



YYC Young Citizen Scientists

Birds

Lesson 10: Bird Nest

Duration: 80 minutes

Location: Indoor/Outdoor

Overview

In this lesson students will:

Understand that nests are an important part of bird's habitats and life cycle. They will have a chance to learn about different styles of nests, go look for nests in their own community and build their own nest from found or provided materials.

Learning objectives

By the end of the session, students will be able to:

- Identify different type of bird nests;
- Describe the life cycle of birds; and
- Understand obstacles that birds may have in building nests and surviving in nests.

Curriculum links

Grade: 3

Science, Animal Life Cycles

- Demonstrate awareness that animals require different habitats in order to meet their basic needs of food, water, shelter and space.
- Predict the next stages in the growth and development of at least one animal from each of the following groups: mammals, birds, fish, reptiles, amphibians, insects, etc.



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- Identify examples of environmental conditions that may threaten animal survival and identify examples of extinct animals. Recognize that habitat preservation can help maintain animal populations and identify ways that student actions can assist habitat preservation.

Equipment required

- Laminated bird lifecycle images (included)
- Whiteboard/chalkboard and markers/chalk (alternatively, laptop and screen)
- Worksheet (included)
- Natural materials or unnatural materials
- Marble
- Nature journals (optional)

Additional Information

There are many different types of nests. During this activity you will be going to actively look for bird nests in your local community. Some tips and tricks for finding nests are as follows.

1. Look for nesting behaviour. The easiest way to find nests is by watching for birds carrying nest materials like twigs, mud, plant fibers, moss & sticks, and then follow them to the nest location. Bird nesting can be an incredibly subtle behavior, but with a few good awareness tricks, anyone can spot the signs and locate their hidden homes.
2. Learn about different types of nests. During this exercise you will learn about all different types of nests that are common in your area. Once you know what you are looking for, everything becomes easier!



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3. Look for nests during the winter. I know, it sounds counter-intuitive. However, nests can be easier to spot in the winter when most leaves have fallen off the trees. As well, you are less likely to disturb nesting birds during the winter. When spring and summer come, revisit the locations you identified as having nests in them and see if migrating birds have returned to their annual breeding grounds.
4. Watch and listen for predators. Nesting birds that are being attacked or pressured by a predator (such as squirrel, blue jay or crow) will make an alarm sound. This is a great cue for you to quietly identify where the bird is calling from and see if you can identify their nest, which should be close by.
5. Know basic bird ID. Have the app, Merlin Bird ID or a guide book ready to help you identify feathers, nests and birds that you see while you are out. Once you identify the bird you can look up the nesting behaviours of that species and narrow down the location of where their nest might be.

3

Encourage the student to keep track of their questions during these activities (and throughout their learning experience) on an “I Wonder” board or list. Help the student figure out ways to answer some of their questions. Can they: Look up some of the answers online? Watch a video? Do an experiment? Email an expert? Encourage them to explore and learn!

Lesson plan

Time	Activity	Equipment Needed
15 minutes	Discuss that birds have a lifecycle. Egg to nestling to fledgling to adult birds (see laminated images).	<ul style="list-style-type: none">• Laminated bird lifecycle images• Whiteboard /chalkboard and



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Ask if it is a simple or complex lifecycle. Prompting questions: do birds go through a transformation like frogs? Do birds look like mini birds when they are born? Do baby nestlings have two wings, two legs and a beak like an adult bird? Have the children understand that birds have a simple lifecycle, like many other animals. Have a short group brainstorm about other animals that have a simple lifecycle. Examples are: mice, rabbits, squirrels, dogs, people, etc.

Highlight that all birds go through these life stages and an important part of every bird's life cycle is nests!

What is a nest? Brainstorm some ideas with the class on the board/screen. *Nests are like homes/cradles for baby birds (nestlings and fledglings). Birds do not live-in nests all their lives or even all season long. Birds use nests in the nesting season. Nests provide shelter and safety for eggs and chicks.*

Invite a bigger group discussion and encourage inquiry about nests by having students discuss some or all of the following prompting questions.

Why do birds need nests? *Nests provide shelter and safety for eggs and chicks while they grow into adult birds.*

Do all birds build nests? *Not all birds build nests. Some species lay their eggs directly on the ground or rocky ledges, while brood parasites lay theirs in the nests of other birds, letting unknowing "foster parents" do the work of raising the nestlings.*

whiteboard
markers/chalk



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	<p>Do all bird nests look the same? <i>No.</i></p> <p>Encourage the student to keep track of their questions during these activities (and throughout their learning experience) on an “I Wonder” board, list, or in their nature journals.</p>	
30 minutes	<p>Utilize the Bird Nests PowerPoint and go over the different types of nests, example birds that create each type of nest and challenges they face. Either during the PowerPoint presentation or after, have participants fill out the Nest Worksheet to solidify their learning.</p> <p>For quick reference the following are nest types and their corresponding bird species.</p> <ul style="list-style-type: none">• Scrape – Killdeer• Platform – Osprey• Dome – Black-billed Magpie• Pendant – Baltimore Oriole• Cup – American Robin• Cavity – Downy Woodpecker	<ul style="list-style-type: none">• Worksheet• PowerPoint



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20 minutes	<p>Go outside on a nest search. Look in bushes, trees, and building eaves for nests used last year or this spring's nests. Please be careful not to disturb nesting birds. When you are out looking for nests, talk about different materials that could be used in nature to build a nest (remember the PowerPoint presentation and worksheet?). <i>Twigs, sticks, dead leaves, garbage, mud, pebbles, hair, fur, etc.</i></p> <p>If you find an active nest, do not disturb it and perhaps share it with NestWatch, a Cornell Lab citizen-science project that monitors nesting birds.</p> <p>Encourage the student to keep track of their questions during these activities (and throughout their learning experience) on an "I Wonder" board/list or in their nature journals.</p>	<ul style="list-style-type: none">• Nature journals (optional)
30 minutes	<p>After exploring, have the students build a nest of their own that can support a marble. This can be in small groups or independently.</p> <p>You can have students immediately begin this activity by keeping them outside after your nest hunt.</p> <p>Prior to your nest walk have students bring random natural/human items from home to build a nest with, or bring items yourself and have student pick from your selection.</p>	<ul style="list-style-type: none">• Natural materials: grass, twigs, mud, sticks, leaves, spider webs, pebbles, rocks, etc.• Unnatural materials: string, popsicle sticks, playdough, beads, blocks, cardboard, paper, etc.• Marble



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After students have their materials, tape their four main fingers together, leaving the thumb free. This way students will have to build their nests just like birds, who have beaks (not fingers).

After building the nest, test it! Which nests were able to support a marble?

Then have participants see others' nests.

Discuss the experience together. Why did you decide to build this type of nest? What are the pros and cons of the nest you built? Was it hard to build?

What are some challenges that birds may face in finding a nesting spot/building their nest/incubating their eggs and raising their nestlings? *The area they nested in before was taken away for human development. There may not be a lot of materials they need around due to human development. There are many predators that could eat their eggs and nestlings.*

What would cause birds to lose their homes? *Habitat loss or habitat pollution. Either from building cities, deforestation, oil and gas development, etc.*

How can we help birds have places to build their nests in our community/city? *Planting bushes, trees and other plants in the area. Not cutting down trees and taking out other vegetation. Creating new parks and areas where birds can live. Protecting the green spaces that we already have by making them into parks so other cannot take them away.*



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Extension

1. Find out which birds use nest boxes (also called bird houses) where you live using the [Right Bird, Right House Guide](#) from NestWatch. Build, mount and observe your own nest box in your schoolyard or community.
2. Explore nests via [The Cornell of Ornithology's nest cams](#) and highlight reel, and see the amazing diversity of nests, eggs, young, and parental behaviour. Some of these cams are live footage and capture real life like mating, predation, fighting, injury, or death. It is also important to know that if you feed into a live cam there may not be a lot of activity. That is why the highlight reel is so great as it shows you previous exciting at different nests without having to wait. Discuss that things that you see, why these actions are not bad or good, and think about how to respond to things on camera children may not like or find surprising. Thoughtful discussion might make the difference between a shocking sight and an “ah ha!” moment.
3. Talk more about what type of parental care birds provide to their young. When we talk about parental care we are referring to the level of investment provided by the mother and the father to ensure survival of their offspring. In most birds, parents invest a lot of time and energy in their chicks. This includes but is not limited to, building a nest, providing food, incubating the eggs and fighting off predators. This is a mutual effort where both the mother and father remain to care for the young. This means they are socially monogamous (committed to the partnership) for the duration of the breeding season. Sometimes mated pairs will mate for life, such as ravens, but this is not always the case. Compare this to other animals where parental care is different.

This extension would incorporate the following curriculum point:



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- Demonstrate awareness that parental care is characteristic of some animals and not of others and identify examples of different forms of parental care.

Adapted from the *Science & Nature Activities for Cooped Up Kids*, The Cornell Lab K-12 Education,