

## Lesson 2: Schoolyard Sleuths

### Objectives:

- Students investigate the schoolyard as habitat for wildlife
- Students ask questions about the wildlife and form predictions on classroom research, initiating the scientific process.

**Timing and Implementation:** 60 minutes. Outside lesson. Before camera trap deployment.

### Materials:

- eMammal video on scientific method, [eMammal Academy - Asking Questions](#)
- Habitat Happening worksheet
- Clipboard and Pencils
- Map of school (or use Google Maps, <https://www.google.com/maps>)
- [iNaturalist App](#) and devices (smartphones, iPads, optional)

### Procedure:

1. Show the [eMammal Academy video on asking questions](#) and making predictions.
2. Introduce the concept of a habitat audit and start a discussion:
  - *How will the following affect mammals: soil, water, and sun and wind exposure, plants and other animals, buildings, roads and parking areas, habitat types*
  - *How would you investigate a new planet? If you had photos of Mars, what would you look for and record? Write down student responses for the second question.*
3. Split students into teams and provide each team with a blank habitat audit sheet or if the class created their own habitat audit form in lesson 1 use it here.
4. Teams go outside to record and tally their findings. If students have smartphones or school iPads, they can use [iNaturalist](#). Students take photos of organisms and upload them to iNaturalist, where experts help with species identifications. Directions in Appendix.
5. Inside or outside, discuss the habitat and resources around the school.
  - *What different types of habitats did you notice?*
  - *What resources are available for wildlife around our school?*
  - *What do you think makes our school's habitat different from other schools in NC?*
6. Based on student observations, map locations of potential sites for a camera traps. This can be accomplished outside or in the classroom via Google maps. **Be sure to inform class that NCCC emphasizes camera placement should be somewhat random.**
  - *Based on what you found, where would you put the camera? Why?*
  - *Why would NCCC not want volunteers to place their cameras in places where they know they will record a lot of wildlife movement? **It can introduce biases***

**into the data and can cause an overestimation of wildlife populations or activity.**

7. Make predictions on what mammals will be detected with the camera trap on the school grounds. As a class, students may be given stickers to make a "dot plot" (pictured to the right) for such predictions.
8. Reinforce the idea that the NCCC camera trap data is being collected across the entire state to inform the NCWRC on the distribution of wildlife in the state. Scientists also assess NC habitat much like the student's have done in this schoolyard habitat activity.



**Evaluation/Extension Option:**

**Camera Challenge:**

- Students design a "decoy camera" that is deployed during the next lesson. Refer to Camera Challenge Worksheet for "camera design" criteria. Before implementing Lesson 3, students construct a faux camera with materials they choose. Students write a short paragraph about their camera design; why they chose the design and where they plan to deploy the camera.



# Habitat Happenings

Deployment name of NC Candid Critters site: \_\_\_\_\_

Describe what your habitat looks like: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**WATER:** Is there water? **NO YES**      Can animals easily access the water? **NO YES**

What type:    **Stream Puddle Lake River Pond Swamp**

**FOOD:**

Do you see any food sources?      **NO YES**

What kinds?    **Berries      Leaves      Nuts      Insects      Other animals**

**Others:** \_\_\_\_\_

Do you see any tracks or scat (animal poop)? <b>NO YES</b>	Do you see any potential animal homes? <b>NO YES</b>
<b>Draw</b> what you observe	<b>Draw</b> what you observe

Do you think this is a good habitat? Why or why not? What animals do you believe would live in this habitat?

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

List three abiotic factors in this habitat:

List three biotic factors in this habitat:

\_\_\_\_\_



## Camera Trap Challenge



You are going to take photographs of animals around your school using automated camera traps scientists and engineers have designed to study wildlife. But can you make one better? Design the ultimate camera trap below! As you create your model, ask yourself the following questions:

- How long will your camera run for? How many batteries do you need?
- How will your camera hold up to the elements? (rain, heat, snow).
- How big or heavy is your camera trap? Will scientists be able to carry it long distances?
- Will animals notice your camera trap? Will they smell it or see it? Will it make a noise?
- How many seconds will pass before it snaps an animal photo?
- How will your camera be placed? Locked to a tree or some other way?
- Can someone steal your camera?
- Is there anything that might scare animals? Colors or noises?
- How will your camera take pictures of animals at night?
- How will you get the photos? Do you have to go to the camera to pick them up? Or can you get them some other way?
- How can your camera capture animals far away? Close up?
- How much will your camera cost? How many would scientists be able to purchase to conduct a study at that price?