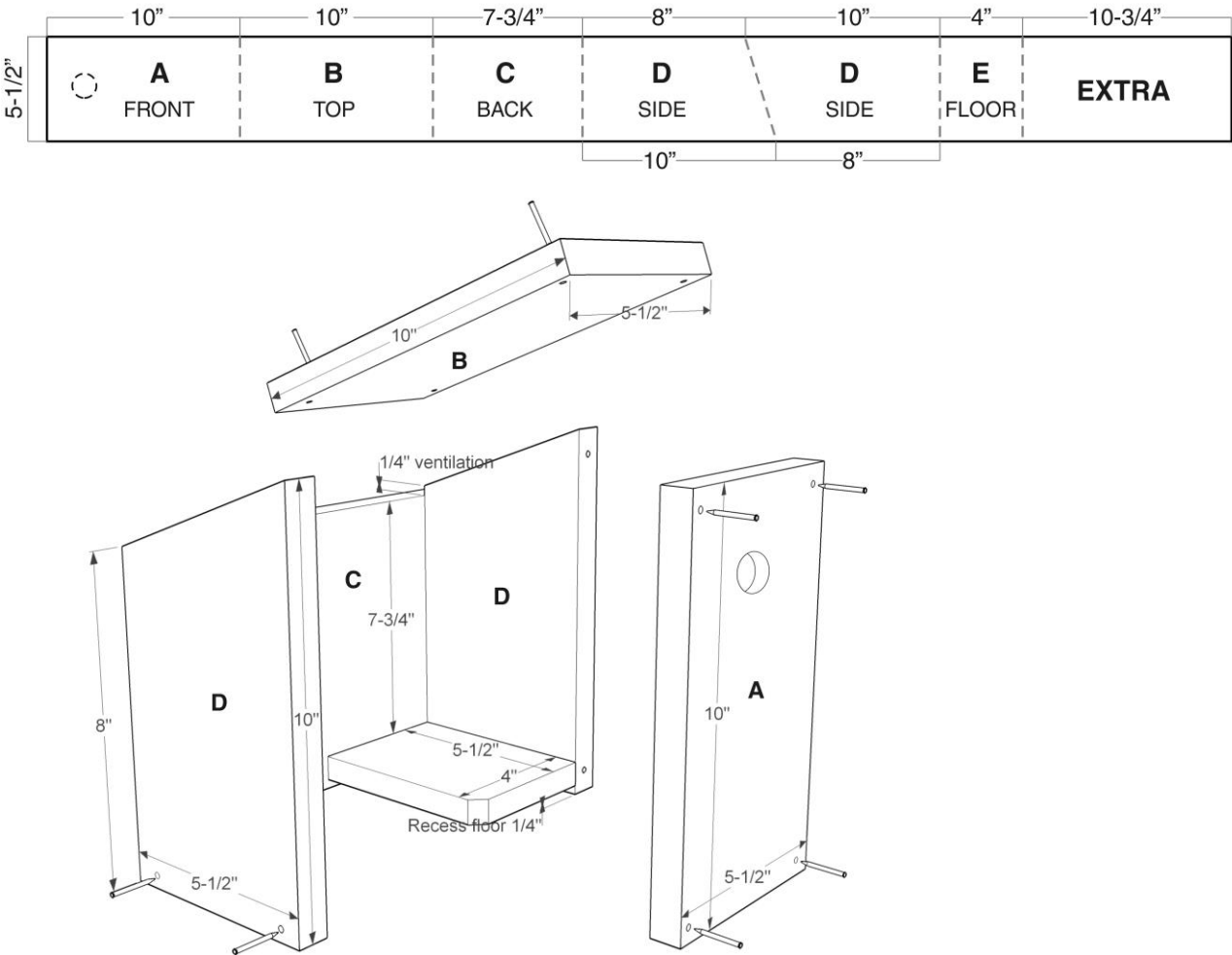
- A bird's first concern when choosing a nesting site is security. Protection from predators and availability of food is necessary for the survival of the young.
- A nest has many layers, each serving a specific purpose. Coarse twigs often form the base while finer twigs and weeds are laced with bark to create the cup. Dry leaves, fine grasses, and other soft materials form the inner lining.
- Suburban birds have learned to incorporate man-made items into their nests, such as paper, string, pieces of wire, fabric.
- Hummingbirds build tiny thimble-sized nests and line them with spider webs. Bald eagles, on the other hand, build huge nests that they often use year after year, building "additions" as they go. The largest of these nests can reach a depth of 20 feet and weigh two tons!

FAMILY PROJECT:

Build a One-Board Birdhouse

There are many plans online for building birdhouses. Here is a simple design made from just one 1-inch x 6-inch X 5-foot pine board.

Detailed plans can be found at the website for *Birds and Blooms* magazine: <http://www.birdsandblooms.com/backyard-projects/diy-birdhouse/build-one-board-diy-birdhouse/>.



SUGGESTED READING:

- E Mueller *The Best Nest*
- J 598.1564 H *Bird Nests*
- J 598.1564K *Even an Ostrich Needs a Nest*
- J 598.1564 W *Birds Build Nests*
- J 598.1564 W *Mama Built a Little Nest*
- J 690.892 S *Housing Our Feathered Friends*
- J 808.8193 D *Outside Your Window*

SUGGESTED WEBSITES:

- <http://sharonbeals.com/pages/nests/nests-01.html>
- <http://www.birds.cornell.edu/education/kids>
- <http://www.birdsandblooms.com/backyard-projects/diy-birdhouse/build-one-board-diy-birdhouse/>
- <http://nestwatch.org/>
- <http://www.otterpointcreek.org/>
- <http://marylandnature.org/>

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I AM A BIRDWATCHER

#7: Pretend You Are a Bird

SUMMARY: Young children learn about their world through play. After spending time outside observing and talking about birds in your backyard, encourage your child to imitate different kinds of bird behavior. This is an excellent way for children to develop gross motor skills through actions such as running, swooping, and diving. Encourage children to use their imaginations and talk or sing about the birds they are imitating. Ask who, what, why, and how questions about their play.

WORDS TO USE:

- Air Current—air moving from an area of high pressure to an area of low pressure
- Flap—to move with a beating motion, like a bird moving its wings in flight
- Flying in formation—to fly in the balanced flight pattern of flocks of migratory birds; also called a *V formation*
- Glide—to move smoothly, silently, and easily
- Hover—to hang fluttering in the air; to float in one place while flying
- Land—to come down and settle on the ground or a surface after flight
- Preen—to use a beak to clean and groom feathers
- Soar—to fly or hover high in the air by floating on air currents
- Takeoff—the moment when a bird leaves the ground and begins to fly
- Wing—the part of a bird's body that helps it fly or glide through movement

MATERIALS NEEDED:

- You and your imagination!

ACTIVITIES:

- After observing a bird, try to imitate it:
 - Flap your wings to take off.
 - Fly, hover, glide, soar, and land.
 - Splash around in a birdbath.
 - Preen your feathers with your beak.
 - Peck a tree like a woodpecker.
 - Dive for fish like a pelican, eagle, or osprey.
 - Dig for worms like a robin.
 - Swoop for bugs like a swallow.
 - Poke in the sand for crabs like a seagull.
 - Sip nectar from a flower like a hummingbird.
 - Fish in the river like a heron.
- Pretend to be a mother or father bird:
 - Build a nest with twigs, grass, leaves, yarn, paper, and other materials.
 - Take care of your baby birds by feeding and protecting them.
- Play this blue bird circle game and sing or chant this song with a group of children (or family members) for fun and to practice following directions.

Bluebird, bluebird, in and out my window.
Bluebird, bluebird, in and out my window.
Bluebird, bluebird, in and out my window.
Oh, Johnny I'm so tired. (use the child's name instead)

Take a little girl and tap her on the shoulder
Take a little girl and tap her on the shoulder
Take a little girl and tap her on the shoulder
Oh, Johnny I'm so tired.

Children stand in a circle holding hands high up in arches (to form the "windows" in the song). One child is the "Blue Bird" who flies in and out of the arches or "windows"). During the second verse, the "bird" chooses a partner by patting someone on the shoulder. The second child then follows holding the first child's shoulders while they pass through the "windows". The game continues on until all the children make a chain and there are only two children left forming an arch (or "window"). These two then become the first two bluebirds in the next round.

OBSERVATIONS:

- What body parts do you see on a bird?
- How are they different and how are they alike on other birds?
- How does the bird's appearance affect where it lives?

DID YOU KNOW?

- All birds have a backbone.
- A bird's skeleton is made of thin, hollow bones.
- All birds have just two legs.
- Baby birds are born from eggs.
- The largest bird is an ostrich which can grow to be nine feet tall.
- Flying helps a bird survive.
- Birds try to take off into the wind.
- Heavy birds have a harder time taking off than smaller birds.
- Eagles may perch on a tall tree or cliff to take off.
- Large birds flap more slowly in the air than small birds.
- A hummingbird may flap its wings up to 80 times per second.

SUGGESTED READING:

- E Judge *Flight School*
- J 598 B *Scholastic True or False Birds*