



MINNESOTA ZOO™
Changing how you see the world

Winter Survival Grades 1-3 Pre-visit Activity

MN Graduation Standards supported:

Grade 1 Strand IV.B

The student will observe plant and animal life cycles.

Grade 2 Strand IV.C

The student will understand that organisms live in different environments.

Grade 3 Strand IV B

The students will recognize that plants and animals have different structures that serve various functions.

Introduction:

Animals of Minnesota have adaptations so that they are able to live in seasons that range in different temperatures, precipitation and lengths of daylight. Minnesota seasons greatly change in temperature and sunshine due to the tilting of the earth to or from the sun. During the summer, the warmer temperatures, longer daylight and the different forms of precipitation all affect how an animal is able to survive these conditions. The animals have different fur coats for various seasons, colors of fur coats to blend in with the environmental changes, behaviors for different seasons.

Fur coats: During the summer animals may have a more brownish color to blend in with the flourishing colors of plants. The ermine has a brown coat during the summer and a white coat in the winter to blend with its environment.

Animals also have heavier fur coats in the winter to help battle the colder temperatures and the snow. During the summer the animal will have a lighter coat. The white tail deer have thicker coats for winter and less fur for the summer to maintain correct body temperatures.

Behaviors: Some animals are more active in the summer, gathering as much food as possible and other animals are busy eating to store up food for the winter months. The squirrels are very active in the late summer and fall gathering nuts and putting them into storehouses to provide a food supply in the wintertime.

Some animals sleep more in the winter, using up extra fat that was put on during the summer so the animal doesn't have to forage as much for food. An example of this is the adult beavers. They sleep through more of the day in the winter than they do during the summer.

Some animals hibernate during the winter months using stored up fat that they put on during the summer and fall months. Their body metabolism decreases while their in a deep sleep. The black bear is an example of an animal that hibernates.

Links:

<http://www.dnr.mn.state.us/>

<http://nationalzoo.si.edu/Animals/BackyardBiology/default.cfm>
(Click on Urban Nature Watch, then click on winter adaptations)

www.desertusa.com/survive.html

www.mnzoo.org/animals/index.asp

Objectives:

Students will demonstrate how animals survive the year by having physical and behavioral adaptations.

Procedure:**Pre-visit activity:**

1. Have a discussion with the class as to how Minnesota animals survive the winter. After the students have named at least two adaptations for winter and summer, make a list on a poster of animals that have these adaptations. After the zoo field trip add or subtract from the list.
2. Have each student select an animal and draw pictures of the animal in the spring, summer and winter. See the “How does _____ survive the Minnesota Winters?” activity sheet for a help. Students then can explain what the animal does in each season to survive the year.
3. Another possibility is to collect magazine pictures of animals in the summer or winter and have the students draw and color the same animal in the opposite season. Have the student share with classmates how the animal changes for each season.

On Site Visit:

*Students will go around the zoo to locate the animals pictured on the “Minnesota Animal Seek and Find” worksheet.

*Students find Minnesota animals on the Minnesota Trail and the Northern Trail, and then state how the animal is able to survive in various seasons.

Post Visit Activity:

*Make a field guide of Minnesota animals listing the habitat, food, seasonal adaptations, and an interesting set of facts about the animal. Pages could be done in black and white so that a book could be copied for each student or pages could be done in color then compiled into one classroom book.

*A chart could be made of how animals are designed to adapt to weather changes. Students could make a Venn diagram of animals that changes their fur coats or behaviors. Another possibility is for students to find or draw pictures of the animals and place them in categories. Hibernation, sleep and food storage could also be discussed.