

Walking Patterns

Objectives: Students will learn about and be able to identify the different wildlife walking patterns, which can be very useful when identifying tracks. They will participate in a relay game to demonstrate these patterns. Vocabulary includes: gait, perfect walker, waddler, bounder, hopper.

Audience: This activity is suitable for students in first- fourth grade.

Science Standards: 1- LS1-1 Use materials to design a solution to a human problem by mimicking how plants and/or animals use their external parts to help them survive, grow, and meet their needs; 2 LS4-1 Make observations of plants and animals to compare the diversity of life in different habitats; 3-LS3-2 Use evidence to support the explanation that traits can be influenced by the environment; 4-LS1-1 Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction

Background: When examining tracks and trying to identify them, one of the most useful things to look at is the walking pattern or gait. **Gait** is the pattern made by limbs during movement. You will need several tracks made by the same animal in order to determine the pattern. There are 4 main categories of walking patterns for most wildlife, and if you can determine the walking pattern, you can narrow down which group of animals it come from.

Perfect walkers, also called zig-zaggers, usually have long legs and walk in a way that conserves energy, especially in snow. They will place their rear feet in the same spot where their front foot was previously. This creates a distinct zig zag pattern, hence the nickname, zig-zaggers. Animals with this gait include mountain lion, deer, elk, moose, coyote, fox, and wolf.



The next group of walkers are the **waddlers**, and they do just that, waddle from side to side. They often have short legs and large bodies and will move one side of their body and then the other side, creating 4 distinct tracks. Sometimes they even drag their bellies when they walk. Porcupines, beavers, raccoons, skunks, and bears share this type of walking pattern.



Bounders usually have long bodies and legs of all the same size. They don't walk or trot in the way that the previous animals do, but rather jump from one spot to the next. In one motion they leap forward by leading with their front feet and then putting their rear feet in the exact spot where the front feet previously landed. Their tracks appear as two paws that fall side-by-side. The most common bounders are in the weasel family including river otter, pine martens, mink, and fishers. Running cats and dogs can also have this pattern.



The last main walking pattern is hopping. **Hoppers** also jump like the bounders, but they lead with their back feet. Hoppers usually have bigger, stronger back legs and feet and smaller front feet and legs. They place their rear feet slightly ahead of their front feet and pushing off so their front feet land first and their back feet land in front, in a leap-frog motion. Animals with this gait include snowshoe hares and others in the rabbit family, as well as many animals in the rodent family like red squirrels, chipmunks, and mice.



Supplies: a large outdoor area or gym, cones to delineate starting and finishing lines, pictures and video of different animal gaits.

Instructions:

1. After talking about the different animal walking patterns with your students, you can show them some video examples.
 - a. Perfect Walker- [YouTube Mountain Lion Walking In Winter Snow](#)
 - b. Waddlers- [YouTube You Gotta See This Beaver Walking Straight at my Camera With a Stick](#)
 - c. Bounders- [YouTube River Otter On A Casual Walk](#)
 - d. Hopper- [YouTube Close Encounter with a Brown Hare](#)
2. Divide the class into groups of 4, and no more than 4. If the number of students does not divide evenly by 4, you can have 1-3 groups of 3.
3. However many groups you have, you will need to put that many cones at the starting area spaced out about 10 feet apart. Place another set of cones 20 feet away, parallel to the first set and also spaced the same.
4. Have each group line up behind their starting cone.
5. They will be doing a relay in which the first person in each group will mimic a perfect walker, the second, a waddler, the third will be a bounder, and the fourth (or first if only 3 in the group) will mimic a hopper.
6. It will be helpful to demonstrate each walking style before the race begins, either yourself or with student volunteers.
7. Each student will have to get on all fours and use their assigned walk all the way to the other set of cones, go around it, and head back. The next student has to wait for them to pass the starting cone before they can begin.
8. The first group back after the fourth round (hoppers) wins.

Extensions:

1. Go outside and look for sets of tracks and identify the patterns. Try to figure out who made them, either with books and guides or by taking photos of the tracks and identifying them when you get home.
2. Do Tracks, Plaster Tracks, and/or Opposable Thumbs lessons.

Discussion:

1. Why do you think different animals walk in different ways?
2. How does an animal's body shape determine their walking pattern?
3. Do you think their gait helps them with survival? How?