



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

## **WHAT IS AN INSECT?**

### **VOLUNTEER DIRECTIONS**

#### Need to Know

1. Your station, WHAT IS AN INSECT? (Station #1), **Goals** are:

- Know the distinguishing characteristics of insects
- Be able to name the parts (3 body regions, one pair of antenna, 6 legs) of an insect
- Be able to use this information to identify an organism as an insect

In addition (TEKS), likenesses between offspring and parents are either inherited or learned and how to tell the difference. Identify some inherited and learned characteristics among species that help them survive and reproduce in their environment. Using a variety of tools and methods to conduct scientific inquiry, describe distinguishing insect characteristics and name the parts of an insect. Compare insects to other creatures that resemble insects.

2. You **must include something about the Golden-cheeked warbler and Black-capped vireo into this program (a section in this guide book has more on both birds)**. Any logical tie-in is good: insects as food, habitat the birds forage to find the food, insect threats to the birds, etc. 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 Getting Buggy**

1. **What is an Insect?**
2. Insect Families and Life Cycles
3. Collecting and Studying Insects
4. Insect Senses
5. Aquatic Insects
6. Insect Habitat
7. Social & Beneficial Insects



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**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. **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.

GCWs 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. Incubation is 14-17 days and this work is shared by male & female (as well as fed by both). Fledge in 1012 days.

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



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## **ORGANISMS AND ENVIRONMENTS**

Within the living environment organisms, have characteristics, life cycles and interactions with all components of the natural environment. The natural environment plays a key role in the organism's survival. When changes in the environment occur organisms thrive, become ill or perish.

### **Example of Interaction with 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 (in the guide book) to identify your table.

### **Materials List**

Laminated Activity Signs (2)

Table (1)

Station Guide Book

Flip board

Laminated enlargements of the 17 different organisms in the chart below.

Observation cups with magnifier attached

### Taking Flight!

Station 1 - What is an insect?

#### **Goals**

- Know the distinguishing characteristics of **insects**
- Be able to name the parts of an insect
- Be able to use this information to identify an organism as an insect

**Insects are** distinguished from all other arthropods because they have:



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- Three body regions: head, thorax, abdomen
- Six legs
- One pair of antennae

**TEKS**

Likenesses between offspring and parents are either inherited or learned and how to tell the difference. Identify some inherited and learned characteristics among species that help them survive and reproduce in their environment. Using a variety of tools and methods to conduct scientific inquiry, describe distinguishing insect characteristics and name the parts of an insect. Compare insects to other creatures that resemble insects.

**ACTIVITY #1 INSECT CARD GAME**

1. Show pictures of various organisms and ask whether or not it is an insect; emphasize the features that make it an insect or the distinguishing features that make it some other kind of insect

| <u>Organism</u> | <u>Insect?</u> | <u>Distinguishing Characteristics</u>  |
|-----------------|----------------|--|
| Daddy Long legs | No             | One body segment   |
| Lobster         | No             | More than 6 legs and 2 pairs of antennae   |
| Bee             | Yes            | 6 legs 3 body segments 1 pair of antennae  |
| Spider          | No             | 8 legs 2 body parts one fused into cephalothorax no antennae                         |
| Centipede       | No             | 10 legs or more pair of legs on each body segment flattened body antennae long       |
| Millipede       | No             | 10 legs or more 2 pairs of legs on each body segment body cylindrical antennae short |
| Scorpion        | No             | 8 legs 2 body segments fused into one cephalothorax no antennae                      |
| Earthworm       | No             | no legs  |
| Butterfly       | Yes            | 6 legs 3 body segments 1 pair of antennae  |
| Crab            | No             | More than 6 legs 2 pairs of antennae   |
| Snail           | No             | No legs, soft body, hard shell   |



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|                |     |   |
|----------------|-----|---|
| Shrew          | No  | 4 legs, fur, eyes not compound            |
| Horseshoe Crab | No  | Broad oval body stout spine-like tail     |
| Grasshopper    | Yes | 6 legs 3 body segments 1 pair of antennae |
| Dragonfly      | Yes | 6 legs 3 body segments 1 pair of antennae |
| Ant            | Yes | 6 legs 3 body segments 1 pair of antennae |

**ACTIVITY #2 INSECT HUNT**

Use the observation cups with the attached magnifier to have the kids hunt and capture insects in the area close to the station.  
 Check that they did indeed capture an insect.

**Tips & Options:                   None**

Quiz Your Guests

A quiz is in the flipbook.

Take Away

Interesting Facts:

The antennas of most insects function as receptors for odors.