

Wolf Island

Grade Level: 3rd grade

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Video: Return of the Wolves: Lessons from the Wilderness

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Next Generation Science Standards:

- 3-LS4-3. Construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all.
- 3-LS4-4. Make a claim about the merit of a solution to a problem caused when the environment changes and the types of plants and animals that live there may change.

<p><i>Essential Vocabulary</i></p> <ul style="list-style-type: none"> • Producer • Herbivore • Carnivore • Predator • Prey • Food Chain • Food Web • Interdependence 	<p>Lesson Overview:</p> <p>This series of activities explores the relationships between components of an ecosystem, using Isle Royale National Park as a focus. Using literature to illustrate basic ecological concepts, students will build models and participate in role play as they investigate Isle Royale species dynamics.</p> <p>The entire series of activities will take four to five class periods.</p>
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<p><i>Engage</i></p>	<p>A Visit to Wolf Island</p> <p>Essential Questions: How are species interconnected? How can one species effect an entire ecosystem?</p> <p>Duration: 30 minutes</p> <p>Materials:</p> <ul style="list-style-type: none"> • Copy of Wolf Island by Celia Godkin (2nd edition has best pictures) OR watch the story being read at Mrs. Morris reads Wolf Island • Wolf Island Characters • White board and yellow marker
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- Tape
- Map or Globe

Whether you choose to read the book or watch the video of the reading, start by reciting the first line (somewhat altered) from the book. *“Once there was an island. It was an island with trees and meadows, and many kinds of animals. There were mice, rabbits, and deer, squirrels, foxes and several kinds of birds. A family of wolves lived on the island too.”*

Introduce the characters in turn and tape them on the white board. Have students act out each species (remaining in a seated position, standing, or moving around the room) as it is introduced.

Read or listen to the story. While reading, stop at critical junctures to check for student understanding.

There are three food chains described in *Wolf Island*. After reading the book, have students do a quick **think-pair-share** to discuss who eats who. Then work as a class to make model food chains by organizing characters and drawing arrows on the white board.

Explore the vocabulary words: producer, herbivore, carnivore, predator, prey, and food chain. Write each word on the white board and define it. After each definition, as a class have students come up with an action and a “voice” for the word (example: “predator” might show claws and fangs and be said in a roaring voice, while “prey” might hide face behind their hands and be said sotto voice.) Use these **Total Physical Responses** when the vocabulary is used in the rest of the lesson.

Ask the students what else each of the animals might eat in addition to what is indicated by the food chains.

Deer, rabbits, and mice eat other kinds of plants. Wolves might eat deer, rabbits, or mice. Foxes eat rabbits, and mice. The owl eats mice and rabbits. When the animals die, they decompose and go back to the ground and help the plants grow. Add those arrows to create a simple food web.

Remove the wolves from the web. Who is affected? Are wolves important to the other animals and plants on Wolf Island? Take a thumbs up (yes)/thumbs down (no)/thumbs sideways (not sure) vote

	<p>Ask students: Do you think this really happened? Why/why not? Do you think it could happen? Why/Why not?</p> <p>The raft didn't happen, but there IS an island where wolves disappeared and then returned. Show where Isle Royale is on a map or globe. Tell the class that they will be taking an imaginary trip to this real Wolf Island.</p>
<p><i>Explore</i></p>	<p>Exploring the Real Wolf Island</p> <p>Essential Questions: How are species in an ecosystem interdependent? What happens when something in the environment changes?</p> <p>Duration: 45 - 50 minutes</p> <p>Materials:</p> <ul style="list-style-type: none"> • Map or Globe • Projector for viewing the video (Part 1: starting at minute 12:35 approximately 6 minutes. You may want to continue on to the first few minutes of Part 2) • Isle Royale Characters • Index cards (12 per student group) • Scissors, glue sticks (1 each per student) • Markers <p>Review where Isle Royale is on the map and tell the students: <i>“Once there was an island called Isle Royale. It was an island with trees and meadows, lakes, streams, and swamps and many kinds of animals. There were mice, snowshoe hares, and moose, squirrels, foxes, beavers, and many kinds of birds. Wolves lived on the island too.”</i></p> <p>Ask students is they are ready to visit Isle Royale. Isle Royale is an island in the world’s biggest freshwater lake (by surface area). To get there they will be riding across Lake Superior on a ferry boat. Use guided imagery to travel across Lake Superior and give students a sense of the island’s isolation:</p> <p><i>Okay everyone get comfortable in your seat. (snuggle into seat) It’s going to be a loooong ride. There’s the captain. He’s blowing the horn. It’s time to go!</i></p>

	<p><i>Let's wave goodbye to everyone. (wave) You know, there aren't any roads or cars on Isle Royale. So let's wave goodbye to them too. (wave) Goodbye roads! Goodbye cars!</i></p> <p><i>It's getting kind of rough out here on Lake Superior. The waves are pretty big. The boat is tilting to the left. (lean left) Oh no now the boat is tilting the other way! (lean right) Forwards! Backwards! I don't feel so good! (holding stomach)</i></p> <p><i>I see the island. (point) Whew, we made it! Let's go check out the animals and plants that live here. Pay attention to what you see.</i></p> <p>Watch the video. Then have students jot down and do a quick sketch of five animals or plants that they observed.</p> <p>Divide students into teams of four (preferred). Hand each team a copy of the Isle Royale Characters, 12 index cards and other supplies. Students should create a character card for each Isle Royale species. Each card should have a picture and name of the plant or animal on one side. On the reverse write down one or two sentences about how this species survives in its habitat: either things the group has prior knowledge of or something they observed in the movie.</p> <p>There are eight characters to cut out from the character sheets. Students need to add an additional four Isle Royale characters of their choice. Using the lists each student made, decide as a team who the additional four characters will be. Draw their picture and label for the front side of the card.</p> <p>You may choose to watch the movie a second time once the students have the front of their character cards complete. While watching the second time, student teams would focus on their specific characters to gather information.</p>
<p><i>Explain</i></p>	<p>Exploring the Real Wolf Island continued</p> <p>Duration: 40 - 50 Minutes</p> <p>Materials</p>

	<ul style="list-style-type: none"> • Yellow Yarn (a long piece for each team) • Another color of Yarn (a long piece for each team) • Scissors (2 pairs for each team) <p>Using their Isle Royale characters, students will create food chains and webs using pieces of the yellow yarn to show the flow of energy.</p> <p>Start by having teams make one simple food chain by laying chosen cards and yarn pieces on a table. Then dismantle that one and make a second using at least one different species. Have them continue to make simple food chains in this way until they run out of ideas.</p> <p>Then have them use all their character cards to create a food web. Try to use as many of the character cards as possible (some chosen characters may not easily fit into the model.)</p> <p>Ask students if there are other ways that the species depend upon each other, besides just for food. Some birds and red squirrels build nests in trees. Beavers make ponds where moose can cool off and make habitats for species like frogs. Discuss a few ideas as a class and have the students add to their webs. Using the second color of yarn, show as many other connections as they can.</p> <p>Have teams share their Isle Royale webs with the rest of the class. Have two students from each team remain at their web model to answer questions, while other students view and ask questions about other teams' models. Make sure to switch roles, so everyone can participate.</p> <p>Have the teams return to their own webs. Propose a few scenarios and have students use their model to discuss what happens to their Isle Royale web. Who would be affected? How? What do these changes mean for your web?</p> <ul style="list-style-type: none"> • A disease kills off all the aspen trees • Toxic chemicals get into the lakes and streams • The wolf population goes down to just two animals <p>After each scenario share ideas as a class.</p>
<i>Elaborate</i>	Wolf Island Tableaus

	<p>Essential Questions: How are species interconnected? How can one species effect an entire ecosystem?</p> <p>Duration: 45 minutes</p> <p>Materials: Isle Royale Tableau Characters (one setting per team)</p> <p>Now that we have created an Isle Royale web. Let’s see it in action!</p> <p>Each team of four receives a setting and four characters (if a team has more or fewer students adjust accordingly). Students will work together to create a tableau (scene) that shows how these characters are interconnected. Each student should be prepared to briefly explain their role in the tableau</p> <p>Once all the teams have prepared their tableaus, take an Isle Royale Safari! Each team will come to the “stage” and get organized. On the count of three...two...one...freeze!”, they will display their tableau. The rest of the class are the scientists and will think about what the scene might be showing. When teacher taps each performer, they will give their statement.</p> <p>After each tableau, have teams discuss what they saw. How were the characters interconnected?</p>
<p><i>Evaluate</i></p>	<p>Magnificent Me!</p> <p>Duration: 30 minutes (plus 30 minutes with extension)</p> <p>Materials:</p> <ul style="list-style-type: none"> • Magnificent Me! Worksheets • Posterboard and art supplies (for extension) <p>Using their character from the tableau, students will evaluate their importance to the Isle Royale ecosystem using the prompts on the worksheet. Each student will share their work with the rest of their team and other team members each give one compliment or ask one question. Are all the characters in the web important?</p>

Optional: Have students complete a second **Magnificent Me!** using their favorite animal or plant from anywhere in the world as the character.

Extension: Have all like organisms get together in a group (all wolves, all balsam firs, etc.) Have them discuss their **Magnificent Me! s**. As a group create a poster with words and illustrations that shares why their species is so important to the Isle Royale ecosystem. Take a gallery tour of all the species.