

# HAVE TO HAVE A HABITAT



*Ranger Led  
Program*

THEME: Habitat  
GRADE LEVEL: First  
BEST TIME TO PLAN TRIP: Fall or Spring

## UNIT RATIONALE

Deep Creek is an ideal location to investigate the needs of plants and animals and improve understanding of the role of national parks as wildlife habitats. Students explore and discuss the many habitats of the Deep Creek area while hiking to one of two waterfalls: Tom Branch or Juney Wank. Afterwards, students discover soil organisms through hands-on exploration and their role in bear survival.

## STATE CURRICULUM STANDARDS - NORTH CAROLINA (FIRST GRADE)

### SCIENCE

#### Ecosystem:

- 1.L.1 Understand characteristics of various environments and behaviors of humans that enable plants and animals to survive.
  - 1.L.1.1 Recognize that plants and animals need air, water, light (plants only), space, food and shelter and that these may be found in their environment.
  - 1.L.1.2 Give examples of how the needs of different plants and animals can be met by their environments in North Carolina or different places throughout the world.

#### Earth Systems, Structures, and Processes:

- 1.E.2 Understand the physical properties of Earth Materials that make them useful in different ways.
  - 1.E.2.1 Understand the physical properties of Earth materials that make them useful in different ways.
  - 1.E.2.2 Compare the properties of soil samples from different places relating their capacity to retain water, nourish and support the growth of certain plants.



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# PLANNING A SUCCESSFUL TRIP HAVE TO HAVE A HABITAT



## SCHEDULE FOR A DAY OF ACTIVITIES IN GREAT SMOKY MOUNTAINS NATIONAL PARK

- Meet park ranger at Deep Creek Picnic Area
- Use restrooms
- Large group introduction
- Waterfall hike
- Lunch
- Going Bugg / Have to Have a Habitat
- Large group conclusion

## Planning a Successful Trip

- Check the weather before you go.
- School buses can park at the program site.
- The maximum number of students for this trip is 50. One adult chaperone is required for every eight students
- Students may leave their lunches on the bus. Teachers and chaperones should bring picnic blankets for the students to sit on. All trash must be carried back to school. NEVER leave food unattended.
- Restrooms and seasonal water fountains are available. Groups should bring their own drinks.



# SAFETY CONSIDERATIONS AND OTHER IMPORTANT INFORMATION



- Great Smoky Mountains National Park is a federally protected public use area. Please help the rangers keep all of the plants and animals protected in the park by not picking the plants or taking anything from the park.
- Please remind your students to wear appropriate footwear and clothing for this extended outdoor experience. Flip flops, slip-on shoes, or sandals are not appropriate for the program.
- Temperatures in some parts of the park can be 10-15 degrees colder than at your school. Long pants and layers are suggested for the program. Pants are the best precaution against cool temperatures, bee stings, ticks, and poison ivy.
- Within the park, cell phones are not always reliable. Rangers will follow the on-site agenda. If an unexpected problem occurs, rangers do carry park radios to make contact with the park dispatch office. For non-emergencies, call the Park Ranger dispatch at 865-436-1230 or contact a park employee.

## Animals and Plants of Concern in the park

- All animals in the park are wild and their behaviors are unpredictable. Treat all animals with caution.
- Venomous snakes - Two species of venomous snakes live in the Smokies, the copperhead and timber rattlesnake. Students should be cautious where they place their hands and feet.
- Insects - Yellow jacket wasps are the insects of greatest concern. They build nests in the ground along trails and streams and are aggressive when disturbed. Stings cause local swelling and can lead to severe allergic reactions in sensitive individuals. Such persons should carry epinephrine kits.
- Poison Ivy - Poison ivy is a three-leaved plant which can grow on the ground as well as on “hairy” vines up trees. To avoid chances of an allergic reaction wear long pants, stay on trails, and avoid direct contact with vegetation. If contact occurs or is a concern, wash affected parts in cold soapy water immediately.
- It is extremely helpful to rangers leading the program for students to wear clearly labeled name tags with first names only.
- Pets are not allowed on most park trails. Please do not bring them on the field trip.
- For more information about the park (Things to Know Before You Come) please visit the park’s website: <http://www.nps.gov/grsm/planyourvisit/things2know.htm>



# BACKGROUND INFORMATION

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## Park Description:

The National Park Service is charged with the management and preservation of the nation's most precious natural and cultural resources. These resources are woven into our natural heritage, and they provide opportunities for recreation, appreciation of beauty, historical reflection, cultural enrichment, and education.

Great Smoky Mountains National Park is one of the largest protected land areas east of the Rocky Mountains. With over 500,000 acres (800 square miles) of forest, the Smokies contain an enormous variety of plants and animals. In terms of biological diversity, a walk from a mountain's foot to its peak is comparable to the 2,000 mile hike on the Appalachian Trail from Georgia to Maine.

Because the National Park Service is charged with protecting resources and natural systems, the park engages in comprehensive research programs, such as air quality monitoring, to foster an understanding of park resources and to show how they are affected by local, regional, and global influences. Since the Smokies are so biologically diverse, the park is designated as an International Biosphere Reserve by the United Nations. The international system contains over 320 reserves in over 80 countries with the primary objectives of conserving genetic diversity and coordinating environmental education, research, and monitoring.

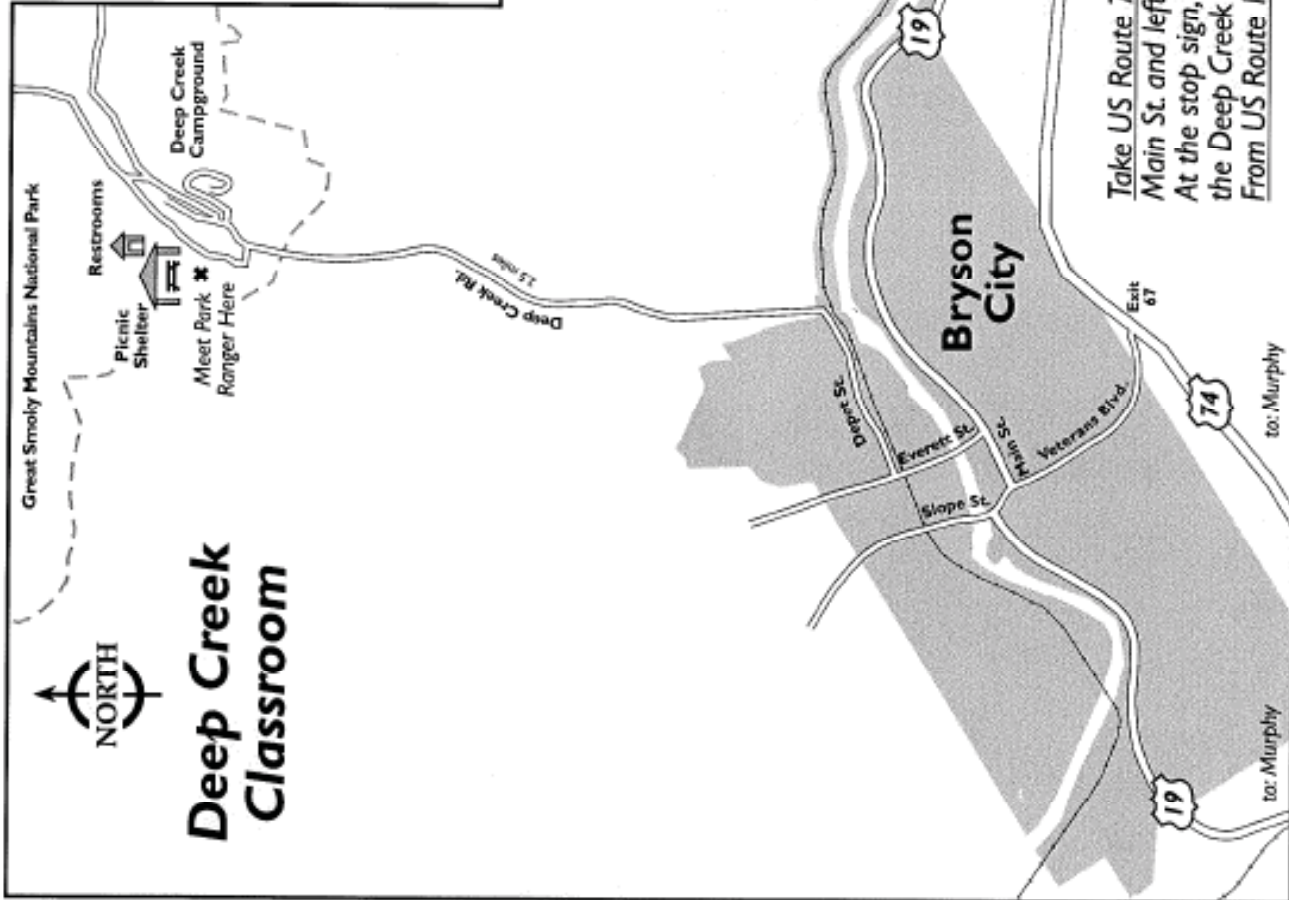
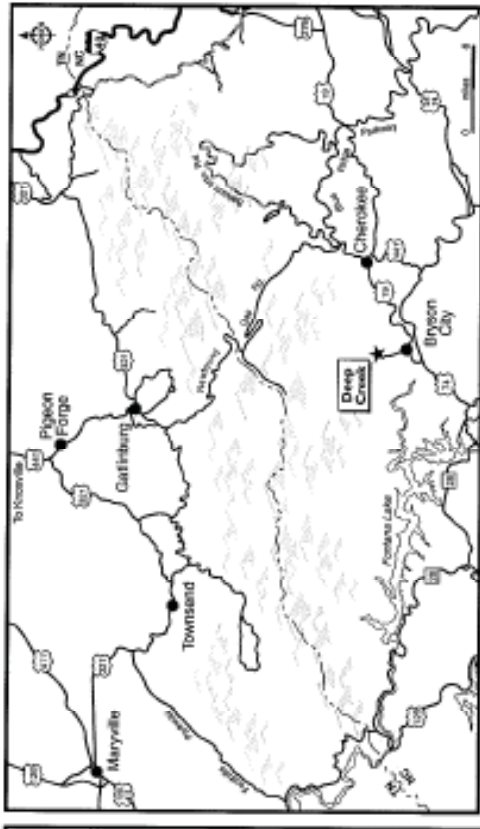
The Smokies also have a rich cultural history. Native Americans have lived in this area for thousands of years, and permanent white settlement began around 1800. The coming of commercial logging around 1900 stripped trees from two-thirds of what is now park land. Established in 1934, the park was created from more than 6,000 tracts of private and commercial land that was bought mostly with money raised and privately donated. Centrally located within a two-day's drive for half of the nation's population, Great Smoky Mountains National Park has the highest visitation of all the national parks in the country.

## Deep Creek Description:

Deep Creek is located three miles outside of the town of Bryson City, NC . Situated at an elevation of 1,800 feet, the area contains cove hardwood forests. Deep Creek is appropriately named by the swift flowing stream that serves as a watershed for Clingmans Dome between the Noland and Thomas Divide. It is where "Kituhwa" was located, one of the first Cherokee town sites that botanist Williams Bartram visited in the early 1800s. Later it was settled by families who planted crops, fished and worked on the railroad and sawmills. The forests along the Deep Creek watershed remained largely old growth forest at the time of acquisition by the park in the late 1920s. Today, Deep Creek is popular with tubers, fisherman, campers and hikers.



# MAP TO DEEP CREEK



Take US Route 74 W to Exit 67 (Veterans Blvd.) into Bryson City. Turn right on Main St. and left on Everett St. Cross the RR tracks and turn right on Depot St. At the stop sign, turn left onto Deep Creek Rd. Go approximately 2.5 miles to the Deep Creek Park entrance. Meet the Park Ranger at the picnic pavilion. From US Route 19S go into Bryson City (Main St.) and follow the directions above.



# PRE-SITE/POST-SITE TEST

Name \_\_\_\_\_



PRE-SITE SCORE \_\_\_\_\_

POST-SITE SCORE \_\_\_\_\_

1) Circle the four parts of habitat in the list:

Air	Food
Water	Soil
Shelter	Sunlight
Fire	Space

2) Draw a line between the feeding type and the definition:

Carnivore	Eats only plants
Omnivore	Eats only meat
Herbivore	Eats both

3) Name three wild mammals that live in North Carolina:

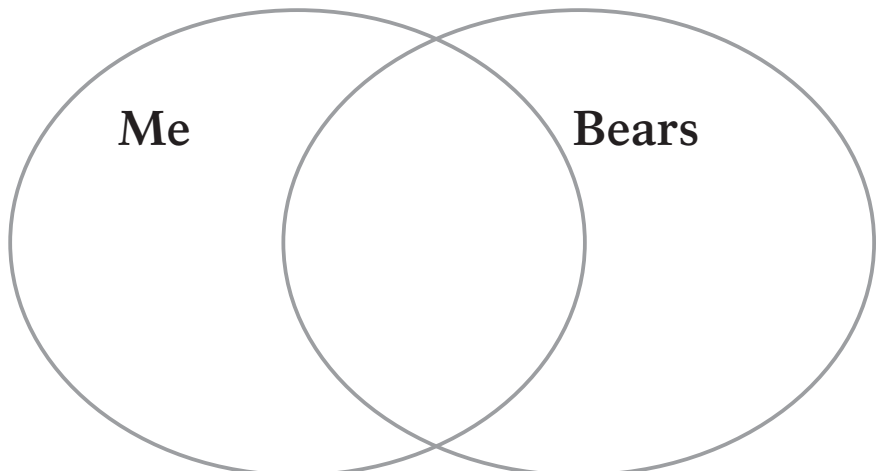
4) Draw a line between the animal and the type of shelter they use.

Bear	Rock wall
Turkey	Cave
Salamander	Pine tree
Chipmunk	Rotten log

5) Name a National Park: \_\_\_\_\_

6) Compare yourself to a bear. Place each food item in the Venn diagram.

Pizza	Mushrooms
Bugs	Mice
Honey	Berries
Fish	Nuts
Worms	Donuts



7) Name three things that live in the soil.





# PRE-SITE/POST-SITE TEST CONTINUED



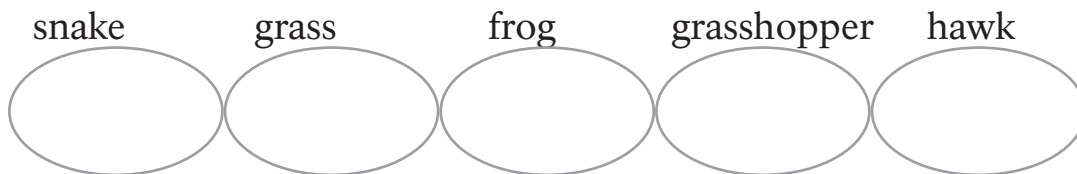
8) List two ways people help protect the environment.

9) Name three trees that grow in North Carolina:

10) Circle the four things plants need

- |           |          |
|-----------|----------|
| light     | shelter  |
| pots      | water    |
| herbivore | air      |
| space     | fire     |
| nutrients | gardener |

11) Build a food chain using the four plants and animals listed below.



12) Circle the correct answer: Decomposing leaves and plants help the soil by:

- A) Improving water holding capacity
- B) Adding nutrients
- C) Feeding worms
- D) All the above

13) How many legs do insects have?

- A) 3
- B) 6
- C) 8

14) How many body parts do insects have?

- A) 4
- B) 7
- C) 3

15) An insect's habitat includes food, water, and \_\_\_\_\_.

- A) sunlight
- B) shelter
- C) atmosphere







# PRE-SITE/POST-SITE TEST ANSWERS KEY

1) Circle the four parts of habitat in the list:

- |         |          |
|---------|----------|
| Air     | Food     |
| Water   | Soil     |
| Shelter | Sunlight |
| Fire    | Space    |

2) Draw a line between the feeding type and the definition:

- |           |                             |
|-----------|-----------------------------|
| Carnivore | <del>Eats only plants</del> |
| Omnivore  | <del>Eats only meat</del>   |
| Herbivore | Eats both                   |

3) Name three wild animals that live in North Carolina:

*bear, deer, elk, red wolf, otter, skunk, raccoon, opossum, bobcat, squirrels, mice, ground-hogs, wild boar and many others*

4) Draw a line between the animal and the type of shelter they use.

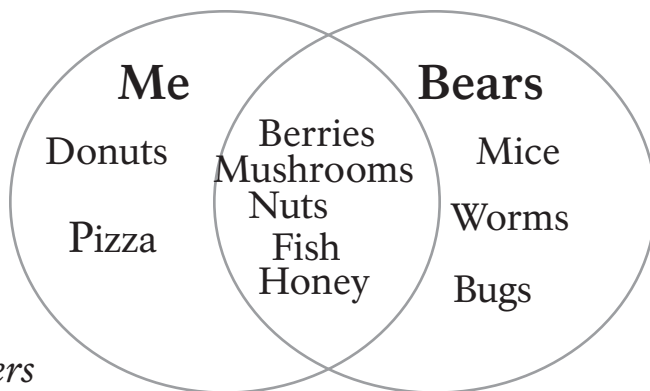
- |            |                      |
|------------|----------------------|
| Bear       | <del>Rock wall</del> |
| Turkey     | <del>Cave</del>      |
| Salamander | <del>Pine Tree</del> |
| Chipmunk   | Rotten log           |

5) Name a National Park: There are 392 as of 2010. Please visit [www.nps.gov](http://www.nps.gov) for a complete list

6) Compare yourself to a bear. Place each food item in the Venn diagram.

Pizza Mushrooms

- |       |         |
|-------|---------|
| Bugs  | Mice    |
| Honey | Berries |
| Fish  | Nuts    |
| Worms | Donuts  |



7) Name three things that live in the soil.

*Worms, ants, beetles, fungus, mites, springtails, spiders*





## PRE-SITE/POST-SITE TEST ANSWER KEY

8) List two ways people help protect the environment.  
*Don't pollute, plant trees, pick up litter, learn about wildlife*

9) Name three trees that grow in North Carolina.  
*There are over 140 tree species in North Carolina- Some of the most common in our region are oak, maple, hemlock, Tulip poplar and hickory.*

10) Circle the four things plants need

light	shelter
pots	water
herbivore	air
space	fire
nutrients	gardener

11) Build a food chain using the four plants and animals listed below.

GRASS

GRASSHOPPER

FROG

SNAKE

HAWK

12) Circle the correct answer: Decomposing leaves and plants help the soil by:

A) Improving water holding capacity

B) Adding nutrients

C) Feeding worms

D) All the above

13) How many legs do insects have?

A) 3

B) 6

C) 8

14) How many body parts do insects have?

A) 4

B) 7

C) 3

15) An insect's habitat includes food, water, and \_\_\_\_\_.

A) sunlight

B) shelter

C) atmosphere



# PRE-SITE ACTIVITY: THEM VERSUS US



**Grade Level:** First

**Subject Area:** Science

**Activity time:** 30 minutes

**Setting:** Indoors

**Skills:** Inferring, communicating, comparing, classifying, organizing, presenting

## **Vocabulary:**

- **Arthropod:** An invertebrate animal having an exoskeleton, a segmented body, and jointed appendages. Arthropods include the insects, arachnids, crustaceans, and others. They have over a million described species, making up more than 80% of all described living animal species.

- **Invertebrate:** An organism without a backbone.

- **Taxonomy:** The science of classification. All life forms can be classified into Kingdom, Phylum, Class, Order, Family, Genus, Species.

## **Objective:**

As an introduction to the on-site activities, the following information will assist students in distinguishing invertebrates from one another.

## **Materials:**

- Chart paper

## **Background:**

Close to one million invertebrate species have been named and described worldwide. Invertebrates are animals without backbones. A scientist attempting to identify invertebrates would try to classify (sort) an animal based on its characteristics. The broadest classification of any living creature is to determine what Kingdom it falls into. All animals are grouped in the Kingdom Animalia. Even humans belong to this Kingdom. However, insects and spiders are very different from humans. On an elementary level, humans are different from spiders and insects in their size, number of legs, and skeletal make up. Scientifically, a taxonomist would identify characteristics of any species with classification taxonomy. For example, the second character description is to determine to what phylum a species belongs. Animals having a segmented body, paired limbs, a hard outer skin (known as an exoskeleton) with flexible legs and bilateral symmetry (meaning each side of the body is a mirror image of the other) belong to the phylum Arthropoda. This would include spiders and insects, as well as a variety of other invertebrates. Eighty percent of all invertebrates belong to this phylum.

From the Phylum description we can begin to describe orders of animals based on other visible characteristics that students will be searching for on the field trip. The first challenge is for students to understand how insects are different from spiders. The next step is to compare the human body to insects and spiders.

## **Set Up:**

Because they are very closely related, insects and spiders are sometimes confused upon identification. However, an observer can tell them apart by observing several different physical and behavioral characteristics. Ask the students to observe how a creature looks and behaves to determine if it is an insect, a spider, or another member of the phylum arthropoda. Examples of arthropods for this activity can be gathered from numerous internet sites, picture books, or even by collecting specimens from the school yard to be passed around the class in securely closed containers.

As a group, discuss the differences between insects and spiders. Make a list on the board or on a flip chart of all the correct answers. Be sure to encourage answers about behavior and habitat as well as physical characteristics. Then add a third column to the list called “Me”. Ask the students to compare insects and spiders characteristics to those of themselves. See the following page for an example chart.

## **Resources**

National Wildlife Federation.  
“Incredible Insects.” Ranger Rick’s Naturescope (1998)



# PRE-SITE ACTIVITY: THEM VERSUS US (CONTINUED)



Insects	Spiders	Me
6 legs	8 legs	2 legs
3 main body parts (head, thorax, and abdomen)	2 main body parts (cephalothorax and abdomen)	2 main body parts?
live in water and on land	usually live on land	live on land
have 2 antennae	have no antennae	have no antennae
eat plants and animals	usually eat other animals	eat plants and animals
most don't make webs	most make webs or use silk in different ways	don't make webs but do make houses
usually have 2 compound eyes and several simple eyes	usually have 8 simple eyes and no compound eyes	have simple eyes
usually have two pairs of wings	no wings	no wings
can bite or sting	can bite; all have poison to catch prey	can bite & hit; cannot sting
exoskeleton	exoskeleton	have skeleton on the inside



# PRE-SITE ACTIVITY: A CRICKET CHORUS



**Grade Level:** First

**Subject Area:** Science and Music

**Activity time:** 30 minutes

**Setting:** Indoors

**Skills:** communicating, experimenting, comparing, analyzing, presenting, applying, connecting, music

**Vocabulary:**

- Exoskeleton: An external, supportive, armor like covering on an insect.
- Insect: A member of a class of arthropods with a well-defined head, thorax, and abdomen, and only three pairs of legs.

**Objectives:**

- 1) learn how insects make sounds with parts of their bodies other than their mouths, such as legs and wings
- 2) learn how the sounds insects make allow them to communicate with one another
- 3) learn how insects use their adaptations and communication techniques to attract mates

**Materials:**

- Insect calls from various internet sources (search “Insect Sounds”)
- Rhythm sticks
- Hand drum
- Maracas

**Background:**

As with most species in the animal world, insects have methods of creating sounds to attract mates and as a defense mechanism to protect themselves from predators. Primarily, it is the males who make the loudest, if not the only sounds, for their species. Sounds are generated through scraping of wings, wing flaps against each other, rubbing of legs together (termed *stridulation*), or popping of membranes through muscle contractions (termed *crepitation* or *wing snapping*) against the ground or other surfaces.

**Procedure:**

Prepare students for this activity by searching internet sites (see suggested Resources at the end of this page) for insect sounds. Play a variety of these sounds for students to hear. Ask the students to imitate some of these sounds using their voices or other parts of their body. Explain to students the differences in how people communicate and how insects communicate.

Using a variety of musical instruments suggested below, allow students to imitate insect sounds. For a challenge, help them write and perform their own “insect instrumental”.

Insect	Instrument	Actual Sound
Crickets and some grasshoppers	Rhythm sticks with edges	Stridulation
Cicadas	Rhythm sticks	Vibrations of membranes called tymbals
Some beetles, some grasshoppers, cockroaches	Hand drum	Striking part of the body against a surface
Gnats, mosquitoes, hornets, wasps, and bees	Brushing tambourine head	Vibration of wings or other body parts

**Resources:**

Mankin, Richard, “Bug Bytes” USDA, 18 April 2007 <http://www.ars.usda.gov/pandp/docs.htm?docid=10919> (3 December 2007)

DeMary, John “The Insect World” Discovery Education 2007 <http://school.discoveryeducation.com/lessonplans/programs/insectworld/> (3 December 2007)



# PRE-SITE ACTIVITY: WHAT LIES BENEATH?



**Grade Level:** First

**Subject Area:** Science

**Activity time:** 30 minutes

**Setting:** Indoors

**Skills:** comparing,  
organizing, sorting

## **Objectives:**

Students will become more familiar with the common types of organisms found in their backyard.

## **Materials:**

- “What Lies Beneath” worksheet (provided on the following page)

## **Background:**

Great Smoky Mountains National Park is known for its diversity and abundance of both large and small animals. Prepare the students for this activity in the park by studying the “What Lies Beneath” worksheet prior to the field trip. Print out a page and encourage the students to color the invertebrate or print out two sets, cut them up and play a “memory” type game.



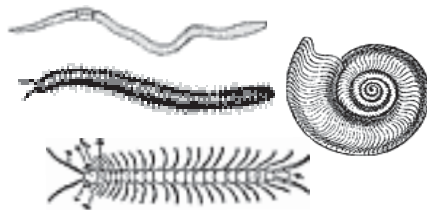


# PRE-SITE ACTIVITY: WHAT LIES BENEATH? (CONTINUED)



During your field trip to Great Smoky Mountains National Park you will be looking for terrestrial invertebrates. Look at the following terrestrial invertebrates that you might see on the field trip.

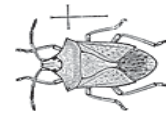
Not an Insect or a Spider  
Centipedes,  
Millipedes, Snails, Worms



Arachnids  
Spiders



Hemiptera  
Stink Bugs and  
Squash Bugs



Homoptera  
Leafhoppers, Cicadas



Coleoptera  
Beetles and Weevils



Lepidoptera  
Butterflies and Moths



Isoptera  
Sow Bugs



Diptera  
Flies and Mosquitoes



Orthoptera  
Grasshoppers and Crickets





# ON-SITE ACTIVITY

## PARK RANGER DIRECTED LESSONS



**Grade Level:** First

**Subject Area:** Science

**Activity time:** 3.5 hours  
(including a lunch break)

**Class Size:** maximum of  
50 students

**Setting:** Outdoors

**Skills:** communicating,  
comparing, experimenting,  
recording data, sorting,  
classifying, organizing,  
analyzing, presenting, role-  
playing.

### Objectives:

- 1) be introduced to the idea and purpose of national parks
- 2) conduct investigations and make observations about leaf litter organisms
- 3) use appropriate tools and techniques to collect organisms and use student-made rules to classify organisms
- 4) compare and contrast human needs with other living creatures
- 5) demonstrate an understanding of classification and patterning

**Materials:** provided by park rangers

### Background:

The following is a brief description of your on-site activities. These activities will be led by park staff, but please be familiar with them, as the classroom teacher may be asked to assist on-site.

#### Habitat Hike (1 hour 15 minutes)

The park ranger will lead students and adults on a hike through the forest. Students will be asked to search for animals along the path, and the ranger will help identify habitats for the animals.

#### Going Buggy (30 minutes)

Students will use scientific equipment to search for terrestrial invertebrates. Once collected, students will classify organisms by physical characteristics before returning the organisms back to their habitat.

#### Have to Have a Habitat (30 minutes)

A discussion on black bears will teach students will learn the importance of Leave No Trace in relation to animal health and personal safety. A discussion on black bears will Students will have an opportunity to role play bears hunting for food.

#### Quiet Reflection (15 minutes)

Students will have a few minutes to quietly sketch, do a leaf rubbing, or otherwise reflect on their day.



# POST-SITE ACTIVITY

## COMPARE AND CONTRAST DIAGRAM



**Grade Level:** First

**Subject Area:** Science

**Activity time:** 30 minutes

**Setting:** Indoors

**Skills:** comparing, contrasting, classifying, organizing, applying, connecting

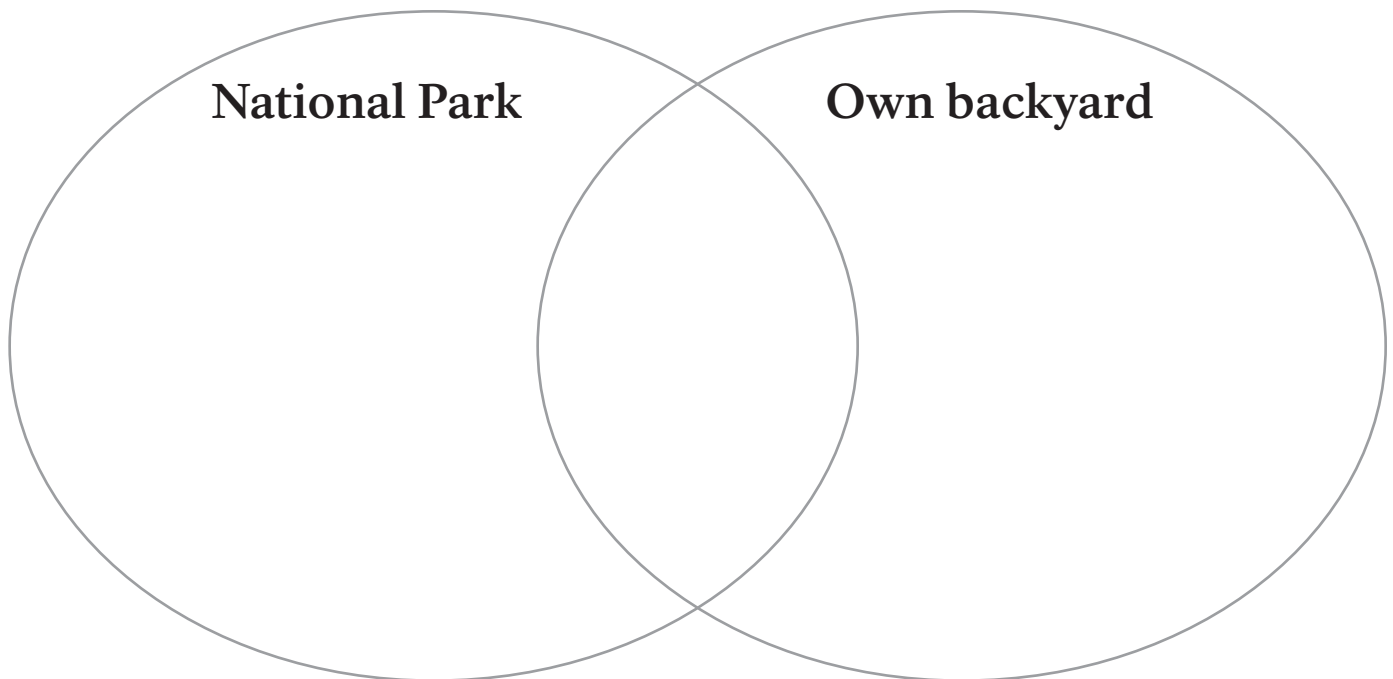
**Objectives:** Students will improve their understanding of the attributes that make National Parks different than their own back yard.

**Materials:**

- Piece of paper for student
- Pen or pencil

**Procedure:**

Have the students create a Venn diagram to compare and contrast between a national park and their backyard: examples: different animals, humans and bears...)



# POST-SITE ACTIVITY: BUILD A SPIDER HIDER



**Grade Level:** First

**Subject Area:** Science

**Activity time:** As much time as needed

**Setting:** Indoors

**Skills:** experimenting, brainstorming, comparing, applying, planning, design and construction

## Objectives:

Students will increase their understanding appreciation of spiders adaptations and role in the food web.

## Materials:

- wooden picture frame
- triangular pieces of wood
- ground post or weatherproof string

## Background:

Spiders can be beneficial to humans when they exist in their natural habitats. Spiders are a part of any food chain; they exist as predators, gobbling up flies, earwigs, crickets and various other creatures that are commonly found around building foundations. This activity will encourage students to appreciate the talents of spiders in their web weaving ability and their protection of our homes from other pesky insects.

**Caution:** Be aware that once this project is completed, students should not directly handle any spiders that are attracted to the web frames. Spiders can bite if provoked, but generally the venom is minimal and merely causes a reddened area of the skin. Some people may exhibit a local reaction to a bite and would need to consult a physician especially if the bite is slow to heal. The most dangerous spider bites can come from brown recluses and black widows. These spiders are very reclusive however, and have been found to make 3 dimensional webs. They leave the web in search of prey. The frame for this project will result in a 2 dimensional web, and may attract the common garden variety spiders, such as orb weavers.

## Procedure (Set Up):

To build the web frame, a variety of techniques can be tested. One simple approach is to purchase a wooden picture frame (any size will do). Using 2 thin small pieces of wood, make a “spider nook” by cutting the wood into triangles and glue them in to one corner of the frame. Place them on the same corner of the frame, placing one on each side. Leave space between the two places like a pocket so a spider can hide while it awaits prey. Find a location with little disturbance activity, in a flower bed or on the edge of a forest or field. You can hang the frame from a tree limb or fasten a post so that it can be stuck firmly in the ground. Remember, some of these spiders will be hoping to capture insects in flight, so be sure neither side of the frame is blocked.

## Resources:

Spiders are Good Guys. 19 August 2000. <http://web.extension.uiuc.edu/champaign/homeowners/000819.html>

Build a Spider House. 30 May 2008. <http://www.spiderroom.info/buildaspiderhouse.html>



# POST-SITE ACTIVITY

## EXPLORE YOUR NATIONAL PARKS



**Grade Level:** First

**Subject Area:** Science

**Activity time:** 30 minutes

**Setting:** Indoors

**Skills:** Computer skills, research, collecting information, connecting, brainstorming, analyzing, presenting, communicating

### Objective:

To teach students about the various aspects of the National Park Service.

### Materials:

- Internet access

### Background:

The Great Smoky Mountains are world renowned for their diversity of plant and animal species. This great variety makes the park an exemplary outdoor laboratory for the study of relatively undisturbed native flora, fauna, physical environs, and processes of the Southern Appalachians. The park is the largest federally preserved and protected upland area east of the Mississippi River offering park visitors a refuge from the stresses of everyday life.

You and your students can learn more about this special place as well as participate in on-line activities to further your knowledge of the National Park Service and

other federally protected lands. Please check out the following web addresses:

### Especially for Kids

To learn how to become a web ranger for the National Park Service, go to:

[www.nps.gov/webrangers](http://www.nps.gov/webrangers)

To learn how to become a Junior Park Ranger at Great Smoky Mountains National Park or other parks, go to:

[www.nps.gov/learn/juniorranger.htm](http://www.nps.gov/learn/juniorranger.htm)

### Especially for Teachers

For a comprehensive understanding of the background and development of the National Park Service, that is perfect for teachers and others those who need the maximum amount of accurate information in the minimum amount of time, go to:

<http://www.ParkTraining.org>  
The U.S. Department of Education is pleased to announce the newly remodeled and updated Federal Resources for Education Excellence (FREE) website.

It now provides richer, more expansive resources to teachers and students alike. There are over 1,500 resources to take advantage of at FREE ranging from primary historical documents, lesson plans, science visualizations, math simulations and online challenges, paintings, photos, mapping tools, and more. This easily accessible information is provided by federal organizations and agencies such as the Library of Congress, National Archives, National Endowment for the Humanities (NEH), National Gallery of Art, National Park

Service, Smithsonian, National Science Foundation (NSF), and National Aeronautics and Space Administration (NASA). Go to: <http://www.free.ed.gov/>



# PARENT/CHAPERONE LETTER



Greetings Parents/Chaperones:

Park rangers are pleased to be presenting an educational program to the students in Great Smoky Mountains National Park. In order to achieve the goals for a successful program, the park rangers will need your assistance in the following ways:

(These points will help to ensure that park rangers and teachers will be able effectively conduct the lessons and activities throughout the trip.)

- The program will be conducted outside and there will be some hiking throughout the trip. Prepare your student with appropriate footwear, long pants, layers, and rain gear.
- If your child is bringing a lunch from home, we recommend that students bring water to drink and a lunch with minimal packaging. Soft drinks are usually left unfinished by students, and remaining sugary drinks cannot be poured out on the ground. (Minimally packaged lunches lead to less trash being left behind or scattered by the wind. Additionally, this reduces the accumulated trash to be disposed).

If you are a chaperone attending the field trip:

- Please be an active part of the lessons. Keep up with the group and listen to the information being given in the case that you may be called upon to assist (handing out materials, sub-dividing groups etc.).
- Please do not hold conversations with other chaperones or use a cellular phone while the rangers are teaching the students.
- Refrain from smoking during the trip. If you must smoke, please alert a ranger or teacher and remove yourself from the group.
- Please be aware that the program will be conducted outside and that there will be some hiking throughout the trip. Prepare yourself with appropriate footwear, long pants, layers, and rain gear.
- We recommend that parents and students bring a small towel in their backpacks to sit on at lunch (there are no picnic tables at the program site).

Thank you for your needed assistance. We look forward to meeting you on the program!

Sincerely,

The Education Staff at Great Smoky Mountains National Park



# RESOURCES AND REFERENCES

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Build a Spider House. 30 May 2008. <http://www.spiderroom.info/buildaspiderhouse.html>

DeMary, John “The Insect World” Discovery Education 2007  
<http://school.discoveryeducation.com/lessonplans/programs/insectworld/> (3 December 2007)

Mankin, Richard, “Bug Bytes” USDA, 18 April 2007  
<http://www.ars.usda.gov/pandp/docs.htm?docid=10919> (3 December 2007)

National Wildlife Federation. “Incredible Insects.” Ranger Rick’s Naturescope ( 1998)

Spiders are Good Guys. 19 August 2000.  
<http://web.extension.uiuc.edu/champaign/homeowners/000819.html>

