

Listen and Look for Wildlife All Around

Subject: Natural Sciences- Investigation

Grade Level: 3rd-5th Grade

Objectives:

Students will be able to...

- 1) Use senses and identify which senses one uses to find animals or evidence that animals are present in an area
- 2) Give examples of evidence or signs that an animal has been in an area
- 3) Identify which animals the evidence belongs to
- 4) Triangulate where a sound is coming from

Materials:

- An outside space to walk around
- Copy of the table below
- Pencil
- Clipboard, book, or other hard surface to support the paper for writing on

Vocabulary:

Evidence- signs or an indication that something occurred in an area or that something was left behind

Triangulate- To separate or divide something into parts; to measure using triangles

Scat- feces that an animal has left behind; one can determine the diet of an animal from looking at scat and how long ago the animal came through the area by how fresh or dried the scat is

Tracks- footprints or other markings that an animal leaves behind

Examples of Tracks:

- Footprint in the dirt
- Lines in the dirt from a dragging foot or tail- called a dragline
- Snail Trails
- Claw marks on trees
- Chew marks or teeth marks on trees

Adaptation- A body part or behavior that helps a living thing to survive

Activity

Directions:

1. Before heading out on a walk, make a copy of the table below, grab a pencil, and a clipboard or something to put the paper on for writing.

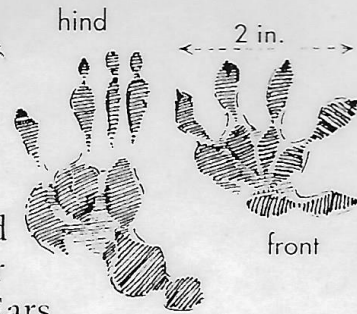
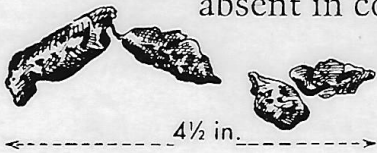
2. Go for a walk around an outside space that you have access to.
3. Use 4 of the 5 senses you have to find **evidence** of wildlife in the area. Which senses will you use?
 - a. Hearing
 - b. Smell
 - c. Sight
 - d. Touch- Only touch a plant if you are certain it is not poison oak and that it does not have any spines or thorns on it that could poke you. For poison oak, follow this rule of thumb: leaves of three, let it be. Look first!
 - e. NOT Taste! It is important that one never taste items to determine what it is, as this is dangerous, since some items may be poisonous and/or make one ill.
4. When listening for wildlife, determine what kind of sound you hear:
 - a. Is it a non-consistent chirp or whistle? - Bird
 - b. Is it a consistent, same pitch chirp? – Insect, rubbing legs together
 - c. Is it a growl? – A predatory animal
 - d. Is it a meow or low buzzing like purring? - Cat
 - e. It is a bark or whine? – Dog
 - f. Is it a higher pitched buzz? – Flying Insect
 - g. Is it a screech? – Predatory Bird
 - h. Is it a hiss? – Snake
 - i. Is it squeaking and clicking? – Squirrel
 - j. Is it movement in the bushes or grass that gets your attention?
 - k. Do you hear food being eaten, a munching sound?
 - l. Do you hear tapping sounds on a tree? – Woodpecker (bird)
5. Regardless of what kind of sound it is, try to **triangulate** where the sound is coming from. Use your arms to create a triangular area that includes the direction of the sound when you first hear it. Then turn your body to face where you think the sound is coming from and listen again, using your arms as triangles to determine the location changes of the sound. Use your sense of hearing and triangulation to follow the sound and spot the noisemaker by sight.
6. You can triangulate where something is using smell as well. If using scent as a sign of wildlife, describe the scent.
 - a. What does the scent compare to?
 - b. Is the scent good or bad to you?
 - c. What could the scent be?
 - d. What animal made that scent?
7. Smell may lead you to see **scat**.
 - a. Take a look at whether it appears dry or still wet, fresh.
 - b. Take a look at what is in it. It is safe to use a stick to pick apart scat. Never use your hands to touch scat.
 - c. Look at size and shape of scat to help determine what it could be.
8. Your sight may help you to see **tracks**.
 - a. Look at the size and shape of the track.
 - b. Count the number of toes.
 - c. Look for signs of long nails on the footprint

- d. Look for webbing- skin between the toes connecting the toes.
 - e. If you find sets of prints that show an animal walking, then take a look at the stride- the distance between the heel of the front foot and the heel of the back foot.
9. Sight will help you to find other signs of life:
- a. Homes/Shelter
 - i. Spider webs
 - ii. Burrows
 - iii. Nests
 - iv. Dens
 - b. Signs of eating
 - i. Chewed on seeds and fruits
 - ii. Carcasses that are partially eaten
 - c. Signs of change during a life cycle:
 - i. Exoskeletons of animals that shed their outside skeleton
 - ii. Carcasses
 - iii. Sheds of skin
 - iv. Fur
 - v. Feathers
10. Have them share examples of evidence or signs that an animal has been in an area
11. Use the resources provided to determine which animal left the evidence behind and write that down in the table below. You may make educated guesses using resources and any background knowledge you already have.
12. Discuss the word **adaptation**: what it means and examples of adaptations from animals you found, including why this helps the animal survive or its function.
- a. A few examples: Adaptation-Function
 - i. Skin or an exoskeleton-To hold the insides of the body together and protect the body from things entering it
 - ii. Making a nest-a behavioral function to protect young
 - iii. Webbing in tracks- to help the animal swim
 - iv. Seeds in scat- shows the diet of the animal, what it needs to eat to survive. It maybe shows how seeds can go through the animal's body and still stay intact, so the seed can still grow into a plant. One can discuss the types of body parts the animal has to acquire food- beak, claws, using tools, etc. in relation to what the animal ate.
13. Have them explain and show you how to use their arms to triangulate where a sound comes from.

Opossum



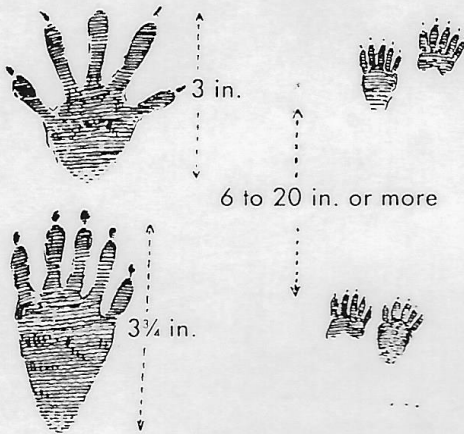
May feign death when threatened—“plays possum.” Nocturnal, omnivorous; prefers farmland or woodland. Seeks shelter in abandoned dens, culverts, hollow trees or logs, or beneath brush piles or outbuildings. Ears and tail susceptible to frostbite, so opossums are largely absent in colder regions like western mountains and Canada.



Raccoon

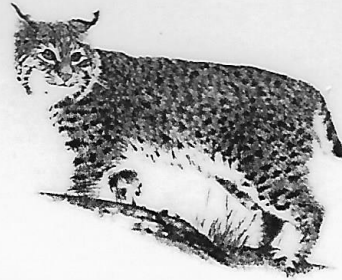


Omnivorous, often foraging along streams and lakes. Long thought to wash food before eating, but “washing” motion may simply be effective behavior for finding and catching frogs, fish, and crayfish. Adapts well to urban areas.



BOBCAT (Wildcat)

Lynx rufus



fore



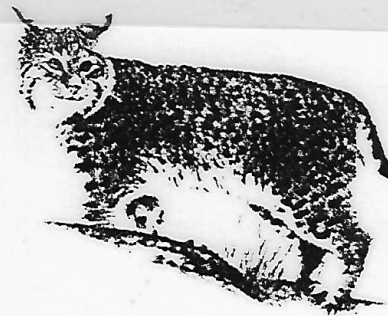
hind



Found anywhere from wild mountainsides to chaparral, and even into residential areas. On each foot, located on each heel pad, there are two lobes on the top, and three lobes on the bottom.

BOBCAT (Wildcat)

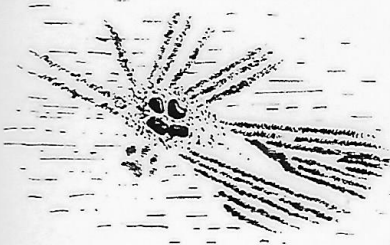
Lynx rufus



length 2 1/4 in.



length 5 in.



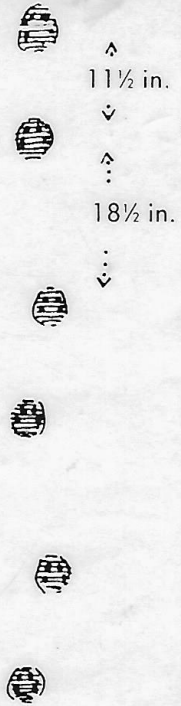
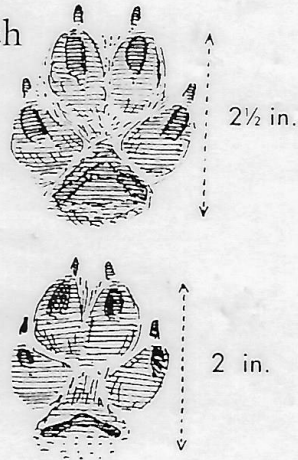
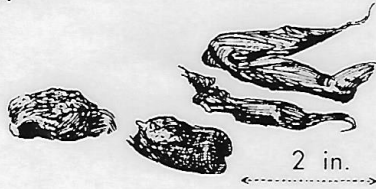
Scratching Marks

Bobcat scat is often segmented or constricted into short lengths (approximately 2 to 3 inches in length). In wetter regions the scat may be as long as 5 inches. Much like house cats, bobcats try to cover their scat by scratching soil onto their droppings. Bobcat scat can be confused with coyote scat, therefore look for scratch marks around the scat to help you with identification.

Red Fox



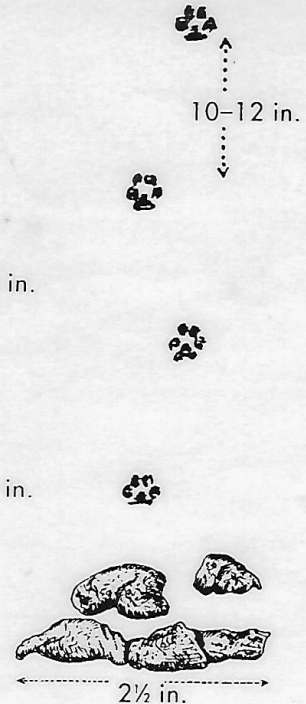
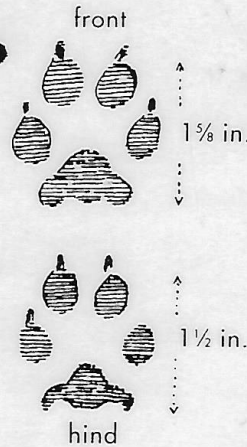
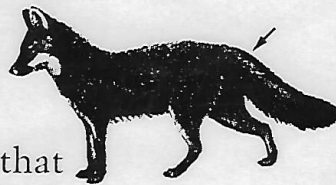
Prefers mixed woodland and open country. Characteristic trail is straight line of neat, evenly spaced tracks. Kits born March or April in dens, usually dug into hillside in porous soil. A series of fox trails criss-crossing an area may indicate an active den nearby.



Gray Fox



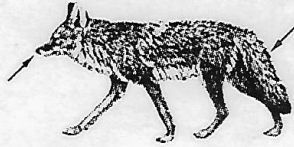
Semiretractable nails that enable gray foxes to climb trees do not always register in tracks, which could be confused with cat tracks except for the fox's smaller, more symmetrical heel pad. Prefers deeper woods than red fox, with some open country nearby.



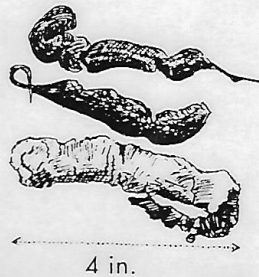
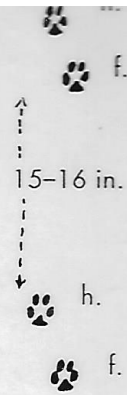
Coyote



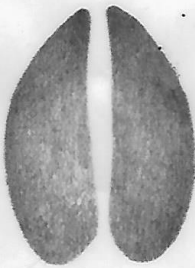
Highly intelligent, adapts to suburban areas that invade its natural habitat. Tracks most easily distinguished from those of domestic dogs by straighter trail pattern. Often uses hiking trails, logging roads, power lines, and railroad beds as territorial boundaries, patrolling regularly and marking them with urine scent posts or scat, which frequently contains hair of prey.



outer toes larger



MULE DEER (Black-tailed Deer) *Odocoileus hemionus*



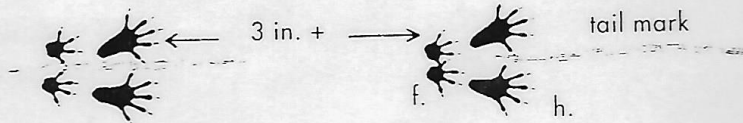
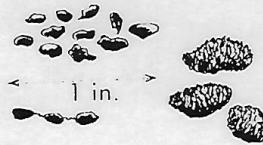
Frequently seen in meadows, open woodlands, and arid plains. Prints are heart shaped and sharply pointed.

Deer Mouse



Nests in underground burrows, tree cavities, stumps, buildings, even abandoned bird nests. Eats acorns, nuts, seeds, insects; caches food. Tail drag may register with tracks. Active year-round.

SIMILAR TRACKS: white-footed mouse, house mouse, cotton mouse, golden mouse.



TOADS AND FROGS



toad



frog



Found along fringes of waterways. Rear prints will appear to be slightly webbed, with five very long, thin toes. The front prints will have four toes and are much smaller than the rear feet. The hopping action of the frog results in two small front prints registering in front of the long-toed rear prints.



Other Resources:

Tracks Identification (ID):

<https://blog.nwf.org/2014/12/who-goes-there-identifying-animal-tracks-in-your-backyard/>

Scat ID:

<http://icwdm.org/identification/scat-id/>

Bird ID for sounds, footprints, and feathers:

<https://www.allaboutbirds.org/guide/>

Signs of Feeding Animals:

<https://www.discoverwildlife.com/how-to/identify-wildlife/how-to-identify-wildlife-feeding-signs/>

Signs of Animal Food Stores:

<https://www.discoverwildlife.com/how-to/identify-wildlife/how-to-identify-animal-food-stores/>

Signs of Animal Holes:

<https://www.discoverwildlife.com/how-to/identify-wildlife/how-to-identify-animal-holes/>

Other resources for identification:

<https://blog.nwf.org/2014/10/10-naturalist-resources-for-identifying-wildlife/>