

Winter Wildlife

A mini lesson for grades 2 & 4

Activity adapted from *Teaching Green The Elementary Years*

Time required: 1 class period

Materials:

- Film canisters or other water-tight container (one per student or small group)
- Flagging tape or other marker
- Water
- A cold day! (0°C or below)

Curriculum Connections:

Grade 2: Understanding Life Systems - Growth and Changes in Animals

2.2. Observe and compare the physical characteristics and the behavioural characteristics of a variety of animals, including insects, using student-generated questions and a variety of methods and resources

2.5. Investigate the ways in which a variety of animals adapt to their environment and/or to changes in their environment, using various methods

2.7. Use appropriate science and technology vocabulary, including life cycle, migration, adaptation, body coverings, and classify, in oral and written communication

3.2. Describe an adaptation as a characteristic body part, shape, or behaviour that helps a plant or animal survive in its environment

Grade 4: Understanding Life Systems – Habitats and Communities

2.5. Use appropriate science and technology vocabulary, including habitat, population, community, adaptation, and food chain, in oral and written communication

3.3. Identify factors that affect the ability of plants and animals to survive in a specific habitat

3.7. Describe structural adaptations that allow plants and animals to survive in specific habitats

Background:

Winter in Canada can be harsh on our wildlife, but many animals have adapted to the cold northern climate. *Adaptations* are special characteristics that enable plants and animals to be successful in a particular environment. These adaptations fall into 3 basic categories: structural, physiological and behavioural. *Structural* adaptations refer to the physical appearance of the species, *physiological* adaptations refer to the body chemistry or metabolism, and *behavioural* adaptations are how the animals act.

Activity- Creating a Mouse Micro-habitat:

Mice and other small rodents are an important food source for many other species in an ecosystem and their presence is important for healthy biodiversity. Despite their small size, they remain active throughout the winter and are able to survive the cold season. Mice dig holes in the snow and ground to burrows where they huddle together for warmth. They also live and forage in the warmer layer of air trapped between the ground and the snow known as the *subnivean zone*. Within this hidden habitat, mice will create a network of tunnels and rooms, some of which may include a food cache area and even a washroom!

1. Fill each film canister $\frac{3}{4}$ with water and secure the lid. Assign 1 container to each student or each pair of students. Tell the students that each container is a “mouse” and it is up to the students to create a warm micro-habitat outdoors for the mouse to “sleep” for an hour. It is encouraged to use flagging tape, pylons or another marker to indicate mouse locations for easy finding.

2. Make predictions with the group:

-What will happen to the mouse (water) if it is not in a warm spot?

-What materials will provide insulation?

-Would creating a habitat up high or down low keep the mouse warmer?

3. Allow the group time to create their micro-habitats and leave the canisters for one hour. Return and locate all canisters and remove flagging tape (leave no trace!) If the water in the canister froze, this means that their mouse had frozen!

4. Return to the class and discuss:

-Did your mouse survive? Why or why not?

-What natural materials would provide the best insulation?

-What major differences between real mice and the water would allow a living mouse to survive?

-What other adaptations do animals in your area use to survive winter?