



Nature at School Pre-lesson Wildlife in Winter

Learning outcomes:

Join DNR educator Katie Urban from Porcupine Mountains Wilderness State Park, Michigan's largest state park. From the snow-buried mountains, Katie will talk about what living things need to survive and how they do that in a frozen world. Secrets of some of the biggest and smallest creatures will be revealed as we explore the ice-crustured park and investigate how they manage to stay alive. Some of Michigan's favorite creatures will be investigated, such as black bears, little brown bats, spring peepers, white-tailed deer, northern pike, and ruffed grouse. This 30-minute presentation will meet these learning outcomes:

- Learn who owns the state parks and the wildlife that lives in them.
- Understand what each living creature needs in order to live.
- Discover the different ways living things overcome winter.
- Recognize how humans have impacted the ability of some creatures' survival.

Background information:

The Porcupine Mountains Wilderness State Park is an enormous park that gets buried under massive amounts of snow in the winter. Your students will have an opportunity to discover the basic needs of living creatures and explore how Michigan's winter months force our animals to do extreme things to stay alive.

Students will begin by covering the four basic needs of every living thing: food, water, shelter, and space. After seeing how winter, our most challenging season, impacts those needs, they will begin to discover the different ways animals cope with those limitations and how human influence has altered chances of survival. Several Michigan native species will be examined to help students make lasting connections with different survival tactics.

Resources:

[Basic needs of an organism](#)

[Black bear hibernation, winter prep and safety](#)

Suggested pre-activity:

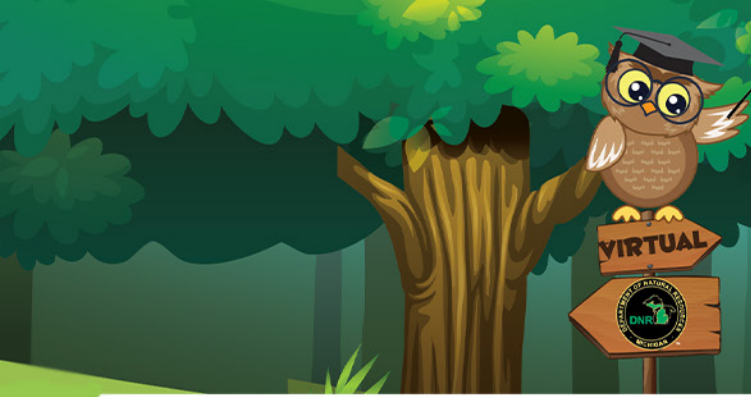
Have your students choose an animal that lives in Michigan. It can be anything: a mammal, fish, bird, reptile, or even a plant. Each student should research their creature's needs for food, water, shelter, and space. They can write a report, draw a picture, or even make a model.

Directions for your DNR Nature at School virtual program:

1. You will receive a reminder email from SignUp Genius three days prior to your scheduled *DNR Nature at School* program. Please read and follow the directions, so we all can have a successful program.
2. At least one day prior to your lesson, send your instructor the link to your Zoom/Google Meet/Skype/Teams for your lesson time. Starting 10 minutes early with just your instructor is encouraged.

Day of:

3. Make sure students have their sound muted and their cameras on to participate (with thumbs up, number on fingers).
4. If you use the chat feature, we encourage the students to ask their questions there, and the teacher can ask them at the end of the program.
5. See further directions in your SignUp Genius confirmation.



Nature at School NGSS Correlation Wildlife in Winter

Live from Porcupine Mountains Wilderness State Park: Discover how living things exist in their natural habitats and the different ways Michigan animals, such as bears, bats and frogs survive in the winter.

Guiding question/phenomenon:

What adaptations assist animals to survive in winter, and why?

Science and Engineering Practice	Disciplinary Core Idea	Cross-Cutting Concepts
<p>Planning and Carrying Out Investigations</p> <p>Select appropriate tools to collect, record, analyze and evaluate data.</p> <ul style="list-style-type: none"> As a pre-activity students will investigate an animal that is native to their community through field guides, online, or in their neighborhood. As a post-activity students will return to that animal and discover how it survives winter. 	<p>LS1.A: Structure and Function</p> <p>Plants and animals have both internal and external structures that serve various functions in growth, survival, behavior, and reproduction.</p> <p>LS3.B: Variations of Traits</p> <p>Different organisms vary in how they look and function because they have different inherited information. The environment also affects the traits that an organism develops.</p> <ul style="list-style-type: none"> Students understand how different adaptations allow different species to survive in their particular habitat. 	<p>Systems and Systems Models</p> <p>A system can be described in terms of its components and their interactions.</p> <ul style="list-style-type: none"> Students understand how humans have impacted wildlife survival in the Porkies ecosystem.

Recommended grade band(s): Early elementary and middle school
All Nature At School virtual programs have been created to introduce students at any grade level to life and/or earth science core ideas, when used with pre- and post-activity suggestions.

Nature at School Post-lesson Wildlife in Winter

Activity wrap-up:

Michigan has many different living creatures that call this place their home; some of the animals stay here year-round, while others only stay for part of the year. During our lesson, students explored the frozen Porcupine Mountains and learned about the adaptations of some animals in the park that allow them to survive in the winter months. They also got to see how humans may alter the ability of some of these creatures to survive.

Resources:

[Wood frog thawing in the spring](#)

[Whitetail deer migration in Michigan's Upper Peninsula](#)

Connect to home:

- List some ways that humans adapt or prepare for winter.
- How do you dress?
- Do you change how you interact with the outdoors in the winter vs. in the summer time?

Post-activities:

Have students return to the animal they researched for the pre-activity (food, water, shelter, space). As a follow-up to our lesson, have them do further research to find out how their chosen animal survives the winter. Does it hibernate, leave for the season, or stick around and stay active? Older students may do more in-depth research about the types of adaptations these animals have developed and how those animals apply them to survive.



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