

Habitat Walk

Observation & Animal Signs Walk

Objectives: Will recognize that

- Their observation skills while in a natural environment can inform them of the health of the environment
- Signs of animals living in an area give us clues about the food chain.
- Habitats support many plants and animals, some of which we do not see but can be perceived by the signs they leave behind.

Overview: Students will gain awareness of their environment by exploring the open space or park they are walking through. By becoming nature detectives, students will look for signs of what animals live in the area and how they interact with the habitat.

Materials:

- Photos of different animal signs (tracks/trails, nests, scat/urine marks, territory marks, bones/fur/feathers, eat marks, sounds/smells)
- White board & Dry erase markers

Before Class Prep: Walk trail where you will be conducting class to assess which type of animal sign you may see, how much sign is there, areas you can point out and how far you may walk with the students. Utilize local field guides to familiarize yourself with what animals live in the area you are exploring.

Background Information: (multiple pages)

Habitat is an area that every animal and plant need so that they may survive. A healthy habitat consists of appropriate food, water, shelter and space for that plant or animal to live and reproduce. Observation, using our 5 senses, helps us obtain information about the environment we are in. Observing the signs of animals that we do not see present can let us know more about the health of the habitat.

Colorado has many different habitats from the plains to the alpine that all have a variety of plants and animals living there.

Observation of a habitat can help us understand if a habitat has a good amount of diversity of plants and wildlife that is healthy or if a habitat is missing factors and is a poor habitat for plants and wildlife. To understand these habitats better we can observe signs of the animals that live there as it is often difficult to see the actual animals. One way to work on our observation skills is to practice looking at a

wider view than we normally do or, using our peripheral vision and softening our view instead of looking intensely at one focus point.

To help students become good observers and learn more about the habitat they are walking through, we will introduce them to becoming nature detectives.

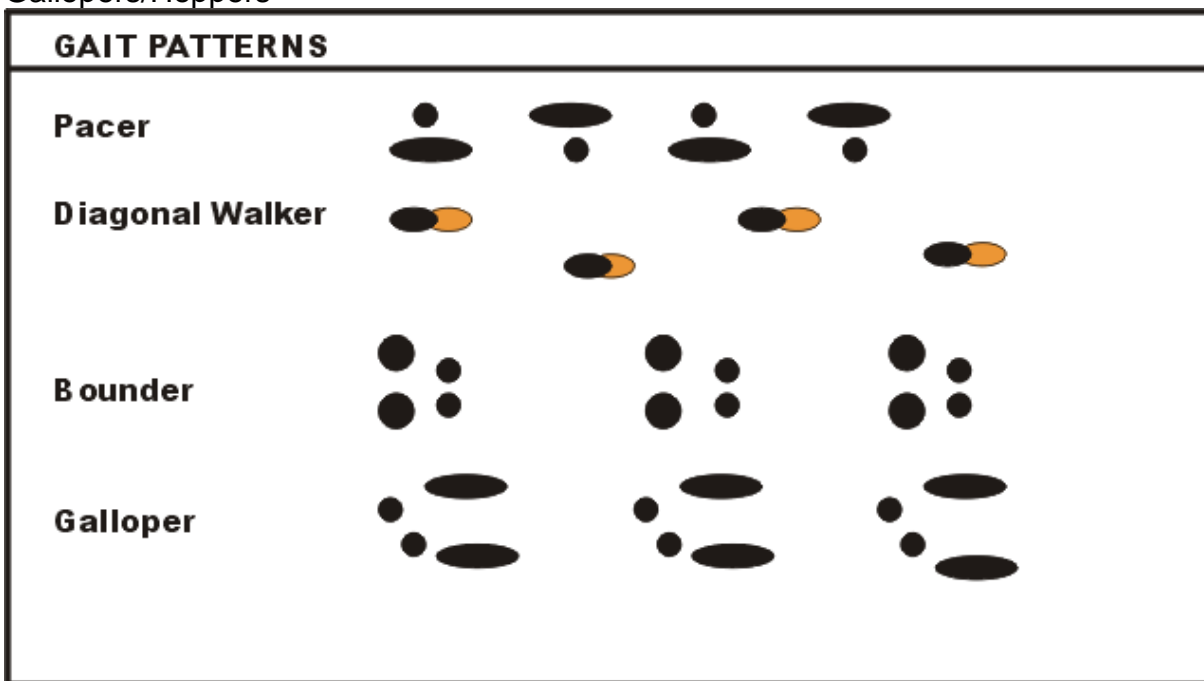
What do detectives (you may have heard of Sherlock Holmes) do? They look for clues that can help them solve mysteries.

In nature the mystery may often be is there a good variety of animals that live here or more specifically which animals live here. We can solve these mysteries by looking for 7 types of clues that show what lives in the area even if we do not see the animals themselves.

1. Tracks and Trails
2. Scat and Urine
3. Eat Marks
4. Homes
5. Body Parts
6. Territory Markings
7. Smells & Sounds

Exact identification in our short classes is not the aim of animal signs. Look for how many different types, where they are, and how many of each type. Having the students using their senses and realizing that there are many different animals that use the area for a home habitat is the important part.

1. Trails: May be seen as well-defined areas through the grass or under/through brush with no definitive track marks. If it is muddy or snowy you may see multiple tracks in a line creating a trail. Mammal track trails can be put into pattern categories. Pacers, Diagonal Walkers, Bounders and Gallopers/Hoppers



<https://outdooraction.princeton.edu/nature/animal-tracking-cards>

Pacers: Wide bodied animals like raccoons and bear that move a front (left) and back (right) foot at the same time leaving a “opposite” front foot/back foot trail pattern.

Diagonal Walkers: Dogs, cats, and hooved animals that move their right or left feet at the same time.

Bounders: Most of the weasel family that land their front feet together and their back feet directly behind.

Gallopers: Mice, rabbits that land their front feet then their back feet come around the outside of the body and front feet to land their back feet in the front. Also referred to as hoppers.

Tracks: To determine what a track is look for features with the students while using a track guide. What to look for, size, number of toes, can you see nails or not. Most tracks, unless fresh, are very hard to identify and many of our tracks may be dog (depending on what open space you are in) See a basic guide below but bring a simple guidebook or pamphlet on the walk with you.

Guide To Animal Tracks	
<p>WHITE-TAILED DEER 2 1/4" to 3" H</p> <p>MOOSE 4 1/2" to 5 1/4" F</p> <p>DOG 2 1/4" to 4" H</p> <p>COYOTE H - 2 1/4" F - 2 1/2"</p> <p>RED FOX H - 2" F - 4 1/4"</p> <p>GRAY FOX H - 1 3/4" F - 2"</p> <p>BOBCAT - 1 3/4" H</p> <p>LYNX H - 3"</p> <p>HOUSECAT - 1 to 2" F</p> <p>OTTER - 1 1/2" F</p> <p>FISHER 2 1/4" F</p> <p>MINK - 1" WEASEL - 1/2" to 1"</p>	<p>RACCOON H - 4" F - 2 1/2"</p> <p>PORCUPINE H - 3 1/4" F - 2 1/4"</p> <p>BLACK BEAR H - 7" F - 4 1/2"</p> <p>WOODCHUCK H - 2 1/4" F - 2"</p> <p>SNOWSHOE HARE H - 5" F - 2"</p> <p>COTTONTAIL RABBIT H - 3 1/2" F</p> <p>WHITE-FOOTED MOUSE - 1/4" T H - 2 1/4" F</p> <p>GRAY SQUIRREL H - 1 1/2" F</p> <p>TURKEY - 4" RUFFED GROUSE - 2"</p> <p>CROW - 2 1/2"</p>
<p>TRACK PATTERN</p>	<p>TRACK PATTERN</p>

TRACKS NOT TO SCALE

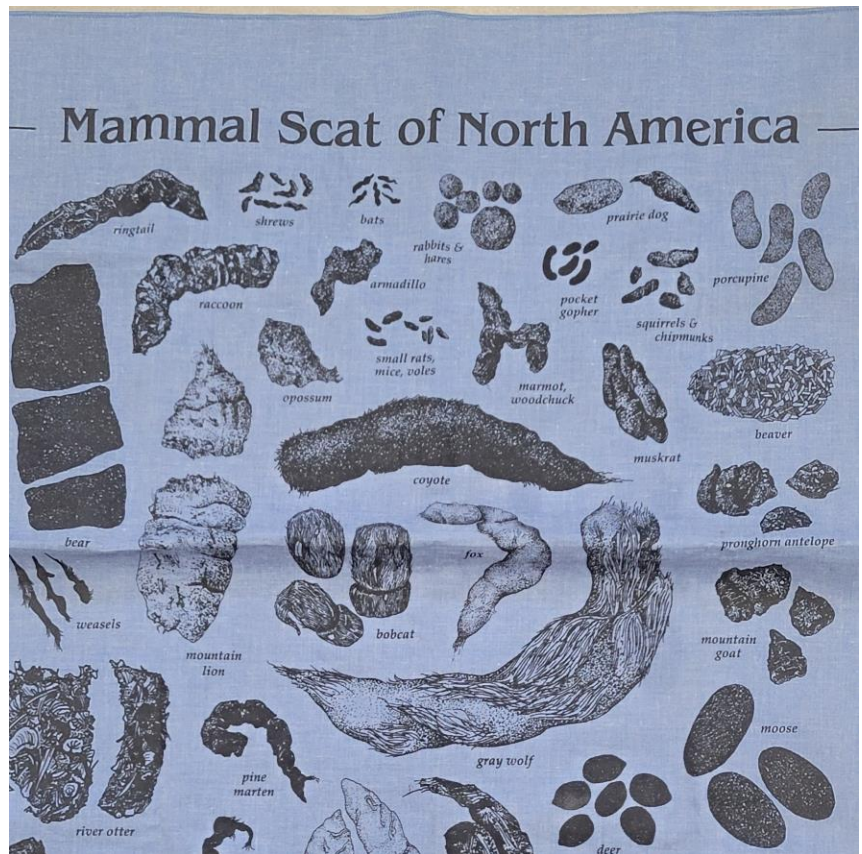
Depending on the substrate (snow, mud, dust, sand, etc.) and the speed the animal was moving, tracks may show great variability in their appearance.

F - Front track
H - Hind track
T - Tail marks may be present.

2. Scat and Urine: We do not often see urine marks unless there is snow on the ground. Scat may be found on or beside most trails in the open spaces.

Things to look for when you find scat: What is its shape (tube, pellet, blob), what color is it, does it have hair in it, does it have other items visible (nuts, berries, grass), how much scat is there.

Again, having a guidebook, pamphlet, or the scat bandana (right, available at VN Center) will help to narrow down what it is.



3. Eat Marks:

Looking for plants that have been gnawed or chewed like: brush that has been clipped off by deer (ragged edge) or rabbit (clean sharp edge), holes in trees that may have been made by woodpeckers or insects, downed wood that has beetle gallery marks where the bark is removed, piles of leftover cone scales from squirrels (midden piles), logs with beaver chew, willow or aspen bark eaten by elk and deer, or scrapes/digging on the ground, holes in leaves from insects eating them.

4. Homes:

Holes in trees: Many types of birds from chickadees to screech owls are cavity nesters using old woodpecker holes or natural holes in trees. Nests in trees: Small (hummingbird) to large bird (Raptors) build nests in trees. Also look for fox squirrel nests made of leaves and paper wasp nests that may be in trees. Holes in the ground: Some holes in the ground may be homes of chipmunks and ground squirrels. Insect/Spider Homes: beyond a larger paper wasp nest you can look for cocoons, webs, and galls on plants.

5. Body Parts:

You may see feathers, hair/fur, or bones (including antlers)

6. Territory Marks: Some animals will mark their territory by scraping trees, the ground or even rocks. Moose, elk, and deer may scrape against bigger trees leaving a scar or may “trash” among small willow and brush leaving the plants looking ragged.

7. Sounds and Smells: As people we are very sight oriented. Ask students how else we may know animals live in this habitat? We may often know an animal is present because we smell them (skunk) or we hear them (great way for finding birds).

Guiding Questions:

How do we know what animals live in this habitat if we don't see them?

How can we identify that animals live in this habitat? How may we tell which specific animals live in this habitat?

Do you think this habitat has a lot of diversity (different types of animals)? Why or Why Not?

State Standards:

Kindergarten: Science 2.1 – To live and grow, animals obtain food they need from plants or other animals, and plants need water and light.

Second Grade: Science 2.2 – A range of different organisms lives in different places

Third Grade: Science 2.1 – Organisms have unique and diverse life cycles

Third Grade: Science 2.3 – Different organisms vary in how they look and function because they have different inherited information; the environment also affects the traits that an organism develops.

Fourth Grade: Science 4.2.1 – Organisms have both internal and external structures that serve various functions

Middle School: Science 2.3 – Sustaining life requires substantial energy and matter inputs

Middle School: Science 2.5 – Organisms and populations of organisms are dependent on their environmental interactions both with other living things and with nonliving factors.

Middle School: Science 2.12 – Biodiversity is the wide range of existing life forms that have adapted to the variety of conditions on Earth, from terrestrial to marine ecosystems.

Lesson Outline

<p>Opening/Introduction</p> <p style="margin-top: 20px;">~3 min</p>	<p>Welcome students to station and let them know what you will be talking about today. Ask questions to gain an understanding of the group's knowledge and start point.</p> <p>Guiding Questions: What animals live in this habitat? How do we know they are here if we don't see them.</p>
<p>Key Talking Points</p> <p style="margin-top: 20px;">~5 -10 min</p>	<p>What does it mean to be observant?</p> <p>What are the 7 ways we can identify that different animals live in this habitat?</p> <p>What tells us if this is a good or a poor habitat for wildlife</p>
<p>Hands-on Activity</p> <p style="margin-top: 20px;">~15 min- 1 hr.</p>	<p>Hike/Walk looking for signs of what wildlife may be using the area. Create a list at the end of the lesson of what wildlife the students suspect are living at or using the open space.</p>
<p>Conclusion</p> <p style="margin-top: 20px;">~ 3 min</p>	<p>What do our observations of animal signs tell us about the habitat that we walked through today?</p>
<p>Assessment Questions</p>	<p>Did we find signs of a lot of different types of animals today?</p> <p>What does that tell us about this habitat?</p>

Guiding Questions:

State Standards:

	Hands-on Activities
Activity & Materials	<u>Instructions</u>
Animal Signs Hike <ul style="list-style-type: none">• Pictures of common animal signs seen in Boulder County.• Guidebooks and pamphlets	Using the pictures and guidebooks walk through a section of the open space to decide if this is a good habitat for different animals that live in Colorado