



**ANIMALS IN WINTER (1-3)
EXTENSIONS**

Time requirement

30 minutes

Group size

Individual classroom

Theme

There are many different ways that animals have adapted for coping with winter.

Goal

This class is designed to familiarize the students with the many ways that animals are able to survive the winter months.

Objectives

At the conclusion of this unit, students should be able to:

1. Discuss how people get ready for winter.
2. List three ways animals get ready for winter weather.
3. Give examples of animals, which exemplify each of the ways that animals prepare for the winter.

Academic standards

National Science Educational Standards	Content Standard C - Life Science (K-4) <ul style="list-style-type: none"> • The Characteristics of Organisms • Organisms and Their Environments
Benchmarks for Science Literacy (Project 2061)	5. The Living Environment <ul style="list-style-type: none"> • A: Diversity of Life (K-2) • D: Interdependence of Life (K-2, 3-8) • F: Evolution of Life (K-2)
Ohio Science Academic Content Standards	Life Sciences <ul style="list-style-type: none"> • Diversity and Interdependence of Life (1:5, 2:6, 2:8, 3:2, 3:6)
Kentucky Core Content—Science	Life Science K-4 <ul style="list-style-type: none"> • The Characteristics of Organisms (SC-E-3.1.3) • Organisms and Their Environments (SC-E-3.3.2)
Indiana Science Standards	<ul style="list-style-type: none"> • Social Studies - Geography – Physical Systems 1.3.5 • Science – Diversity of Life – 2.4.1

Background

As winter time approaches, certain changes need to occur in order for animals to survive the changes in their environment. There are three main ways that may enable many animals to cope with the changes.

Some animals may migrate from one area to another. During the winter some animals will move to a new area to be where the environment is not as harsh and to seek out a place where food remains plentiful.

Other animals, if food remains available, will stay in their habitat. To help them cope with the harsher conditions, they have specialized adaptations; such as thicker fur or insulating feathers.

The third major way for animals to deal with the cyclic weather changes is for the animal to enter into a hibernation state. They will pass the time in a dormant or semi-dormant state. The endotherms will usually eat a lot and gain a thick layer of fat to act as energy reserves during the winter while they are sleeping. The ectotherms on the other hand don't gain a layer of fat. Instead their metabolic rate is reduced to the point where they appear almost dead. Some have even been known to be frozen during the winter and then in the spring they thaw out unharmed.

Vocabulary

Hibernation: the act of passing the winter in a dormant or sleeping state

Migration: animal movement from one place to another i.e. many birds move to another place for the duration of winter

Active: these animals don't hibernate or go anywhere during the winter. They have special adaptations to protect them from the weather

Ectothermic (formerly known as cold-blooded) these animals have a body temperature that changes with the environment, i.e. amphibians, reptiles, fish, and invertebrates

Endothermic (formerly known as warm-blooded) these animals have a body temperature that remains fairly constant, i.e. mammals and birds

Burrow: a hole or passage used for shelter

Den: a cave or hole used for shelter

Down feathers: small, soft feathers next to a bird's body, used for warmth

Fur: soft, fine, hairy coat of a mammal

Extensions

Please choose those activities, which reflect your students' interest, skills and curriculum.

1. Show pictures or slides of a variety of animals and discuss what they do in winter - hibernate, migrate, or active. Include amphibians, reptiles, mammals, and birds.
3. Make a winter mural! The mural should contain a pond, woods, and field, trees with holes, and underground burrows and tunnels. The students may either draw pictures of animals or cut them out of magazines and place them in their appropriate winter homes on the mural.
5. Cut animal pictures out of old magazines. Then sort them by the ways the animals prepare for winter. Arrange them on a paper to make it into a bar graph.

2. Take a winter walk! Look for a variety of animal's tracks, potential food sources and who might eat them, signs of animals having eaten, homes or shelters for animals and animals themselves. You may want to dig a hole and leave seeds or nuts for animals to find. Check every day to see if they're gone.

4. Make a bird feeder by putting peanut butter (be aware of food allergies) and bird seed onto pine cones and attaching a string to hang it from a tree branch.

6. Wish You Were Here! Learn about a migrating bird. Write a postcard from that bird at each of its migration stops. What is the bird doing? Describe what the stop is like. Write a postcard from its final destination!

7. Ask your students to imagine what Winter Survival Strategy they would choose if they were an animal. Ask your students to write about their experiences. Allow your learners to draw themselves as that animal. Make sure all can tell that they are the animal!

Resources

Activity guides:

Doris, Ellen. Ornithology. Thames and Hudson, Inc. New York. 1994.

Websites:

ALA's Great Websites for Kids: Animals
<http://www.ala.org/gwstemplate.cfm?section=greatwebsites&template=/cfapps/gws/displaysection.cfm&sec=1>

Awesome Library – Kids

<http://www.awesomelibrary.org/Classroom/Science/Animals/Animals.html>

Awesome Library – Teachers

<http://www.awesomelibrary.org/Classroom/Science/Animals/Animals.html>

Cincinnati Zoo & Botanical Garden
www.cincinnati-zoo.org