

Lesson 5: Bird Survivor!

Big Idea: Birds face many challenges during their breeding season.

Location: Indoor or outdoor in a large open space

Approximate Time: 1 hour

What do I need?

- ❑ “Bird Survivor” game cards

Getting Ready...

- ❑ Cut apart the “Bird Survivor” game cards

Background Information

All bird species find mates, lay eggs, and raise their young in various ways. Though not every bird goes through these the same way or in the same order, the six major steps of breeding we’ll use in this activity are:

1. Find and defend a territory: Birds need to select a breeding territory. Resident species may keep a territory throughout the year or look for a new one in spring. Migratory species begin looking for and defending a territory as soon as they arrive at their breeding grounds. Good territories provide nest sites, reliable food sources, and protection from predators, and they also help males attract the best mates.

2. Find a mate: While territories are being claimed, males and females are also trying to attract mates. Males of some species advertise themselves with bright breeding plumage and/or song. In most bird species, the female chooses her mate. This is one reason why males are often “showier” or more colorful. Besides physical appearance, females also may assess the male’s singing, courtship displays, age, and ability to provide food. Many bird species form a pair bond, with the male and female staying together throughout the breeding season.

3. Build a nest and lay eggs: Nests provide a safe place for the eggs and young. Bird nests are very diverse. Some birds do not make a nest at all but simply lay eggs in a scrape in the ground. Other birds may make elaborate nests from natural or man-made materials. Nests can be found almost anywhere—on the ground, in trees, in burrows, on the sides of cliffs, or in or on man-made structures. The clutch, or number of eggs a female lays in one nesting attempt, varies depending on the species.

4. Incubate eggs: Birds incubate their eggs to keep them at the proper temperature to ensure normal development. Songbirds usually begin incubation after all the eggs have been laid so that they will hatch at approximately the same time. Other birds, such as herons and birds of prey, begin incubating as soon as the first egg is laid, and their eggs may hatch on different days. In some species both the male and female incubate eggs; in others, it is just the female. Incubation time varies depending on the species, but typically, the larger the bird, the longer the incubation period.

Learning Objectives

Children will be able to:

1. Outline the six major steps of the breeding cycle in birds.
2. Describe at least three challenges that birds face during the breeding season.
3. Describe at least three things that contribute to birds’ success in their breeding season.

5. Feed and raise nestlings: Baby birds of some species are born naked, helpless, and blind; they must be kept warm and fed by the parents for the first days or weeks of their lives. These birds are called “altricial.” This is an extremely dangerous time for the parents, who are constantly foraging for food, and for the young, whose noisy cries for food may attract predators. In contrast, birds such as ducks and many shorebirds are born covered in down, able to walk or swim soon after hatching and spend hardly any time in the nest. They are often seen wandering in search of food alongside their parents when only a few hours old. These birds are called “precocial.”

6. Fledge from the nest: After leaving the nest, or fledging, the young birds typically remain close to parents for a short period of time. During this time, young birds must learn to survive on their own and are very vulnerable to predators and starvation.

Activity

1. "Fact or Fiction?" Nesting Birds Scramble

Establish "fact" and "fiction" sides of the room or outdoor space—at one extreme is the “fact” side, and at the other, the “fiction” side. As you read the following statements aloud, ask each participant to run to one side or the other depending on whether they think the statement is true (fact) or false (fiction). Read the answers after each statement.

1. All birds build nests. (Fiction! Some birds don't build a nest, for example, cowbirds lay their eggs in the nests of other birds.)
2. All birds lay eggs. (Fact—sort of: All species lay eggs, but of course males don't—only females!)
3. Most birds live in their nests year-round. (Fiction! Nests are mainly for laying eggs and raising young. They are usually not used after the end of the breeding season.)
4. Most baby birds are fed seeds and berries by their parents. (Fiction! Most birds are fed insects by their parents—insects are high in protein that nestlings need to grow.)
5. Birds can breathe inside their eggs before they hatch. (Fact! The egg is porous to allow gas exchange.)
6. Eggshells are made of the same materials as chalk. (Fact! Both are made primarily of calcium carbonate.)
7. The egg yolk (yellow part) grows into a baby bird. (Fiction! The yolk provides food for the growing baby bird.)
8. If you find a baby bird, you should try to feed it. (Fiction! If you find a tiny nestling, try to put it back in the nest as soon as possible! Its parents may be nearby and still helping the chick. If you find a fledgling, you should put it back in its nest or leave it alone!)
9. If a bird smells human contact with its nestling or fledgling, it will abandon it. (Fiction! While it is better not to handle a nestling or fledgling if you can avoid it, in some circumstances it is necessary. However, most birds do not have a sense of smell, and the young will not be abandoned its parents.)

You may want to note any widely held misconceptions and review the facts at a later time.

2. Share and learn about breeding birds

Share stories about experiences with bird nests and young birds. Consider the following questions:

- Why do birds build nests? (Nests protect eggs and young.)
- What do bird nests look like? Where are they found? What kinds of materials might a bird use to build a nest? (Bird nests are varied and can be found on the ground, in bushes, or high in trees or in nest boxes or tree cavities. Birds make nests of sticks, leaves, moss, vines, feathers, rocks, spider webs, mud, bark, and human-made materials such as string or scraps.)
- Have you seen a bird build a nest? At what time of year? At what time of year have you seen nests? Did it have eggs in it at that time of year? (Nests are used during the breeding season. Birds don't live year-round in nests, so nests seen at other times of the year are abandoned or will not be used until next year, if ever again.)
- Some animals, such as humans, can have babies any time of year. Most birds, however, only breed in the spring and summer. Why do you think that is? (Food and water availability is highest at those times of the year.)
- Have you seen a baby bird? Where was it? What did it look like?

Write the following "Stages of the Bird Breeding Cycle" on the board. Breeding birds go through six major steps, though not every bird goes through these the same way or in the same order. The six major steps of breeding are:

1. Find and defend a territory
2. Find a mate
3. Build a nest and lay eggs
4. Incubate eggs
5. Feed and raise nestlings
6. Fledge from the nest

3. Game - Bird Survivor!

Ask for five volunteer "birds" to stand at one end of the room, and name them Bird 1, Bird 2, Bird 3, Bird 4, and Bird 5. To avoid competition and disappointment, tell the children before starting that this is not a competition. Instead, they are acting out a story of five birds attempting to breed, and not all of them will be successful.

Shuffle the Bird Survivor cards and distribute ALL of the cards to the remaining children, even if some children receive more than one card. At the top of each card, one of the breeding stages is listed. Below that is a breeding event that will be read aloud and directed to one of the 5 volunteer birds. (NOTE: if you have a group with fewer than 12 kids, only use 4 volunteer birds and eliminate the specially marked cards—one of each of the six kinds of cards is marked with the words "extra card.")

Pick one of the five children who have a "Find and Defend a Territory" card. Ask the children to read his or her card to Bird 1, who follows the instructions on the card. Have the remaining four children holding the "Find and Defend a Territory" cards each read their card to a "bird," continuing with Bird 2 and progressing through the remaining "birds." Continue the game by repeating this step, picking cards in the following order:

1. Find and defend a territory
2. Find a mate
3. Build a nest and lay eggs
4. Incubate eggs
5. Feed and raise nestlings
6. Fledge from the nest

If a bird is told that the game is over for them, they should step out of the playing area. During the game, be sure to discuss any terms that are unfamiliar to children. Continue the game until all 24 cards are read.

After the game, ask:

- Which birds do you think were the most successful? *The most successful is the bird that raised the most young.*
- Which birds were the least successful? *Possible answers include: the bird that died early, or the bird that did not raise any young. Emphasize to the children that in order for a nesting attempt to be successful, at least one young must survive.*
- Do you think all birds raise their young in the exact same way? If not, how do some differ? *Some species, like many geese and ducks, have precocial young, meaning that their babies can walk and gather their own food just hours after hatching. Some species keep their mate year-after-year, so they don't have to find a new mate every year.*
- What were some of the challenges the nesting and migrating birds faced?
 - Habitat destruction
 - Invasive/non-native species
 - Bad weather
 - Predators such as falcons and snakes
 - Pesticides
 - Dead mate
 - Mites
- What are some positive or "lucky" things that happened to some of the birds?
 - Protected habitat
 - Nest boxes
 - Good weather
 - Good mate
 - Lots of food



Educators playing Bird Survivor game at BirdSleuth Caribbean Training Workshop

Wrap-up and Reflection

Try to leave some time at the end of this lesson to encourage the children to reflect on the things they learned and write in their Bird Journals. Ask questions such as:

- What is something new that you learned about birds?
- Did any of these activities make you think differently about birds or the environment?
- Will anything you learned make you treat birds differently? If so, how?
- What questions do you have?

