

# Junior Animal Habitats- STEM

**Goal:** When I've earned this badge, I will know more about wild animals and how to protect their homes.

**Notes:**

*To complete the entire badge, gather these supplies ahead of time:*

- 1) A notebook or paper for observations
- 2) A pencil or pen
- 3) Binoculars
- 4) Appropriate gear for an outdoor walk or hike
- 5) Posterboard
- 6) Materials from your backyard like sticks, leaves, mud and more
- 7) A camera to take pictures
- 8) A shoebox or other box

*If you plan to complete the optional birdhouse for your backyard, you will need:*

- 1) A wooden board (3/4 inch thick, 5 1/2 inches wide and at least 4 feet long)
- 2) Hammer
- 3) Nails
- 4) Marker or pen
- 5) Tape Measure
- 6) 4 screws
- 7) A hand saw or tool to cut the wood
- 8) A drill with a hole saw and a small bit

*Vocabulary Words to Look Up:*

*Habitat*

*Migration*

*Tundra*

*Grasslands*

*Desert*

*Forrest*

*Endangered*

**BEFORE YOU START:**

Any time Girl Scouts head outdoors, we want to remember to be environmentally responsible. Please remember to Leave No Trace. If you need a reminder about what it means to Leave No Trace, or if this is new to you and your family, please read this article before you head outdoors to complete your activities:

<https://www.girlscouts.org/en/adults/volunteer/tips-for-troopleaders/programming/what-is-leave-no-trace.html>

## **Step 1: Find Out About Wild Animals.**

*What I'll Do:*

To understand animals, we need to observe them in their natural habitat. This shows scientists an animal's daily habits like what it eats, where it sleeps, and what else it needs for survival.

*What I'll Need:*

- An animal to observe
- A computer or other device to watch the live cams

*How I'll Do It:*

Animals can live in a natural habitat or an artificial habitat. Here is a PBS video explaining the basics of animal habitats and the difference between natural and artificial habitats.

<https://www.pbs.org/video/natureworks-habitat/>

What kinds of animal habitats exist in and around your home? Do you have a pet? Is there wildlife in your backyard? Look outside your window or take a walk around your neighborhood and make a list of three animals you can see. Learn more about each one. Where do they live? What do they eat? What do they need to survive? Do they interact with humans? Write down your observations in your notebook.

If you don't have any animals in your neighborhood, here's a list with plenty of live animal cams. Watch different animals in both natural and artificial habitats. Try a couple of different cams and pick three animals you can watch. See how they are the same and different from each other. Do you notice any animals that live together?

<https://explore.org/livecams>

## **Step 2: Investigate an Animal Habitat.**

*What I'll Do:*

In this activity, I'll observe animals in their natural and artificial habitats.

*How I'll Do It:*

Once you've observed animals in their natural habitat, watch some animals in an artificial habitat. Check out these live cams from the San Diego zoo. How do animals act differently in the wild vs in a man-made habitat? See if you can choose 5 animals and answer these questions about each one:

- 1) What country is the animal naturally found in?
- 2) How does its fur or skin help the animal live in this habitat?
- 3) How does it stay clean?

- 4) How does it get around in this habitat?
- 5) What kind of food can it find in this habitat?

Link to the Live Cams:

<https://zoo.sandiegozoo.org/live-cams>

You could also try observing some farm animals. Here is a link to a Farm Sanctuary. How is the sanctuary the same as a zoo? How is it different?

<https://explore.org/livecams/farm-sanctuary/sheep-barn-farm-sanctuary>

Go Deeper:

Scientists classify animals using the Biological Classification system. Every animal has a common name that we typically know it by, but they also have a scientific name in the classification system. There are seven ranks, or levels, in the system. They start with the largest classification, known as Kingdom, and get smaller as they descend:

Kingdom

Phylum

Class

Order

Family

Genus

Species

For example, we know a cow by their common name, cow. The scientific name of a cow is the *Bos Taurus*. Here is the cow's classification:

Kingdom: Animal

Phylum: Chordata (animals that have a backbone)

Class: Mammalia (animals that give milk)

Order: Artiodactyla (even-toed, hooved animals)

(Cows also have a sub-order classification, Ruminantia, which means they are cud-chewing animals)

Family: Bovidae (hollow-horned)

Genus: *Bos* (they are quadrupeds)

Species: *Taurus* (this is the most common species of domestic cows)

Now take your animal and find out its Scientific Classification. Write it in your notebook or make a poster to share your findings.

More Investigation fun:



In 1980, Girl Scouts could earn the Hobbies and Pets award. As a requirement for this badge, girls would need to find out why a wolf, a deer, a raccoon, a monkey, a baby alligator, and a skunk would not make good pets. Can you find out why?

Wild animals do not usually make good pets. In some cases, specially trained experts may keep wild animals as pets because they cannot survive in the wild on their own. Every state has its laws about what animals you can and cannot keep as pets. What are the laws here in Connecticut? A good resource to ask might be your local animal control officer.

Here's a video showing a little bit about what it looks like to be an animal control officer for a day.

<https://www.youtube.com/watch?v=nyRu3aREzPQ>

### **Step 3: Create an Animal House.**

*What I'll Do:*

Research how animal parents protect their young and create my own animal house.

*What I'll Need:*

- Supplies to make an animal house (could include sticks, mud, feathers, grass, popsicle sticks, clay, paper, cardboard or anything else you can find. Get creative!)

*How I'll Do It:*

Take a look at some baby animal habitats. How does a parent use their bodies or habitats to protect their babies? Here is a video of some animal moms taking care of their babies. Watch how they use their habitat and shield their babies from harm.

<https://www.youtube.com/watch?v=xZYAOuewbNo>

For this step here are two options, depending on what supplies you have available:

- 1) Find photos of baby animals and their mothers. Add some interesting facts about each mother/baby combo on the photo using your computer. Use the photos to create a screensaver for your home computer to educate your family!
- 2) Make your own animal house. Go outside in your yard and gather materials that animals might use to make a home or a nest. Construct an animal house that would keep an animal safe and protected in the wild. Think about different types of insulation animals might use to keep their nests cozy in colder weather. How will the animals stay dry in the rain? Can a predator find the home? Is it sturdy enough to hold up to the weather? Take a photo of your animal home and share it with your troop!

(If you can't go outside, get creative inside! What could you use in your home to make an artificial habitat? Can you use materials to turn a shoebox or other container into a habitat?)

#### **Step 4: Explore endangered habitats.**

*What I'll Do:*

Learn about migration and why animal habitats become endangered.

*What I'll Need:*

- Paper
- Pen or pencil to write down my observations

*How I'll Do It:*

Sometimes an animal's habitat changes and they need to adapt. One of the best examples of this is bird migrations. Check out this webinar presented by the CT Audubon Society about bird migration. (It was done through Facebook, but you do not need a Facebook account to watch.)

<https://www.facebook.com/AudubonCT/videos/506989333516852/>

Migration is not the only reason animals leave their habitats. What else might cause animals to have to leave their natural habitat?

Some possible answers might include weather, changes in the food source, and humans. Sometimes an animal can adapt and move to a new habitat. When it can't, it often becomes endangered.

Find an animal that is on the endangered list. Take a look at its natural habitat and find out why it is in danger. What is happening to the animals? What are the animals doing to adapt? What are people doing to help the animals? Write down the answers to these questions and more in your notebook.

Check out this link to the World Wildlife Federation. It breaks down animal habitats based on each region. Click through the links and discover why portions of each habitat are in danger.

<https://www.worldwildlife.org/habitats>

#### **Step 5: Help Protect Animal Habitats.**

*What I'll Do:*

Tell others how we can protect endangered animals or help protect local animal habitats.

*What I'll Need:*

- An adult to help me set up a virtual meeting or help with my computer presentation
- An animal costume

If you plan to complete the optional birdhouse for your backyard, you will need:

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- Hammer
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### *How I'll Do It:*

Now that you've learned all about animal habitats, it's time to think about how we can help preserve and protect natural habitats for animals. How can you help to spread awareness about endangered species and their shrinking habitats? Or how can you help animals in your community?

Here are some ideas (but also feel free to come up with your own):

- Host a virtual animal awareness party. Invite your troop, your family members, your friends, or anyone else who wants to join. Ask an adult to help you set up a virtual meeting using Zoom, Google Hangouts or another virtual conferencing platform. Send out an invite to your guests asking them to join you at a specific time and date. Prepare a presentation for them about an endangered animal you've learned about while earning your badge. Make an animal costume to wear during your presentation and prepare some facts about the animal. Be sure to include why it is endangered and what we can do to help protect its habitat. Keep your party fun and upbeat!
- Help to clean up a local animal habitat. Think about areas in your community where animals live. Could you help to clean up these areas? Hit the trails near your home and bring a bag to collect litter. Take a walk at a local beach or pond and clean up any trash you see. You could even look around your backyard to see how you could make it a better habitat for animals. Could you install a birdhouse and create an artificial habitat? Or maybe you could attract birds with a bird feeder or birdbath? Get creative!

Here's a great tutorial showing how to build an easy birdhouse on a \$5 budget. Ask an adult to help you gather and use the tools, and be sure to put on your safety gear.

<https://www.youtube.com/watch?v=j0werPvrrPI>

If you can't think of an area, email or call an expert in your area if there is anything you could do to help. Be sure to check with a grownup to make sure it is ok before heading out.

- Make an online presentation you can share with others about everything you've learned. Use all of the notes you've taken in your notebook during your badge work and compile them into one presentation. Use pictures and visual images to make your presentation

visually interesting to your viewers. Be sure to add facts about why animals are becoming endangered and what they can do to help protect and clean up animal habitats.

**Where I Can Purchase the Badge:**

Congratulations! Once you have shared your research, you have now completed your Junior Animal Habitats badge. Have an adult head to the Girl Scout store online to purchase the badge here:

<https://www.girlscoutshop.com/JUNIOR-ANIMAL-HABITATS-BADGE>