

Buffalo Trace Education Box

Lesson 16

Follow the Bison Tracks

Purpose: Students will discover the size and shape of bison tracks, as well as track patterns of other animals.

Subject Areas: Science (bison facts), physical movements (compare and contrast), math (patterns, measurement of tracks), language arts (creative writing)

Materials Needed: Various common Indiana animal tracks printed out on paper (try the Purdue Extension pdf online), bison stamp, ink pad, if available; if not, find a bison hoof print online to print out, paper.

Steps:

1. Background Information: The bison's foot structure is called a unguligrade, which creates a certain footprint. This means the bison walks on its toe nails (the hoof), like the elk, deer, moose and sheep. The hoof is strong, sturdy and hard. The hoofs are meant for rough traveling conditions, as well as rapid travel. A bison is quick on its feet -- 30-40 mph! The hoofs scoop out and remove snow to get to grass. The bison's hoof becomes a deadly weapon against predators. Watch out for that kick!
2. Have students examine the bison prints. Compare the prints to others animal prints. Notice the similarities and differences.
 - a. Which animals walk on the balls of their feet? (digitigrade -- coyote, fox, rabbit)
 - b. Which animals walk on their toe nails? (unguligrade -- deer, bison)
3. People walk heel, then toe called plantigrade, which includes primates and bears. Make a set of your own footprints on paper or graph paper.
4. Use the information to complete a graphic organizer or make a three-flap 3-D organizer (two outer flaps for differences and the middle flap for similarities). Choose two prints for comparison. Provides copies of the prints or write the animal's name on the flaps.
5. Try comparing the prints of a predator and its prey. Continue with a writing activity. Tell a story about what happened between the animals. Who came first? Who was the predator? Who was the prey? Did a chase happen?

Extensions:

- Research track patterns. There are various names given to the patterns -- zig-zaggers, leapers/hoppers, bounders and waddlers; pace, diagonal, bound, gallop; hoppers, walkers, bounders and waddlers
- Make plaster casts of prints found in the backyard. "Save Animal Tracks as Plaster Casts" is a pdf from the usgs.gov. Step by step directions are in kid-friendly language. The prints in the article are good enough for laminating.
- Measure tracks from the hindmost point of the track to the frontmost point (claws are not included). The length line should be parallel to the direction the track is pointing. Width is measured at the widest part of the track from a point on one side to a point on the other. The width line should be perpendicular to the length line.

Resources:

- Purdue Extension has a pdf of "Common Indiana Mammals" which includes a full page for each mammal: color photograph, description, drawing of the skull and the track pattern.
- Jim Arnosky's book Wild Tracks (A Guide to Nature's Footprints) includes a bison.