



Balcones Canyon Lands National Wildlife Refuge
24518 FM 1431, Marble Falls TX 78654
(512) 339-9432 X 70, jennifer_brown@fws.gov
Cell: (830) 220-9254

BUILDING A HOME (NESTS)

VOLUNTEER DIRECTIONS

Need to Know

1. Your station, Building a Home (Nests), will explore a collection of different nests, how each is made, where they can be found, what shape it is, and what materials are used by some species of bird to make nests. You will also discuss how some nests can identify a bird. Other forms of identification are introduced and reinforced at stations like What is a Bird (station #1), How to Use Binoculars (station #2) and Using a Field Guide (Station #3).
2. You **must include something about the Golden-cheeked warbler and Blackcapped vireo into this program (a section in this guide book has more on both birds)**. After all, these birds are the reason there is a refuge near Austin. Furthermore, all of the resource management and public use management plans on the refuge must consider how these birds will be affected by man induced impacts.
3. The section in these directions called “Organism and Environments” is a specific science TEK requirement. **Get to know the Organism and Environments TEKS and be ready to share this with the students.**
4. **A map** of the stations is in this guide book to help you direct your group to the next station. They go clock-wise in number order. Please be ready to direct your group to the next sequential station.

Sequence of Stations in Bridges to Birding

1. What is a Bird?
2. Using a Field Guide
3. How to Use Binoculars
4. Songs and Calls
5. **Building a Home (nests)**
6. Habitat
7. Migration

GOLDEN-CHEEKED WARBLER (GCW)

HABITAT: Old Forests with big trees; shady, dense forests in steep-sided canyons & slopes as well as drier, flat hill tops. Requires Ashe Juniper (“cedar”) bark to construct nest.



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Spanish Oak, Live Oak, cedar foliage provides insects, caterpillars, spiders, beetles for food.

TERRITORY: 5-20 acres to forage;

NEST TERRITORY: 3-6 acres/ nesting pair

Female constructs Cup nest in old cedar and Hardwood (oak, elm) trees at least 15' high. All nests require cedar bark. Bark is woven with spider webs.

Nest is tucked in forked vertical limb & camouflaged. Warblers usually nest only once/season unless accident or predation.

Male stays nearby singing & defending during incubation.

3-4 eggs are hatched in 12 days & fledge 8-9 days later. Parents care for them for 1 month.

They migrate to pine/oak habitat of southern Mexico & Central America in July-mid-August & return in mid-March.

BLACK-CAPPED VIREO (BCV)

HABITAT: Dense, shrubby, broad-leafed (shin oak, hackberry, sumac, agarita, persimmon, Texas Mountain Laurel) young forest. Patchy habitat with 30-60% cover interspersed with open grassland.

Shrubby vegetation reaching from ground level to 6- 7' high.

TERRITORY: 1-16 acres NEST

TERRITORY: 2-4 acres

Male & female select nest site between 3-'6' off ground (door knob height) in dense cover. Pendulous Cup Nest is made by female from grasses and spider webs and is suspended from its rim in the fork of a branch. Nest is completed in 2-3 days.

They may nest more than once /year building a new nest each time.

Incubate 14-17 days and this work is shared by male & female (as well as fed by both). Fledge in 10-12 days.

They arrive in mid-March to mid-April and stay until mid Sept. They spend their winter in western Mexico.

ORGANISM AND ENVIRONMENTS



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There are complex and important relationships that organisms have with their environment. There are systems and cycles within environments.

Organisms live and survive in their ecosystem by interacting with the living and nonliving components.

Organisms undergo similar processes and have structures and behaviors that help them survive within their environments.

Example of an Interaction with the Environment

Golden-cheeked warblers require cedar bark to build their nests for successful nesting here in Texas in the spring. The removal of cedar trees for development and grazing has resulted in the Golden-cheeked warblers having less natural environment in which to build nests and the species chances of survival have been reduced. The refuge provides an area where the cedar trees are protected which in turn protects the Golden-cheeked warbler.

Getting Ready

Use the laminated activity station sign to identify your table (in the guide book).

Materials List

Plastic bin containing:
Cup nest - hummingbird
Sphere nest
Pendant nest – Black capped vireo
Scrape nest – Bobwhite quail nest with eggs
Cavity nest – nesting box
Flip board tabletop display presentation

Taking Flight!

Nests are examples of birds' incredible feats of agility, endurance and perseverance. It is incredible achievement considering birds have few tools to work with other than their beaks and talons. Some nests are very intricate, made with incredible speed and care.

This station will teach students the nesting habitats of birds.



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Cavity, cup, pendant, platform, and sphere are some of the major types of nests found at the Refuge that birds build.

Nest Type Descriptions

CAVITY

A cavity nest is a hollowed-out opening in the trunk of a tree, either found naturally in dead trees or purposely made by birds such as woodpeckers. The cavity is smallest at the beginning of the opening and is largest inside the trunk where the eggs are laid. Other examples of cavity nesting birds include chickadees, nuthatches, and bluebirds.



CUP

A cup nest is cup-shaped, and can be made with a variety of materials such as grass, moss, lichen, or spider web. The material on the outside of the nest is more coarse and thick. The material for the inside of the nest is usually more soft and fine than the outside to cushion the eggs and keep them warm. Birds that build this type of nest include sparrows, finches, thrushes, and even hummingbirds.



PENDANT

A pendulum nest is typically built from mosses, lichens and small twigs into a pendulum or hanging sac-like shape, usually suspended from a small tree branch. Bushtits, kinglets, and orioles are some of the species that build this type of nest.



PLATFORM:

A platform nest is mostly flat and supported by tree limbs. Birds in the Corvid family such as





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Stellar's and Scrub Jays, Crows and Ravens, and also birds in the raptor group such as hawks and eagles build platform nests. Platform nests built by birds in the raptor group can be extremely large and usually are found at the tops of large dead trees. This type of nest is also commonly found on the ground in marshy areas and used by waterfowl.

SPHERE:

A spherical nest is globe or ball-shaped, usually made of grasses, with a single opening or hole on one side. Marsh Wrens will build many of these nests at one time, but only use one as their "active" nest. The other non-active nests, or "dummy" nests are used to defer or confuse predators from finding the nest with eggs or young. Other examples of spherical nest builders include Sedge and Cactus Wrens.



Why do birds build nests?

Different species of birds build different types of nests. Birds within the same species tend to build similar types of nests, but the material they are made out of may vary depending on the surrounding habitat. The purpose of a nest is for birds to have a protected, warm place to incubate their eggs and then raise their young once they hatch. Birds are normally very secretive when building their nests in order to keep their location unknown to possible predators in the area; although, if you watch closely you may be able to see birds carrying nest material in their beaks to build their nests.

Do birds live in their nests year-round?

No. Birds start building nests in early spring, typically in March, but some birds, such as the Anna's Hummingbird will start building in late January or early February. The breeding season ends in late July for most songbirds.

How do they construct their nest? Do birds use their feet? Their bills? Other tools?



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Bills and feet are the primary nest building tools. Bills can act as chisels, drills, picks, shuttles for weaving, needles for sewing, trowels for plastering and as forceps to pluck and insert. Birds also stamp, scrape, knead, and scratch to build nests. Birds use their bills and feet but also their breasts to mold the inside of some nests.

What materials are used to construct a nest?

The materials birds use to make their nests is as varied as the birds that build them.

Regardless of the nest size or shape, the nesting material serves several purposes:

- Cushioning eggs from the ground and parents' weight
- Insulating eggs from temperature changes
- Holding the clutch together for heat efficiency
- Camouflaging the nest from predators
- Protecting the nest from the elements

How do birds protect the nest?

1. Difficult to reach- end of branch (Orioles)
2. Hidden in tree hole, rock, or creek bank
3. Resemble other objects in Habitat (Lichen covered Hummer nests, GCW if in cedar)
4. Defended by parents
5. Defended incidentally by other animals nearby

Where can nests be found?

Birds build nests in a variety of places from the tops of trees to directly on the ground. Some birds even build floating platform nests in marshy areas. Most songbirds build nests within 5 m of the ground in the understory.

Birds nest in one of the three main vegetation layers: understory (shrubby, weedy undergrowth beneath trees), mid-story (includes shorter trees and taller shrubs), and canopy (includes the tops of trees).

Do birds use the same nests once or year after year?



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Birds only use nests as a place to incubate eggs and raise young. Once chicks fledge, adults and young do not typically continue to use the nest. However, some birds will return to the same general areas to nest year after year.

How long does it take for a bird to build one nest?

It takes a bird around 6 days. Robin 6-20 days but usually just spends a few hours/day.

ACTIVITY

1. Start by gathering the students around the table or tarp.
2. Instruct the students that they will be building nests in any of the shapes discussed but there is a catch or two ☺ ▪ They can only use 2 fingers.
 - Answer how long it will take them to build a nest this way
3. Each student will get a tin pan.
4. Have each student grab a handful of grass and a handful of Ashe juniper bark.
5. Now each student will have to work as a quickly as a bird to make their nest using the 2 materials. Remind them that because of predators, birds work very quickly to build a nest.
6. Nests must be shaped in such a way that shaking it will not break it apart.
7. The nest must also fit into the tin pan.
8. During the activity, ask the students to answer these questions:

Why do birds build nests?

Do birds live in their nests year-round?

How do they construct their nest? Do birds use their feet? Their bills? Other tools?

What materials are used to construct a nest?

How do birds protect the nest?

Where can nests be found?

Do birds use the same nests once or year after year?

How long does it take for a bird to build one nest?

Quiz Your Guests



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1. What are some ways to identify a bird? (size, shape, color, field markings, behavior, habitat, bill shape, posture, songs and calls, nests shapes)
2. Name one of the vegetation layers that birds build nests in. (shrub layer or understory, under canopy or mid-story, canopy and emergent)

Take Away

Give the teachers copy of the Create a Bird Friendly Habitat.