

The Fine Art of Nesting



OVERVIEW

Participants discover the complexity of building a bird nest as they try constructing one using the same materials and knot tying techniques weaver birds use.

CONTENT AREA

Environmental Education,
Science, Art

PEOPLE POWER

1 adult and 1 student leader

SPACE REQUIREMENT

One booth space is adequate. If your event is taking place outdoors, and you are able to see nests in trees on or near the school grounds, be sure to keep festival participants at some distance from the nests during nesting season. Binoculars can be used to view nests.

TIME

20 minutes

MATERIALS

Provide enough of the following materials so that each participant can have several pieces:

- String, twine, or yarn cut into 12 inch pieces
- Twigs cut into 6-inch pieces
- Copies of the Sample Weaver Nest Page, and enlarge one for a poster
- Pictures of different bird nests
- Optional: binoculars

TERMS TO KNOW

nest, brood

Using their beak and feet, some birds are able to weave incredibly complex and durable nests. Can you tie a knot like a weaver bird?

Learning Objective

Students and festival participants will: describe reasons why adult birds build nests, as well as the methods and materials birds use to build nests; discover the complexity of birds' nest-building abilities.

Background

Nests are shelters prepared by birds for its eggs and young. These amazing structures come in all different shapes, sizes, and styles. Adult birds build nests in order to keep their eggs and young warm and safe from predators. Nest-building begins when a breeding pair has been established. Then the female (and sometimes the male) bird begins the time consuming and challenging task of building a temporary shelter to lay eggs and raise a **brood** until it is time for the young to take flight. Selecting the right location to build the nest is very important to the survival of the bird and its young. The ideal spot to build a nest is usually one that is in close proximity to water and food, and provides shelter from inclement weather and, of course, from predators.

Birds build their nests in many different kinds of places. Some birds choose to nest on the ground or high up in a tree, while others search for darkened tree cavities or burrow underground. Some birds prefer the coolness of a forest, while others choose fields, marshes and swamps, or manmade structures like skyscrapers and church towers. Some birds build a new nest each breeding season, while others prefer to reuse the same structure. Some birds don't build nests at all, choosing to steal a nest that is already occupied, taking possession of it to lay their eggs!

Once the right spot is located, the nest builder must find and collect the materials to construct the nest. Birds use a variety of nesting materials including sticks and twigs, mud, stones, leaves, lichens and mosses, grass, spider webs, snake skins, thistle down, hair, feathers, saliva, and unconventional materials such as gum wrappers, ribbon and paper. Some birds are opportunistic nest-builders. They'll build their nests wherever they can find a spot and use whatever materials they can find. But other birds are much more selective and will build their nests only in certain places and use only certain materials. Beaks and claws are the tools that nature provides to build a nest, and a bird will often use the curve of its body to mold the perfect



**ZOOM IN,
ZOOM OUT!**



Depending on the resources in your area, consider inviting a wildlife biologist, bird rehabilitator, state or national wildlife specialist, or a local birding organization or chapter to assist in the activity and provide materials such as nests and pictures of nests for your booth display.

shape. *Note: Did you know that in the U.S. it is illegal to disturb birds and their nests without a special permit? If you find a nest when you are out on a hike, observe it from a distance to avoid disturbing its inhabitants or attracting the attention of animals that prey on eggs or chicks.*

Getting Ready

1. Gather enough of the following materials so that each participant can have several pieces: string, twine, or yarn cut into 12 inch pieces; twigs cut into 6 inch pieces. Make copies of the "Sample Weaver Nest" page, enlarging one for a poster. Gather pictures of different bird nests. Binoculars are optional.
2. If possible, invite a wildlife biologist or a wildlife specialist to help with this activity. Ask this specialist to bring samples of different kinds of nests to display on festival day. If you are unable to have a guest wildlife biologist at your activity station, you can simply use pictures of different nests. These can be found in books, magazines, and calendars, or downloaded from the Internet (see *Additional Resources in the appendix*).
3. To prepare for this activity, read the Background Information provided above and prepare for the discussion questions. Also, practice tying the knots on the Sample Weaver Nest Page *before* festival day, as it might be useful to demonstrate this activity if participants need assistance.

These amazing structures come in all different shapes, sizes, and styles.



ZOOM IN, ZOOM OUT!



- Provide pictures of different birds and verbal descriptions of their nests, and ask people to match the descriptions with photos of nests. This encourages people to inspect nests closely. This is also useful for people to see the type of bird that makes each nest.
- For younger participants, provide a variety of materials, as well as pictures of different nests, and let them make their own nests. Materials might include grass, twigs, mud, plant fibers, yarn, and string.
- Find these in wildlife magazines, field guides, and calendars, or *Bird* by David Burnie, Dorling Kindersley, 2000 (from the Eyewitness® Book series); *Bird Egg Feather Nest* by Maryjo Koch, Collins Publishers in San Francisco, 1994; and *A Field Guide to Birds' Nests* by Hal H. Harrison. Houghton Mifflin Co., 1975 (from the Peterson field guide series).

Taking Flight!

Point out the many different kinds of nests that birds construct. If you have the appropriate permits and a collection of different nests, you can sit down with your group and discuss how each is made, what shape it is, and what materials were used to build it. If you do not have nests on display, use pictures; talk about some of the important aspects of nests and nest-building. You can use the discussion questions below.

Discuss why people should not get too close to nests. While many people think that touching the eggs causes adults to abandon a nest, it is actually disturbance at the nest site—not human odor—that causes adult birds to leave. Although birds typically do not smell scents left by humans, other animals sniffing-out the trails left by people may more easily find nests and prey on their inhabitants.

Discussion questions include:

- Why do birds build nests?
- Do birds live in their nests year-round?
- How do they construct their nests? Do birds use their feet? Their bills? Other tools?
- What materials are used to construct a nest?
- Where can nests be found?
- Do birds use the same nests once, or year after year?
- Is it okay to collect nests without a permit?

At the end of your discussion, instruct participants to try to build a nest using the directions and knots on the Sample Weaver Nest Page. Remind them that if they could only use a bill, it would be even more difficult!

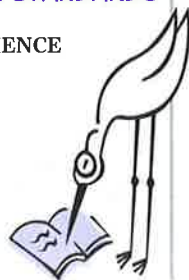
Assessment

1. Describe two reasons why birds build nests.
2. The discussion questions noted in Taking Flight! also may be used for assessment purposes. Ask participants to answer the questions based on what they've learned, or simply ask participants to summarize what they've learned from the activity.

IN STEP WITH SCIENCE STANDARDS

STANDARD C: LIFE SCIENCE

- Regulation and behavior

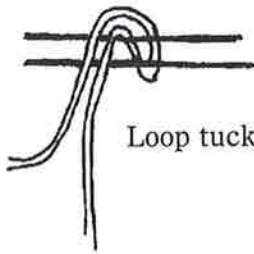


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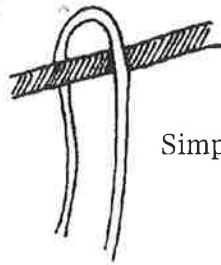
Sample Weaver Nest

In his text, *Ornithology*, Frank Gill discusses the birds in the weaver family and their incredible nest-building ability. The knots below were adapted from this discussion. Participants who try these knots will realize that building a nest is not such an easy task!

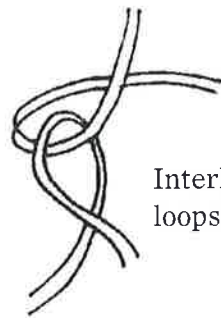
Birds in the weaver family, *Ploceidae*, are seed-eating birds closely resembling finches. Weavers are named for the highly complex woven nests built by many species.



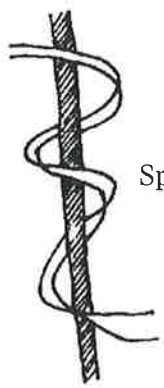
Loop tuck



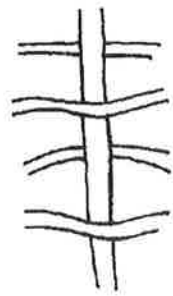
Simple loop



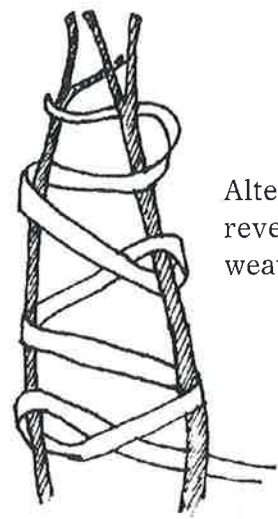
Interlocking loops



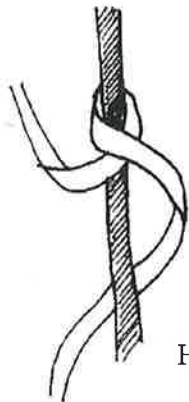
Spiral coil



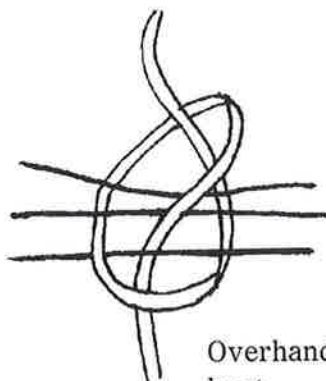
Simple weave



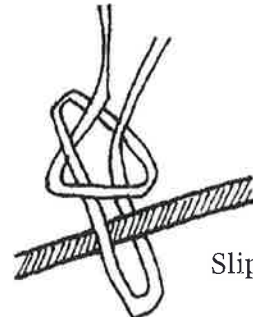
Alternately reversed weaving



Half Hitch



Overhand knot



Slipknot