

Nests: Houses Without a Mortgage

All birds incubate their eggs in some sort of nest. Some nests may not look like much to us, but they serve their purpose for that particular bird. Building the nest in a safe place is important because the nest helps protect the eggs and young from wind, rain, storms, and predators. Birds often place their nests near food sources.

Birds use a wide variety of materials for their nests including grasses, twigs, roots, feathers, thistle down, mud, sheep wool, horsehair, lichens, spider webs, leaves, and plant fibers. Some unusual materials used in building nests include cellophane, colored yarn, newspaper, and trash. A pair of warbling vireos built a nest made only of facial tissues!

For many species, nest building is one of the first activities a newly-formed pair of birds performs. Site selection and nest building may be done by the male, the female, or both birds, but generally the female is in charge. Watching a bird build a nest is fascinating. Cliff swallows make up to 1,400 trips back and forth to build their gourd-shaped nest of mud. Once a nest is built, the bird will defend its territory by scolding or even attacking any intruders that get near the nest.

Robins can be unusual nesters. Their twig and mud nest can be found almost anywhere. One pair of robins built nine partly-finished nests on nine successive steps of a fire escape. Robins' nests even turn up in mailboxes!

Ruby-throated hummingbirds use spider webs and lichens in their nest construction, while bluebirds, wrens, tree swallows, chickadees, and crested flycatchers build nests in natural cavities in trees or old woodpecker holes. Owls use abandoned crow nests, old hawk nests, or natural cavities in trees. Nest boxes can be built for these birds. Several books listed in the bibliography include nest box plans.

Some birds, such as nighthawks and whip-poor-wills and woodcock, nest on the leafy floor of woodlands, while killdeers build a nest called a scrape on bare, open ground or gravel. A scrape is a depression in the ground with pebbles scattered around the nest. Killdeer eggs, which look like pebbles and rocks, are camouflaged within the nest.

Many birds build very specific types of nests. Baltimore orioles build a hanging basket nest in a tall tree to avoid predators, while red-headed woodpeckers drill a hole into a tree to nest. Kingfishers build a tunnel in a river bank; the actual nest is an enlarged area at the end of the tunnel.



Red-winged blackbirds weave a nest into a stand of tall grasses or cattails, and grebes and coots build floating nests made out of cattails. Mourning doves build a very loose stick nest that looks as if a strong wind would blow it down.

The cowbird is another unique nester. It's called a parasitic nester because it doesn't build a nest. The female cowbird lays her eggs in other birds' nests. Cowbird eggs are incubated for a shorter time than most birds eggs, so the baby cowbird will hatch before the host's eggs hatch. The host bird ends up feeding and raising the cowbird at the expense of it's own nestlings! The yellow warbler and the chipping sparrow are very susceptible to nest parasitism by the cowbird.

Nests are often found on the ground, either having fallen on or belonging to ground nesters. And it's best to leave them undisturbed. Nests and eggs are protected by state and federal laws. If you'd like to collect nests for your classroom, you are required to obtain a salvage permit from the Iowa Department of Natural Resources. Refer to the section in this booklet about wildlife rehabilitation for more information about permits.



House sparrow nest



Activity: Egg Me On!

Objectives: Students will discover the limitations of building bird nests and the intricacy with which they are constructed. Students will compare the different materials that birds use in nest construction.

Materials: A Field Guide to Birds' Nests by H. Hal Harrison and Birds' Nests by Richard Headstrom; natural materials, such as mud, sticks, grass, horsehair, and bark; forceps or a spring clothespin for each person; nimble fingers (or a beak and feet!).

Background: Students studying bird nesting or spring phenology will find this activity a natural tie-in. You may wish to have on hand (you need a permit) legally-collected examples of nests to stimulate the students' curiosity. An excellent lead-in to this activity is to visit any active birds' nests. A spotting scope or binoculars will aid viewing both the nest and the nestlings. Perhaps a robin is building a nest near your classroom. If so, you might want to watch it as it shapes its nest. Remember that birds, eggs, nests, and feathers are protected by law. Refer to the section in this booklet about wildlife rehabilitation for more information about permits.

Procedure: Begin by asking the students about animals that build nests (squirrels, birds, insects, fish) and for what purposes they're used. Relate nests and their purposes to human houses. Are they similar in structure or function? Show several real nests and look carefully at their structure, size, and materials. If a small bird with just two feet and a beak can make such an intricate structure, certainly we should be able to do even better with our superior intelligence! Ask students to pair off. Each pair of students chooses a species of bird that has been reviewed in class and constructs the nest of that bird. They can use the reference books to determine size, location, and what materials to use. There's one catch: they are only allowed to use their "beaks" (forceps or spring clothespins operated by one hand) and their feet, just as birds do! You may want to have the students use only their forefinger and thumb while the other three fingers are taped together.

Allow 15 to 30 minutes for the students to construct the nests and then conduct a "model homes tour," with each pair of students telling what bird they were, how and why they built their nest where they did, nest size, and what materials they used.

Some excellent discussions can follow as to why all birds don't use one type of nest construction or materials, how some birds (killdeer) don't build much of a nest at all, why some birds are nest parasites (cowbirds), and numerous other topics. End with another look at some actual birds' nests and instill a new-found respect for the intricacy and beauty of their construction.



Follow-up: A number of activities are excellent follow-ups to this activity, including bird-banding, working with study skins, and bird watching.

Adapted from *Birds, Beasts, Bugs & Us: Activities For Environmental Education.* by Jim Pease. 1985. Cooperative Extension Service, Iowa State University, Ames, Iowa 50011; activity used with permission.





American goldfinch nest

Meadowlark nest



Activity: Match the Type of Nest to the Bird.

