

Nature NB Program Kits:

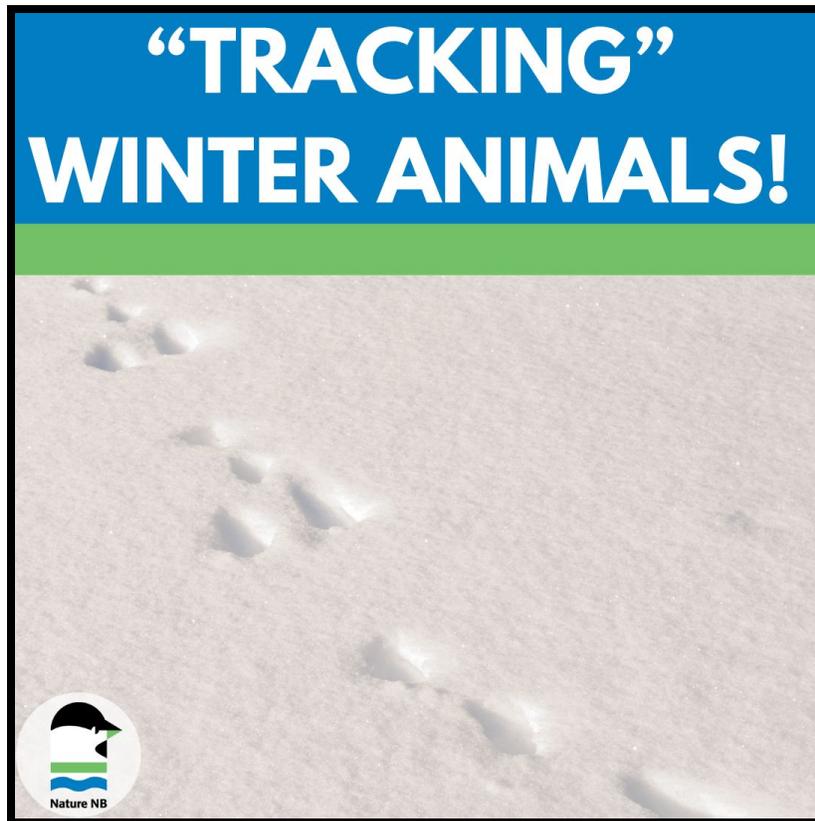


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Introduction

- The activities in this kit introduce wildlife monitoring and tracking, common New Brunswick winter wildlife species, and elements of math (measurement) and writing.
- The kit is written primarily for New Brunswick educators. The information and activities in this kit are tailored to grades 4 - 5, with specific curriculum links listed for each activity (as per the Atlantic Canada Science Curriculum, 2002).
- The activities in this kit are organized to be held in succession, inspired by Joseph Cornell's Flow Learning Model¹.
 - A game to rid some energy
 - An activity using physical senses
 - A direct experience with nature to awaken love/ importance
 - A quiet, focused reflection activity.

With that said, each activity works as a stand alone, so feel free to pick and choose the activities that fit best with your classroom.

Program Curriculum Links

Science

Grade 4

- **104-6** demonstrate that specific terminology is used in science and technology contexts
- **205-5** make observations and collect information relevant to a given question or problem
- **207-2** communicate procedures and results, using lists, notes in point form, sentences, charts, graphs, drawings, and oral language
- **300-1** compare the external features and behavioural patterns of animals that help them thrive in different kinds of places

Grade 5

- be sensitive to and develop a sense of responsibility for the welfare of other people, other living things, and the environment (**419**)

¹ [Flow Learning Model](#): Step 1: Awaken Enthusiasm Step 2: Focus Attention Step 3: Direct Experience Step 4: Share Inspiration



Background Information

Most animals are afraid of humans, and if they hear a human coming, will quickly hide. That's why it is often difficult to spot animals in the wild. However, sometimes you can find signs that an animal has been around.

One of the most commonly seen animal signs is the footprints they leave behind. These footprints are called an animal's **tracks**. During winter, it is even more common to see animal tracks. Why do you think that is? Because of the snow on the ground! During the warmer months of the year, wild animals will only leave tracks in muddy or dusty areas. In the winter when the ground is completely covered with snow, their footprints are much easier for us to spot!

Scientists who study wild animals are called **Wildlife Biologists**. Wildlife biologists can learn a lot about what kinds of animals are in an area from the tracks they leave behind. The number of different living species in an area is called **biodiversity**. Wildlife biologists can also learn important information about an animal's behaviour from their tracks. Things like where they travel, and if they travel alone or in groups.

Today we are going to learn all about animal tracks!

**Information specific to each activity is outlined in the activity's description.*

Activity 1: Guess Who's Track?!

Materials: [Animal Tracks Matching Game](#) and [Nature NB's Guide to Animal Tracks](#)

Location: Indoor/ Outdoor

Time Required: 30 minutes

Background Activity Information:

Let's talk about track shape! Have you seen a horse's hoof? How about a dog's paw? They look different right? So it's not surprising that the imprints they leave behind look different too.

Here are some of the ways that different tracks can be told apart from each other.



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* See [Animal Tracks Matching Game](#) for background information and photos. Draw track shapes on the board or in the snow as you go over them with the class if not using the PDF.

Toe Shape:

- **Padded:** Animals can have padded toes like a dog or a cat. What types of animals in New Brunswick have padded toes?
 - Most wild mammals we think of like coyote, fox, bobcat, lynx and more.
- **Finger-like:** Animals can have finger-like toes similar to humans. This helps for grabbing and manipulating objects/ food. What kind of NB animal has finger-like toes ?
 - Raccoon, muskrat
- **Hoofed:** Hoofs can help with traction and agility on packed dirt, and make it easier to stand for long periods of time. Two-toed hoofed animals are called "cloven-hoofed". What wild NB animals have hoofed feet?
 - Deer and Moose
- **Webbed:** A thin layer of skin that stretches between the toes. This helps with swimming - like if you have ever worn a pair of fins/ flippers snorkeling! What wild NB animals have webbed feet?
 - Ducks, geese, beavers, snapping turtles.

Claws:

- Claws are another good track identifier. Sometimes you can see them, and sometimes they are not visible in the track. Do all animals that have claws leave "claw marks" in their tracks?
 - No! Cats have retractable claws that do not show up in their tracks - they can pull them back to keep them nice and sharp for hunting and climbing!

Size:

- Track size can be tricky, because some big animals have small feet (like deer) and some small animals have big feet (like snowshoe hares)! However, sometimes size is very important to be able to tell similar tracks apart. For example, a house cat and a lynx's



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tracks look almost identical, except the house cat's tracks are smaller. So measure the tracks with a ruler, or even against your hand or foot in a picture if you can.

Activity Instructions:

Show the class the track ID guide. Explain that you will be showing them pictures of tracks, and they will need to use the guide to help them figure out what New Brunswick animal the tracks belong to. Things to look for in each photo:

- The photos are NOT the same size as they would be in real life (they're not to scale), so pay special attention to the size of the track that is written on each picture.
- Does the track have claw marks?
- Does the track have padded, webbed, finger-like, or hooved toes?

Divide the group into teams. Each team will get 5 minutes per picture and then pass it to the next group. Each team will get a tracking guide, and a pencil and worksheet. Once all groups have seen all 8 pictures, go over the answers together as a group.

Depending on the reading level of your class, this activity may work better to do all together as a group. Use the attached worksheet on the projector/ smart board and discuss each track using the guide together.

**This activity can easily be modified to play outside. Print out the photos, review them together as a class, and have the students give their answers aloud.*

Activity 2: Race "Tracks"

Materials:

- Something to mark the start and finish line (pylons/ beanbags/ sticks).
- Winter clothes (including snow pants)

Location: Outside in open space (playground or field)

Time Required: 20 minutes

Activity Description:

Instructions:

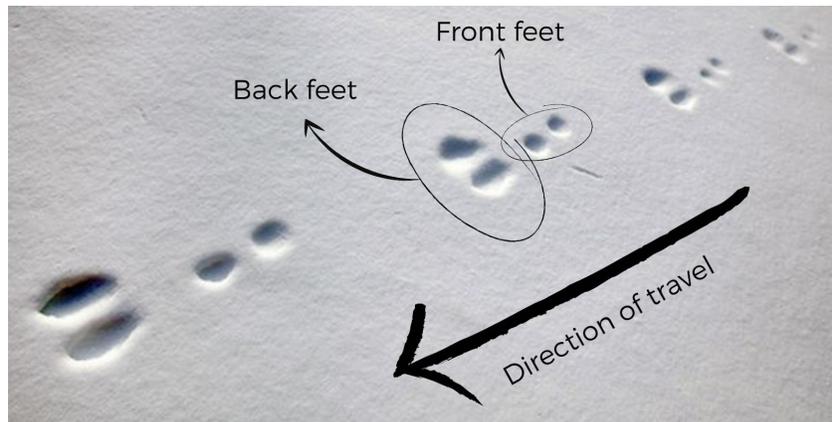
Not only do different animals have different foot shapes, they also have different ways of moving. The way that an animal moves is called its ***gait***. Different gaits leave different patterns of tracks in the snow. This means that it's not just the shape of the footprint that the animal



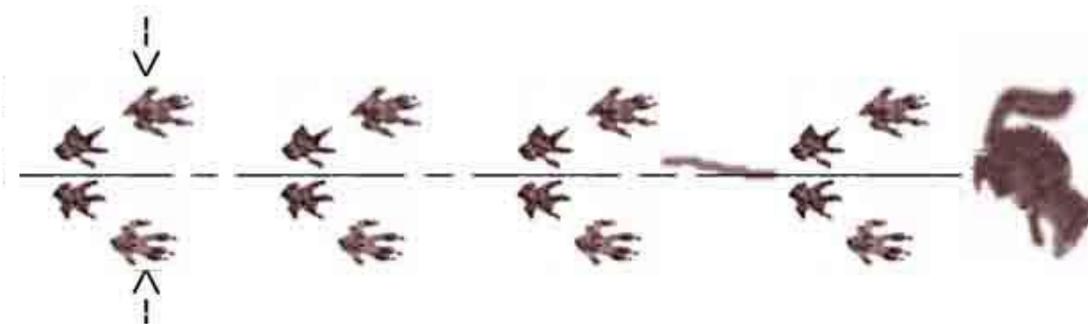
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leaves that can tell us what type of animal left it. We can also use clues from the trail of tracks the animal leaves to help us figure out what kind of animal left them.

Let's take the snowshoe hare for example. Each individual footprint is just an oval shape in the snow, but all together they form a very clear pattern. Two big ovals in front of two small ovals repeating. **Draw the snowshoe hare tracks in the snow for your class and point out the front feet, back feet, and direction of travel.*

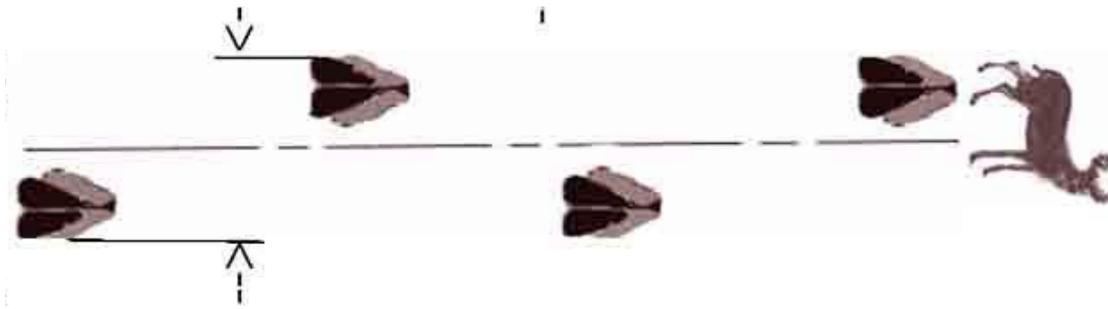


Hares and some types of rodents are **“leapers”**. These animals hunch down and leap in big strides with their back feet actually landing in front of their front feet.

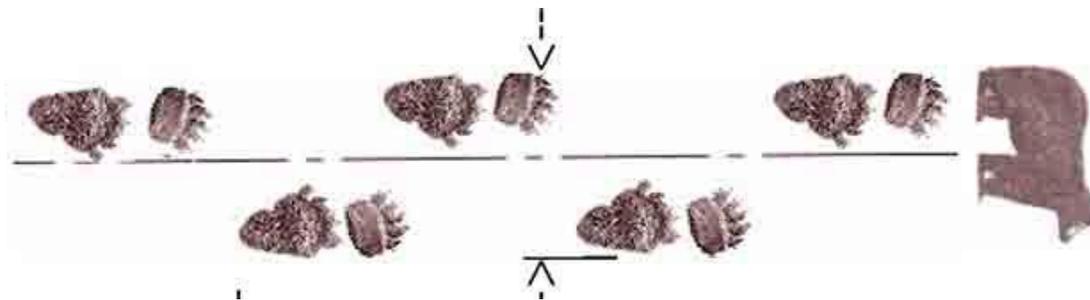


Felines (cats), canines (dogs), and hoofed animals are **“diagonal walkers”**. Also called “perfect steppers” because they move their legs together diagonally and their back footprint will land on top of or very close to the opposite front footprint. This creates a zig-zag pattern of tracks.

² Track Pattern diagrams: Chad Clifford (<https://cwf-fcf.org/en/news/articles/animal-tracks.html>)



“**Waddlers**” are wide-bodied animals like raccoons, bears, beavers, porcupines, and skunks. They waddle along with their back feet landing beside their front feet.



Playing the game:

Now that you’ve introduced some of the different gaits that animals have, it’s time to put those gaits to the test. Set up a start and a finish line and tell your class that you are all going to test out these different animal gaits. Explain the human motion for each gait one by one, and then give the class 1-2 minutes to be silly and practice before the race! In the fourth race let students decide which movement they would like to do.

- **Waddler:** Crawling on hands and knees “normally”, move one limb at a time.
- **Diagonal walkers:** Crawling on hands and knees, left hand moves with right knee, right hand moves with left knee.
- **Leapers:** Crouching like a frog or rabbit and hopping with hands then feet. Try to land with feet in front of hands like leapers do!

Discuss why they picked the gait they did for the last race. Was it the fastest one, the easiest, the most fun? Discuss why an animal would “choose” one gait over another. Are some better for short bursts of speed, long distances, or other benefits?



Activity 3: Track Detectives

Materials: [Nature NB's Guide to Animal Tracks](#) (printed), rulers, warm clothes

Location: Forested trail or Schoolyard perimeter

Time Required: 20 - 30 minutes

Activity Description:

This activity is best done shortly after a snowfall for best results! Take your class on a walk around your schoolyard/ facility/ nearby trail. This isn't an ordinary walk - you will be wildlife detectives looking for the most common clue animals leave behind, their tracks! In order to have the best chance at finding animal tracks, the class will have to make sure to:

- ★ Walk slowly and pay very close attention to the ground. Some tracks are very small and hard to see.
- ★ Walk in single file. Stepping on tracks will ruin them, and then no one will be able to see.
- ★ Try to be as quiet as possible for the best chance of actually seeing an animal and not just its tracks! Remember, wildlife is scared off easily by humans, so be quiet and you might come across something even more exciting than footprints!

When you come across animal tracks, stop and talk about what might have left them. Compare the tracks to your [ID guide](#). Take out your ruler and measure the track. Use everything you have learned so far about track shape and gait to make your best guess! Take a picture if you can, and send it to programs@naturenb.ca for help with ID.

Here are some discussion questions:

1. Do you see more than one track? Can you tell which direction the animal was heading?
2. Compare the tracks to your hand or measure with a ruler. How big are they? How big do you think the animal was that left them?
3. Does the animal have hooves (like a deer) or paws (like a dog)? If the animal has paws, can you see claw marks?
4. Can you identify the animal's gait from the track pattern?
5. Do the tracks disappear along the trail? Why might they have disappeared? (The animal might have climbed up a tree, or taken flight, or perhaps the wind blew some of the tracks away)
6. When do you think these tracks were left? Take into account the texture of the snow (can the wind easily blow the tracks away?). Have the tracks frozen over? Are they very clear, or hard to see? It's hard, even for expert animal trackers, to tell exactly when an



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animal left tracks, but we can still make educated guesses based on the surrounding environment and weather!

If you don't see any animal tracks on your walk, that's ok! Instead, you can take some time to make your own animal tracks in the snow! Encourage everyone to think of an animal that lives in New Brunswick and to draw its tracks in the snow. Use different parts of your mittens, boots, elbows etc. to make different imprints in the snow mimicking animal tracks. Remind everyone to think about how the animal moves when creating their trail of tracks!

Activity 4: Stories in the Snow

Materials: Pencil, paper

Location: Indoors

Time Required: 20 - 30 minutes

Activity Description:

Time for students to use their imaginations, and what they have learned about animal tracks! Ask everyone to write a story about the animal who left the tracks you found on your walk (or the tracks they made in the snow), from the perspective of that animal.

The story should answer the following questions:

What kind of animal are you? What were you doing when you left the tracks? Where were you going?

Leave enough time for students to share their story with the class if they would like to!

Contact Us!

If you've used our program kits we would love to hear from you! Please email programs@naturenb.ca with feedback on your experience.

This program kit was developed with generous funding by:

