CPAWS
CANADIAN PARKS AND WILDERNESS SOCIETY
MANITOBA CHAPTER

Critters in a Manitoba Winter

Winter can be a difficult time for Manitoba animals. In this lesson, students will learn about what different animals do in winter time. They will then spend some time outdoors and build some of the animals they discussed, making sure to pay attention to the animal's physiology.

STEP ONE

Brainstorm some of the animals your students have seen in Manitoba. Make a list on the board.

Think about which of those animals still live in Manitoba in the winter.

Show students the following pictures and ask what they think these animals do during the wintertime.

Definitions:
Migration: When animals travel from one place to another, usually occurring in winter time. Manitoba animals will often migrate to warmer places and then migrate back to Manitoba when the weather warms up.
Adaptation: A special way that animals act, or a special bodily process or characteristic that help them survive in a certain environment.
Brumation: A dormant state that many amphibians and reptiles enter that slows their breathing, metabolism, and movement.

Canada Goose

Canada Geese migrate south for the winter time.

They have many adaptations to help them migrate:

- accumulate extra fat for winter that provides energy for their flight
- have strong wings that allow them to travel over 1,600 km in a day
- are social and travel with other geese. They travel in a V to save energy.

Black-Capped Chickadee

Chickadees stay in Manitoba all winter.

They have many adaptations to help them survive:

- they can lower their body temperature over night which saves energy
- they have a dense layer of feathers
- they remember thousands of places they hid food and their brain grows in fall and winter to help them remember.

Red Fox

Red Foxes stay in Manitoba all winter.

They have many adaptations to help them survive:

- their winter coat is almost twice as thick as their summer coat, keeping them warm
- they have great smell and hearing to find prey under layers of snow
- they curl up in a ball and wrap their bushy tail around their bodies to stay warm

Eastern Cottontail

Cottontails stay in Manitoba all winter.

They have many adaptations to help them survive:

- they change their diet from green plants to woody plant parts
- instead of being active during the night, they often look for food during the day because it's warmer
- they are small and can push their ears against their head to reduce heat loss

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White-Tailed Deer

Deer stay in Manitoba all winter.

They have many adaptations to help them survive:

- deer stay in one area during winter to save energy travelling
- they accumulate body fat during summer and fall
- their winter fur is longer, thicker, and darker than summer fur, absorbing more heat

Little Brown Bat

Little Brown Bats hibernate during winter

They have many adaptations to help them hibernate:

- their body temperature lowers to 2-10 degrees C
- their heartbeat slows from 98 beats a minute to 8-20 beats a minute
- before hibernating they eat a ton of insects and increase their body fat by 30%
- they take in oxygen through their wings so they don't have to waste energy breathing

Northern Leopard Frog

Leopard Frogs enter brumation during winter

They have many adaptations to enter brumation:

- they dig into the muddy bottoms of rivers and enter a state of brumation
- their heart rate and metabolism slows
- they produce some antifreeze in their blood
- they take in oxygen through their skin

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STEP TWO

Go outdoors and have each student or group of students create one of the critters in snow.

Have students do a gallery walk through the sculptures. Have each group explain:

- What is your animal?
- Show and explain some of the body parts this critter has
- What do they do during winter?
- What in/on their bodies help them survive?

EXTENSION ACTIVITIES FOR MIDDLE YEARS

1. Have students do some of their own research into animals and what they do during the winter months
2. Discuss migratory birds and map how far they travel to their migratory grounds
3. Before creating snow sculptures, identify different aspects of an animal's physiology and label them on a photo of the animal. This will then help students incorporate specific animal body parts and adaptations into their snow sculpture.
4. Put up a map of your school yard (google maps works great)
    - Have students draw the map on a piece of paper
    - Go outdoors and map evidence of critters in your schoolyard.
        - Eg. nests, animal tracks, scat
    - As a class, map the evidence on a large map, do any research needed to figure out what animals may have been present in your schoolyard.