

Nature at School Pre-lesson

Wild Spaces, Distant Places

See what your students know:

Use this fun [Kahoot](#) to help the DNR understand what your students know on this topic before the program.



Learning outcomes:

Join DNR educator Katie Urban at Porcupine Mountains Wilderness, Michigan's largest state park. From the far western end of the Upper Peninsula, Katie will explain what wilderness means and how it compares to other types of lands in Michigan. Discover an area of magnificent biodiversity and some of the wildlife found in this area. This 30-minute presentation will meet these learning outcomes:

- Learn who owns the state parks and the wildlife that lives in them.
- Understand what biodiversity is and its role in the Porcupine Mountains.
- Compare and contrast natural communities in the Porkies.
- Recognize there are different ways to manage our natural resources.

Background information:

The Porcupine Mountains Wilderness State Park is a huge area where many types of living things make their home. Your students can learn what biodiversity means and how it interplays with the unique natural communities in one of Michigan's wildest places.

Students will first learn different ways state lands can be managed and what qualities the students themselves may value most. After defining biodiversity, they will build on their observation skills to compare different environments and make educated guesses about animals and their preferred habitats.

Resources:

- [What is Wilderness video](#)
- [Why do we care about biodiversity?](#)

Suggested pre-activity:

• [Explore the Artist in Residency Program gallery](#)
Select a work of art created by someone who was inspired by the Porcupine Mountains Wilderness State Park. You can choose from many types of art: photos, drawings, paintings, stories, poems, songs, and videos.

- Answer a few questions about your selection:
 - o Why did you choose this work of art?
 - o How does it make you feel?
 - o What do you think this piece was trying to represent?

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

Wild Spaces, Distant Places



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Guiding question/phenomenon:

- What are the concepts of wilderness and biodiversity?
- What does wilderness and biodiversity mean to you and your community?

Science and Engineering Practice	Disciplinary Core Idea	Cross Cutting Concepts
<p>Constructing Explanations and Designing Solutions</p> <p>Construct and revise an explanation based on valid and reliable evidence obtained from a variety of sources (including students' own investigations, models, theories, simulations, peer review) and the assumption that theories and laws that describe the natural world operate today as they did in the past and will continue to do so in the future.</p> <ul style="list-style-type: none"> • Students research a local past and current Michigan public land issue and existing or possible solutions. <p>Planning and Carrying Out Investigations</p> <p>Make observations and/or measurements to produce data to serve as the basis for evidence for an explanation of a phenomenon.</p> <ul style="list-style-type: none"> • Students will observe different natural communities in the park, and reflect on evidence gleaned from those observations. 	<p>LS2.C: Ecosystem Dynamics, Functioning, and Resilience</p> <p>Biodiversity describes the variety of species found in Earth's terrestrial and oceanic ecosystems. The completeness or integrity of an ecosystem's biodiversity is often used as a measure of its health.</p> <ul style="list-style-type: none"> • Students will observe, compare and contrast the various natural communities in the park. <p>LS4.D: Biodiversity and Humans</p> <p>Changes in biodiversity can influence humans' resources, such as food, energy, and medicines, as well as ecosystem services that humans rely on — for example, water purification and recycling.</p> <ul style="list-style-type: none"> • Students will research humans' resources in nature in a Michigan park or public space and predict their increase or decrease as a post-activity. 	<p>Stability and Change</p> <p>Much of science deals with constructing explanations of how things change or remain stable.</p> <ul style="list-style-type: none"> • Students research and compare stability in the Porcupine Mountains vs. another managed park/space in Michigan. <p>Cause and Effect</p> <p>Phenomena may have more than one cause, and some cause and effect relationships in systems can only be described using probability.</p> <ul style="list-style-type: none"> • Students will learn examples from the park's ecosystem, and research examples in their community as a post-activity. <p>Stability and Change</p> <p>Small changes in one part of a system might cause large changes in another part.</p> <ul style="list-style-type: none"> • Students will understand, research and explain this phenomenon in a Michigan system.

ART.VA.III.8.1 Critically observe, describe and analyze visual characteristics within works of art.
ART.VA.III.8.2 Effectively interpret artwork, searching for embedded meaning, function and personal connections.

Recommended grade band(s): middle school and high 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-lesson suggestions.



Nature at School Post-lesson

Wild Spaces, Distant Places

See what your students learned:

Use this fun [Kahoot](#) to help the DNR understand what your students know on this topic, after the program. This data helps the DNR create and update free programming for teachers across the state.



Activity wrap-up:

Michigan has many state parks and natural areas for people to use and enjoy. Learning that Michigan residents (and the students) are owners of the state parks and designated state lands it helps implant the feeling of value for our wild areas and the need to protect, manage and better understand wild spaces near them.

Students will have practiced making observations and using them as tools to make decisions and educated guesses about Porcupine Mountains Wilderness State Park. This practice makes them more comfortable to start using these skills in their own lives and living spaces.

Resources:

- [Learn about different natural communities](#)
- [How does biodiversity affect humans?](#)

Connect to home:

In the pre-lesson activity, we explored the [Porcupine Mountains artists' gallery](#). Think of a place that is important to you and create a story, poem, or piece of art for that place.

Post-activities:

Now that students understand biodiversity and natural communities, ask them to compare two outdoor areas nearby. For example, you might want to compare a busy town vs. a forest, or for a bigger challenge compare two similar natural areas.



Connect with DNR content:

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Visit the [DNR Nature at Home page](#) for educational video series, resources, lessons, virtual tours and more.