

Animal Signs

Program Purpose:

Through hands-on exploration, participants will discover different types of animal signs that are used to learn about and track animals big and small.

Length of Program:

2 hours

Age:

Grades 1st-9th

Maximum Number of Participants:

20

Objectives:

After completion of all activities, students will be able to:

- Name three to five different categories of animal signs.
- Examine animal signs and infer the animal's behavior.
- List several different animals living in the Upham Woods area.
- Define humans as animals and list several human signs in our world.

Wisconsin Standards:

- **C.8.4** Use inferences to help decide possible results of their investigations, use observations to check their inferences
- **C.8.6** State what they have learned from investigations, relating their inferences to scientific knowledge and to data they have collected
- **F.8.8** Show through investigations how organisms both depend on and contribute to the balance or imbalance of populations and/or ecosystems, which in turn contribute to the total system of life on the planet

Preparation:

Before the class arrives:

- Locate and inventory the animal signs material box.
- Set-up the classroom by arranging all of the example animals signs in an appealing and logical arrangement.
- Check that there are enough half sheets of paper on each clipboard.

Basic Outline:

- I. Introduction (*5 minutes*)
- II. Categories of signs (*45-50 minutes*)
- III. Animal signs hike (*60 minutes*)
- IV. Conclusion (*10-15 minutes*)

Materials:

5 labeled clipboards
Scrap paper
Pencils (at least five)
4 Animal tracking books:
Beaver taxidermy (eating the wood)
Animal track poster
Variety of rubber imitation scat
Owl pellet
Plaster track examples
Paper wasp nest

Galls
Beaver chews
Log with woodpecker holes
Pheasant feather
Owl wing
Deer skull
Deer leg
Red tail hawk feathers
Crow feather
Red tail fox pelt
Beaver pelt
Coyote pelt
Raccoon pelt
Small snake skin
Large rattlesnake skin (on board)

Introduction:

Introduce yourself and the title of the class. Explain to the class that today they will be learning about the signs animals leave behind. Then they will be going outside and becoming animal sign detectives. If it is a younger group, ask the participants what a detective is. Like Sherlock Holmes, or Harriet the Spy, the students will look for clues. Explain that as detectives, clues or signs they find will help them discover what animals live in this area and what they do. At the end of the class everyone will share what kinds of animal signs they found and what they learned from the animal sign.

Categories of Signs:

Ask the participants to list what kinds of signs, or evidence, of animals they may find outside, and what those signs tell them. As they name each type of sign, write it on the white-board. Prompt the students by giving examples if they have trouble coming up with ideas. Once you have a list on the board take several minutes to describe the kinds of signs in each category. Show examples of each kind of sign, and ask the students what each kind of sign tells us about the animal that left it behind.

Kinds of Signs:

- Tracks and trails
- Scat and urine
- Chew marks
- Body parts
- Sounds and smells
- Homes
- Territory and rub marks

Track and Trails:

- A “track” is a single print made by an animal, and a set of tracks is a “trail.”
- Found in the material box are several plaster tracks and track books, a track poster, and a track bandana. Describe how plaster tracks are made (pouring wet plaster on a good track, waiting for it to dry, and then peeling it up). Hold up the plaster tracks and have the students guess what animals made each track and where the track was found. Ask the students where the best places to find tracks are. (Sand, mud, river banks, snow, puddles)
- Tracks can tell you how fast and at what gait an animal was moving. A series of tracks and trails can show an encounter between different animals or different animals visiting the same place.

Scat and Urine:

- Scat and urine are usually big hits with the kids, but not the adults. Talk a little about what scat is and show some of the rubber scat. Ask the students to try and identify what animal made each scat.

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- From their size, shape, and consistency, you can determine not only what species left the scat, but what the animal was eating, where it was eating, when it was eating, when it passed by, etc.
- Members of the carnivore families usually leave tubular droppings.
- Cat droppings are usually somewhat pointed, while those of the dogs are more often (but not always) blunt on the ends.
- Scat of predators contains hair and/or bones.
- Herbivores generally have pellets.
- Hare scat is like cocoa puffs, round, tan, and sawdusty.
- Deer have "milk duds," oval, dark, and shiny.
- You can also talk about owl pellets in this category. Found at the base of roost trees, pellets reveal many bones wrapped inside the hair of the owl's victims.

Eat Marks:

- Show the beaver chewed sticks and log with woodpecker holes in it during this segment.
- Ask the students what other eat marks they can think of. Some may include deer eat marks on twigs, bark beetles, several different types of woodpeckers, and insect eat marks on wood and plants.
- The age of the eat mark can indicate how long ago the animal was in the area.

Homes:

- There are several different types of animal homes the students may find.
- These include: holes in trees, holes in ground, holes in snow, nests, cocoons, galls, wasps nests, bark, and beds.
- Explain to the students what a gall is. A plant usually produces it when an insect lays an egg in it. The plant produces the mass to protect itself from the insect, but this mass helps the egg form into a larva and an adult insect by giving it shelter and food. Show the students the gall and the hole where the insect ate its way out. Bacteria and viruses on plants can also produce galls.
- Show the students the wasp nest and explain how a wasp makes the paper to form its nest. The wasp chews wood from different trees and other plant material. It mixes with the wasp's saliva and the wasp spits it out into thin layers to form paper. The different colors of the paper wasp nest are evidence of the different plant material the wasp used to make the paper.

Body Parts:

- This is an exciting category for the students as well.
- This category includes hair or fur rubbed off on sharp twigs as an animal passes by, shed hair, molted feathers, shed antlers, and bones.
- Show the students several bones, feathers, and skulls. Try to have them identify the items.
- Show the students the bone that has been chewed on. The bone is two types of animal signs: a body part and eat marks! What can they conclude about the bone's life story?

Territory Markings:

- There are two distinct territory markings the students may find.
- Buck deer "rub" on saplings 1-2 inches in diameter. Rubbing gets rid of velvet covering on antlers after they have quit growing and the velvet becomes dry. As a buck rubs the tree, besides the visual mark, it deposits a scent from the pre-orbital gland in the front of its eye. This scent acts as a personal claim to a territory.
- Beavers pile up a mound of mud in several places along their pond or stream. Onto this mud they deposit castoreum, oil from their castor glands. This smell is somewhat anise-like and remains for weeks.

Sounds and Smells:

- Ask the students how else they can find animal signs, without using their eyes.
- Ask the students to name some sounds they may hear outside.
- Ask the students to name some smells that could be a sign of an animal.

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- Many birders identify birds solely by their song in dense brush areas where vision is limited. Nighttime is the greatest for listening to the rustle of feet, and the calls of loons, wolves, and owls.
- Smells from members of the weasel family are a distinctive musk, skunks are obvious, as well as the musk of a short-tailed shrew. If you have shrews in your house rather than mice, you'll know just by the aroma. Bears smell like pigs.

Animal Signs Hike:

In the classroom, explain to the students that they are now going to go on a hunt for animal signs. Break the group into five groups (try to get one adult in each group). Each group is going to receive a clipboard. Each clipboard has an animal sign category(s) on the back of it. Each group needs to look for animal signs that match their category. About every ten minutes, explain that you will call out "switch." Every group needs to switch their clipboard with one they have not had. Then they will look for animal signs in their new category until its time to switch again. By the end of the hike, every group should have the chance to look for animal signs in each category. When a group finds an animal sign that matches their category, they should write it on their clipboards. Humans are animals too! Human signs count as well! Ask the students what they should do when they find an animal sign and write it down? (Leave it in place)

Take the group outside. Instruct them to spread out, but they should always be able to see you. Inform the students that they will be walking, so they should keep up with the group. Remind them to listen for the switch time. During the hike, walk around and try to help students find signs and also help them identify what animal left the sign (use questions, not just lecturing about your knowledge).

With about ten minutes left, bring the group back into the classroom for the conclusion.

Conclusion:

Ask the groups to read the animal signs on their clipboard out loud to the rest of the students (they should read the clipboard they currently are holding). Take turns reading all of the clipboards. Sometimes it is nice to ask which group found a particularly interesting sign. Also, use this time to explain any signs that the students seem particularly interested in. Ask the students questions about some signs:

- Who made the sign? How do you know?
- What does the sign tell us about the animal who made it?
- What human signs did you find?
- How did some of these human signs effect the environment?

After you have talked about the animal signs that the students found ask the students to brainstorm who might look for animal signs in the wild in the past and why these people looked for animal signs? (Hunting or fishing for food, following animals to better grazing lands)

- Native Americans
- Pioneers
- Voyagers
- Cave men
- Many more

People still look for animal signs, for fun and for work
What careers involve looking for animal signs?

- Wildlife biologist
- Ranchers
- Hunters
- Fishermen
- Marine Biologists

Tell the students that these people not only look for animal signs to learn about animals but also use technology. Ask if the students can think of any technology that can be used to track animals? (GPS, Radio Collars) Take a brief moment to explain GPS. Global Positioning System is a system of satellites and receivers that allow you to pinpoint your exact location anywhere on earth. GPS satellites circle the earth twice a day. Like a television satellite sends a signal to your television, GPS satellites send a signal to a portable GPS receiver. When the receiver gets the signal it "knows" exactly where it is on the planet.

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Scientists put GPS collars on animals to tell where they migrate, eat, bath, swim, fly, and much more. This technology is used in animal conservation. Ask if the students can figure out how information about where an animal lives and migrates can be used for conservation?

Ask if they can think of any animals that are tracked using GPS? (Dolphins, Whales, Sea Turtles, Caribou, Elk, Elephants, Cranes, Hawks, Eagles, Osprey, many more)

Ask the students if they would like the job of tracking animals? (You might want to find a good example of an animals that is tracked for the purpose of conservation or study.)

Finally ask students what they should do if they find animal signs in there yards or around there homes?

Collect the clipboards and thank the students for a great class!

References:

Wolf Ridge Environmental Learning Center. Animal Signs lesson plan. Finland, MN.

Garmin Ltd. HYPERLINK "http://www.garmin.com/aboutGPS/"
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