

ALBERTA'S WOODLAND CARIBOU

For Teachers

Curriculum Connections:

- Grade 6 Science - Trees and Forests
- Grade 7 Science - Interactions and Ecosystems
- Grade 9 Science - Biological Diversity

Numeracy Connections:

- Students interpret data from a graph or chart to make inferences and draw conclusions.

Objective:

- Students learn the difference between caribou and Alberta's other wild ungulates
- Students identify physical and behavioural adaptations of caribou
- Students consider where caribou live in Alberta and the impacts of land management choices on caribou habitat

Materials:

- [Woodland Caribou poster](#)
- Student instruction sheet

Time: 60 minutes

This activity challenges students to learn the difference between physical and behavioural adaptations, and discuss the adaptations that allow Woodland Caribou to survive in Alberta. It is designed to be given to students to work on individually with minimal instructions.







For Students



Instructions: Complete the activities to learn all about Alberta's amazing Woodland Caribou!

Part 1: Ungulates

Alberta has eight species of wild **ungulates**. An ungulate is an **animal with hooves**.

Can you identify Alberta's ungulates? Choose from: *Bighorn Sheep, Mule Deer, Whitetail Deer, Moose, Mountain Goat, Caribou, Bison and Elk*. Write the species name next to its photo.

	Moose		Bighorn Sheep
	Elk		Mountain Goat
	Mule Deer		Bison

	Whitetail Deer		Caribou
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Part 2: Adaptations

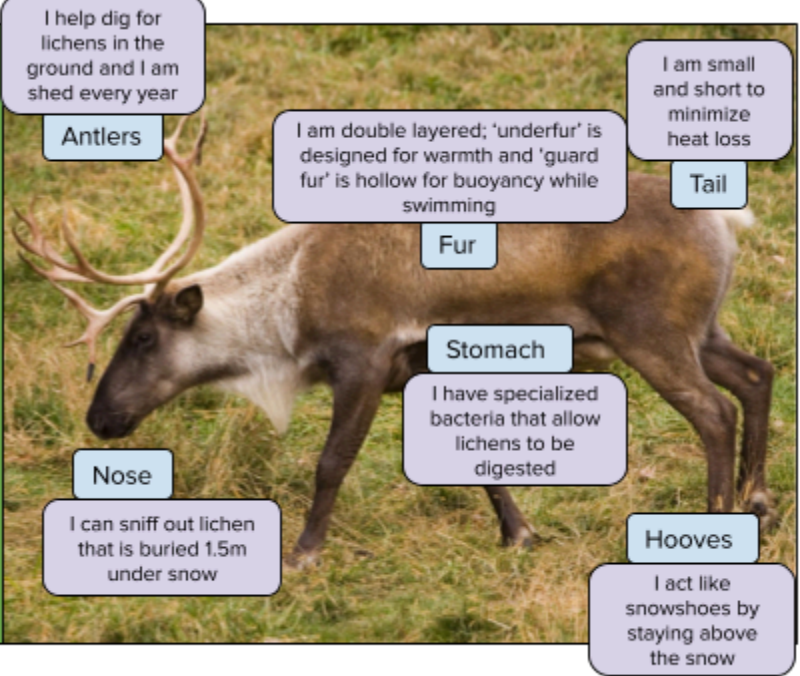
Instructions:

- 1) Double click to open the drawing
- 2) Place each 'body part' label on the caribou
- 3) Place each 'adaptation' label next to the correct body part

Directions

Place each body part label on the caribou.

Place the adaptation label next to its corresponding body part.



Antlers
I help dig for lichens in the ground and I am shed every year

Fur
I am double layered; 'underfur' is designed for warmth and 'guard fur' is hollow for buoyancy while swimming

Stomach
I have specialized bacteria that allow lichens to be digested

Nose
I can sniff out lichen that is buried 1.5m under snow

Tail
I am small and short to minimize heat loss

Hooves
I act like snowshoes by staying above the snow

Body Parts

Adaptations

A **physical adaptation** is a **physical body part** that helps an animal to survive.

→ Ducks having webbed feet is an example of a physical adaptation!

A **behavioural adaptation** is a change in the **way an animal acts** that helps it to survive.

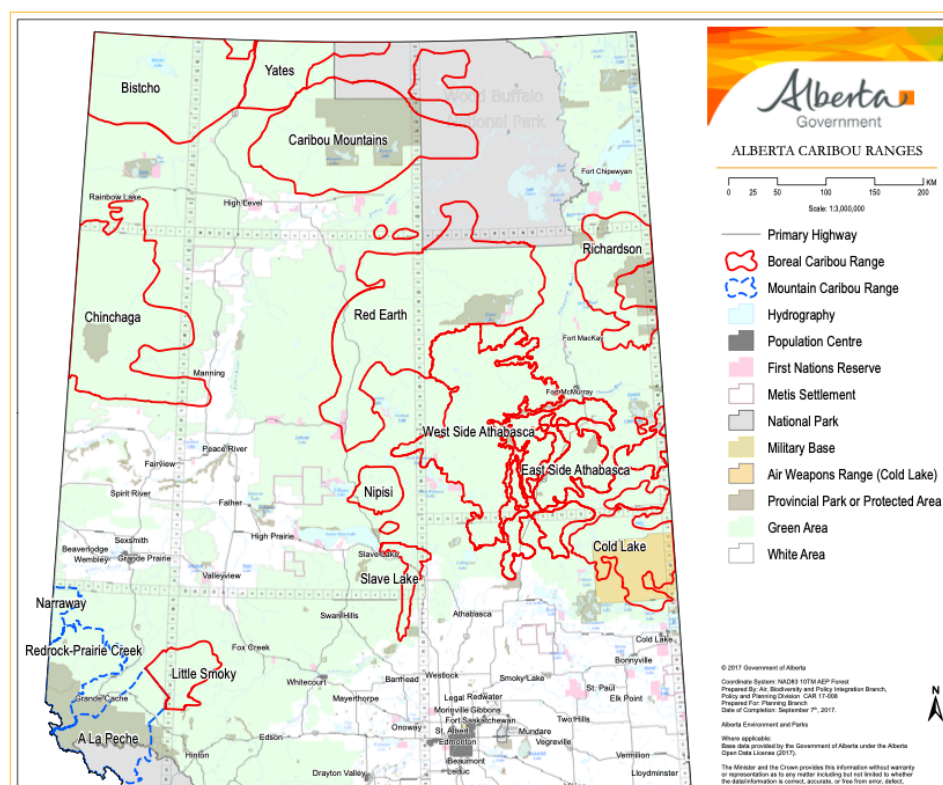
→ *Birds migrating south in the winter is an example of a behavioural adaptation!*

Caribou have many adaptations that help them survive in Alberta. Decide if the following caribou adaptations are **physical adaptations** or **behavioural adaptations**.

- 1) Caribou hooves are large, working like paddles to help caribou be strong swimmers.
Physical or behavioural adaptation? **Physical**
- 2) Some Woodland Caribou in Alberta migrate each year between their summer and winter range.
Physical or behavioural adaptation? **Behavioural**
- 3) Caribou have a four-chambered stomach, which allows them to eat large quantities of lichen and digest its nutrients efficiently.
Physical or behavioural adaptation? **Physical**

Part 3: Caribou in Alberta

In Alberta, we have two types of Woodland Caribou - Mountain Caribou and Boreal Caribou. Open this [Alberta Caribou Range Map](#).



- 4) What do the red lines show?

Boreal Caribou Range - where the Boreal Caribou herds live in Alberta.

- 5) What do the blue dashed lines show?

Mountain Caribou Range - where the Mountain Caribou herds live in Alberta.

- 6) Which caribou herd is closest to you? *Notice that there are no caribou herds south of Edmonton, so if you live in Southern Alberta, your answer will be 'none'.*

Answers will vary.

Part 4: Caribou Poster

Use the [Woodland Caribou poster](#) to answer the following questions:

- 7) On what Canadian coin is a caribou displayed?

Quarter (25 cents)

- 8) What animal has a close predator-prey relationship with caribou?

Wolf

- 9) Name two threats to caribou in Alberta.

Roads and Human Disturbance → More roads mean less caribou habitat and easier access for caribou predators like wolves, cougars and bears. Roads through caribou habitat also increase the number of people that come into contact with caribou leading to increased access for hunting and poaching and wildlife-vehicle collisions.

Habitat Loss and Fragmentation → Woodland caribou require large ranges and connected spaces. Woodland caribou suffer when the old coniferous forests and peatlands in Alberta's boreal forest are lost and/ or broken up into smaller pieces; this is known as habitat fragmentation. Habitat fragmentation may be caused by: a) Linear disturbances like roads, seismic lines, pipeline transmission lines, and trails b) Clearing land for development such as housing, forestry cutblocks, agriculture, recreation, mines, oil and gas wells & processing facilities c) Natural disturbances like forest fires d) Roads: also leads to increased access for hunting, poaching and wildlife-vehicle collisions

Altered Predator-Prey Relationships → We know that the predator-prey relationship between wolves and Woodland caribou has shifted in recent years to favour the wolves. As development and habitat fragmentation has increased, wolves have greater access to caribou. Disturbances, like roads & seismic lines allow wolves to see further and run faster, increasing their hunting efficiency. With disturbances to the forest more "edge" habitat is created. Edge habitat refers to the boundary between different types of habitats, and in a forest this usually means more grasses and small shrubs that attract ungulates like deer and moose. Warmer winters have also altered the ranges of ungulates allowing them to move into new areas. As more deer and moose arrive, the wolf population increases meaning the caribou are at a greater risk of predation.

- 10) Name two actions individuals, researchers and/or companies are taking to protect caribou.

Habitat protection and restoration → Ensuring caribou have the space and high quality habitat they need is essential to Woodland caribou recovery efforts. Local Industries, municipalities, non-profit organizations and others are protecting areas from disturbance by limiting human access and restoring previously disturbed areas by planting trees and reclaiming unused roads/seismic lines.

Research to better understand Woodland Caribou → There is a wide variety of data that is analyzed to help us better understand caribou. Researchers use radio collars to track caribou; this means they can get GPS locations of where animals go to eat, sleep and reproduce. Other research includes using trail cameras, helicopter surveys, and wildlife tracking to study how caribou live and interact in the forest.

Managing predation → Healthy predator-prey interactions are a sign of healthy ecosystems. Predation is a leading cause of caribou mortality therefore several tactics are

being explored to reduce predation. Techniques include: Fencing and maternal penning, dog-legs and Log-piling, hunting, trapping and culls.