

Animal Tracking

Students will realize that there are many ways to know of an animal's presence other than actually seeing the animal. This lesson will introduce them to animal tracking and the concept of using tracks to access an animal's presence and activities. Students will learn all of the different clues provided by animal tracks and how to notice these clues.

Grade Level : Kindergarten

Objectives:

- The student will be able to identify four types of animal track patterns.
- The student will be able to make plaster casts of some common tracks.

Materials:

- Water
- Bucket
- Ziploc bags (sandwich size)
- Rubber track replicas-molds (available to purchase at www.acornnaturalists.com)
- 3 sets of tracking ID cards
- SAS Tracking Book
- "Mammal Tracks: Life size tracking guide" booklet
- Spatula for smoothing
- Plaster of Paris
- Plastic drop cloth
- Spoon for stirring inside bags if needed

Time Considerations

Preparations: 15 minutes
Making Tracks: 30 minutes
Walk like a Duck: 15 minutes
Take Home Project: 45 minutes (recommended to let tracks dry overnight)

Related Activities:

Bird Observation, Camouflage, Animal Homes



Nevada Department of Education Standards

- **Life Science Content Standard 6.0: Structure and Function**-Students understand that all life forms, at all levels of organization, use specialized structures and similar processes to meet life's needs.

Excellence in Environmental Education Guidelines

- **Strand 2.2-The Living Environment (A,C)** Learners understand basic similarities and differences among a wide variety of living organisms and basic ways in which organisms are related to their environment.
- **Strand 1—Questioning, Analysis, and Interpretation Skills (A, B, C, G)** Learners are able to develop question, design investigations, collect information, and draw conclusions in order to learn about the environment.

Background

When outdoors, many children don't have the good fortune of seeing animals in action; seeing them usually takes luck, patience, silence and time. There are many other ways to observe wild-life without actually seeing the animals. For Instance, children can look for evidence of the animals' activities. There are many signs that children can learn to look for that indicate what types of animals are around, what they're eating and doing, what sort of habitat they might need and what kinds of interactions are happening between the animals. Animal tracks are one of the easiest signs for children to find and understand.

Begin the lesson by asking students the following question, "If your family has a dog, but your dog is not in the yard, what

would be some signs that we could look for that would tell us your family has a dog?" (chain, bowl of water or food, dog house, dog toys, scat) Now tell students to imagine that they are on a hike out in the country. What would be some signs that would tell them if animals had been in the area? (burrows, dens, nests, feathers, hair, urine markings or scat, chewed up twigs, gnawed bark, animal trails, fur, and of course tracks). Tell students that finding such signs lets you know what types of animals are around, what they're doing, what sort of habitat they might need, and what kinds of interactions are happening between the animals.



Preparations

Print out a copy of the Student's page for each student to fill out.

Prepare pans of snow and dirt ahead of time. These should be big enough for the feet of two students.

Cover a long table with the plastic drop cloth which will be used to store the animal tracks until the plaster molds dry.

Make sure that all of the rubber animal track molds are clean and free of any dried plaster remnants.

Activity A: An Introduction to Animal Tracking—

1. Ask for 2 volunteers to step into your prepared pans of snow and dirt. One should place one or both feet in the pan of snow. The other will place one or both feet in the pan of hard dirt. Use towels and wash bins to help volunteers clean their feet.
2. Instruct the class to look at both pans carefully. What did we just make? Which one tells you more about the person who made the prints? How is the print in the snow the same or different from the other volunteer's feet?
3. Show how to measure the track length of the print and how that relates to the length of the volunteers foot. Ask: What will the print in the snow look like in two hours? Four hours?

Tell students that tracking is fun and much easier in the snow than on all the hard surfaces we have the rest of the year.



Activity B: Developing the Lesson—

1. Inform students that animal tracks are one of the easiest signs to find and gather some basic information from—such as: what type of animal made the track, which way was it going, and what did it do along the way? From a single, clearly defined track, a very experienced tracker can see not only the identity of the animal, but also the size, weight, age, sex, state of health, when it passed, where it was going, which way it was looking, and many other details! Good trackers can even tell these things by a person's footprint in the dirt or even grass!
2. Have them look at the track cards and talk about the differences between tracks of different animals. What are the differences between size, shape, paws or hooves, claws or no claws, number of toes or talons, and if front and back feet have different numbers of toes/talons, tail marks or no tail marks, etc.
3. Point out that they have just identified major ways to tell tracks apart! Mention also that where a track is found (by water, desert, woods) can help determine what kind of animal made the track.

In order for them to find and identify tracks, they must keep several things in mind:

1. Tracks can be found anywhere, but they are most commonly found at edges of habitats, such as where a forest and field meet, or near water—by lakes, along streams, and on the edges of swamps.

2. When you find a track, notice:
 - was the track made by paws or hooves?
 - A bird or mammal?
 - size and shape of track
 - If made by a paw, can you see claw marks?
 - number of toes (on both front and back feet)
 - how front and back feet are similar or different
 - are there any marks from a tail?
 - spacing between tracks—i.e. both length (stride) and width (straddle) or trail arrangement or pattern of the tracks
 - where track is located



3. In terms of arrangement or pattern, animal tracks tend to fall into four general types. Animals from the same or a closely related family tend to have similar patterns to their tracks. Learning these patterns can really help in narrowing down which animal might have made the particular track. The following are four general pattern types that most tracks will fall into. These are only guides, for every animal has several different walks that affect the pattern of its tracks. And sometimes, for a variety of reasons, tracks will simply be haphazard for short distances.

4. When following a track, don't step on it, but walk alongside it—you may want to go back over it for measurements, or others may want to follow it.

Walk like a Duck

Have the students act out the four types of walking patterns as you explain it to them.

Waddler: A waddler lifts both feet on the same side at the same time, which makes the animal sway or waddle from side to side as it walks. This can leave two different tracks: a zigzag line of almost overlapping front and back tracks, or a line of tracks where a front track will be opposite to a rear track. Most wide, heavy-set animals fall into this category: bear, raccoon, porcupine, opossum, skunks, badgers, beaver, and muskrat.

Bounder: This group includes most weasels except skunks, badgers and wolverines. Bounders hop in steady series of jumps, forelegs first and back legs pulling right behind them.

Striders or Diagonal walkers: Striders lift their opposite front and back legs at the same time (just like a baby crawls). This leaves a nearly straight or slightly zigzag line of single prints. This group includes all dogs, cats, and hoofed animals. One thing to notice when trying to identify the strider (diagonal walkers) is whether the rear foot track falls exactly in the front foot track, looking like one track (direct registration), or if the rear track overlaps the front track, so that you can see part of both front and back track (indirect registration).

Animals can see where to place their front feet to the best advantage, but cannot see where to place their hind feet; thus, direct registration benefits an animal by having the rear feet placed in the exact same location that was chosen for the front feet. This is par-

ticularly beneficial to animals who silently stalk their prey, such as members of the feline family.

Foxes also do direct registration, while all other members of the dog family do indirect registration.

Gallopers: Gallopers bound forward with both front feet at the same time and then bring the back feet around in front of the front feet. This leaves a trail of paired hind feet tracks in front of paired or slightly staggered front feet tracks. This group includes all rabbits, hares, and most rodents.



After the lesson on tracks, allow students to make plaster animal tracks to take home.



Take Home Project

1. Have each student (or pair of students) select a rubber track that they would like to make.
2. Have students mix 1 part water to 2 parts plaster in their plaster mixing baggies. They should seal the bags then squish the mix around until the plaster is smooth without lumps. It should be relatively thick, but able to be poured.
3. Have them pour the plaster into their molds until the entire mold is filled and the surface of the plaster is smooth. Use cardboard pieces, a spatula, or knife, to smooth the surface.
4. Leave the plaster in the mold until it has hardened—leaving it to dry overnight is recommended. Then remove the plaster from the mold and the track is completed.
5. When plaster is completely dried, **before removing them from the mold** have students write their name and the animal track type on the smooth, bottom part of the plaster (the part facing up when plaster is still in the rubber mold).

Evaluation—

- Have students answer the following questions with a partner: What are some animal signs that we can look for in the wild? What can we learn from animal tracks? Where can animal tracks be found? What are the four general types of animal tracks?
- If the instructor desires a more objective assessment, have the students hand in the student's page worksheet #1 and grade them.



Extension Activities—

- Take the class outside and try to find some real tracks in the ground.
- Bring in other examples of animal signs: scat, bones, hair, owl pellets, etc.
- You could have students do a relay race using the four different types of animal walks: waddle, bound, stride, gallop.
- Make sure to use the “Animal Tracks” evaluation worksheet on page 5 to review.
- Read the book, *Big Tracks, Little Tracks*, by Franklyn M. Branley about different tracks in the snow.

Writing Enrichment—

- Have the students fill-in and complete animal tracks student’s page worksheet on page 5
- Have students draw on paper different animal tracks and then ask them to write a story about how those tracks got there.

Vocabulary

Classify- to put things into groups according to their characteristics

Compare- to judge one thing against another and notice similarities and differences

Difference-the way in which things are not like each other

Evidence- information and facts that help prove something or make you believe something is true

Habitat-the place and natural conditions in which a plant or an ani-

mal lives

Imprint-a mark made by pressing or stamping something on a surface

Pattern- a repeating arrangement of colors, shapes, and figures

Similarity- alike, or of the same type

Track- a track is a mark left by an animal (human or otherwise). It can be an actual footprint but may be a trail of a tail, something being dragged, or for the sake of this lesson a track may simply be a sign that the animal was there.

Sources—

The American Heritage® Dictionary of the English Language, Fourth Edition
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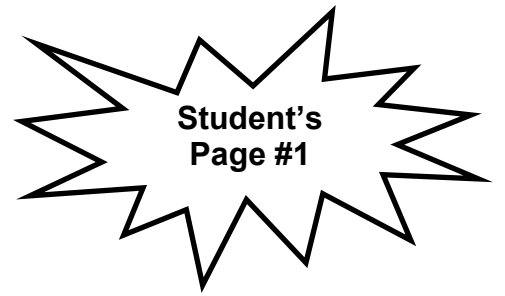
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Carss, Bob. [The SAS Guide to Tracking](#). Connecticut: Lyons Press, 2000

Levine, Lynn., and Martha Mitchell. [Mammal Tracks: Lifesize Tracking Guide](#). Vermont: Heartwood Press.

Name: _____

Date: _____



Animal Tracks

1. What can you learn from animal tracks? _____

2. What clues should you look for when trying to identify an animal track? Where can tracks be found?

3. List some animal tracks that you might see in northern Nevada's wilderness. _____

4. What are the four general types of animal tracks? _____

5. What was your favorite part of the activity? Why? _____

