



Kirtland's Warbler Classroom Activities - Grades 3 to 6

Food to Eat and a Place to Call Home Activity

Description: Humans, animals, plants – we all have different things that we need to survive. Can you think of some of the things that you need to survive? The Kirtland's Warbler is a rare bird being helped by humans. Scientists have studied what this bird needs to survive so they can know what to do to protect it.

Instructions:

1. Put your students in groups of four.
2. Ask the class what are some of the different places where people live, and what are some of the different foods that people eat. Have each group discuss and write down their answers on a piece of paper.
3. After 15 minutes, each group will present their answers to the class.
4. Explain the food and habitat needs of the Kirtland's Warbler to the students. Make connections between the things that people need to survive and what the bird needs to survive.
5. To finish off the activity, ask each group to discuss and write down what they would do if they were a scientist in charge of helping this bird.
6. After 15 minutes, each group presents to the class.

What Does the Kirtland's Warbler Need to Survive?

A Place to Live – The Kirtland's Warbler is very picky about where it lives. They live to build their nests in two types of pine trees, the Jack pine and the red pine. Those trees have to be small though. The warblers like trees that are 5 to 15 years old. Any tree younger than that is too small. Any tree older than that is too big. The Jack Pine is a very special tree. For its pinecone to open and its seeds to grow, it needs a fire. Because people have stopped so many forest fires, new Jack pine forests haven't been able to grow. The special forests that the Kirtland's Warbler needs were starting to go away. Now, scientists and firefighters make deliberate fires to help these forests grow and make sure that the warblers have a place to live. They make sure to be very careful so that nobody gets hurt. These fires are called controlled burns or prescribed burns. They're safe, and they help the environment by killing invasive plants and helping native plants to grow.

Food – The Kirtland's Warbler eats insects like caterpillars, ants, beetles, and wasps. They also eat some fruit like blueberries. Those insects need to have the right kinds of plants to eat and live on. Insects prefer the plants from this part of the world, not the ones that people have brought from other places that you can see in a lot of gardens. Plants that come from here are called native plants. Insects depend on native plants for their survival. The Kirtland's Warbler depends on the insects. Without native plants, the Kirtland's Warbler would have nothing to eat.

Local Connections:

If you're based in the GTA, ask your students if any of them have ever heard of the fires (prescribed burns) that they have at High Park each year. If based in Northumberland/Peterborough/Prince Edward etc. ask students if they've ever heard of the Alderville Black Oak Savanna and the controlled burns that take place there. Connect the ongoing controlled burns at Alderville with traditional Indigenous land management practices.

Inquiry-based Learning Questions:

- Where have you seen birds before?
- What kinds of habitats do different birds depend on?
- What are some ways that people help protect the environment?
- What are things we can do in our own lives to help protect the environment?
- What's an example of two living things that have a connection or relationship with one another?
- Can you think of a native plant that comes from Ontario?

Learning Outcomes

Every animal has different things that they need to survive. These include water, food, and a safe place to call home. People need all these things too. The Kirtland's Warbler is a rare bird with very specific needs for its habitat. People are helping it by making sure that it has the right habitat to call home. One of the ways they're doing this is through safe fires called controlled burns. These fires help native plants grow.

Curriculum Connections

Grade 3:

- E1. Relating Science and Technology to Our Changing World - assess the importance of soils for society and the environment, and the impact of human activity on soils
- E2. Exploring and Understanding Concepts - demonstrate an understanding of the composition of soils, of different types of soils, and of processes and practices that can affect the health of soil

Grade 4:

- B. Life Systems - Habitats and Communities
- B2. Exploring and Understanding Concepts - demonstrate an understanding of habitats and communities and of interrelationships among the organisms that live in them
- E. Earth and Space Systems - Rocks, Minerals, and Geological Processes
- E1. Relating Science and Technology to Our Changing World - assess the social and environmental impacts of geological processes and of human uses of rocks and minerals
- E2. Exploring and Understanding Concepts - demonstrate an understanding of rocks, minerals, and Earth's geological processes

Grade 5:

- E. Earth and Space Systems - Conservation of Energy and Resources
- E1. Relating Science and Technology to Our Changing World - assess effects of energy and resource use on society and the environment, and suggest options for conserving energy and resources
- E2. Exploring and Understanding Concepts - demonstrate an understanding of the conservation of energy, and the forms, sources, and uses of energy and resources

Grade 6:

- B. Life Systems – Biodiversity
- B1. Relating Science and Technology to Our Changing World - assess the importance of biodiversity, and describe ways of protecting biodiversity
- B2. Exploring and Understanding Concepts - demonstrate an understanding of biodiversity, its contributions to the stability of natural systems, and its benefits to humans

Possible Student Questions:

- Q: Why doesn't the bird just live somewhere else?
- A: You wouldn't ask a fish to live on dry land, would you? How would you like to live in the middle of Antarctica? Every animal has a habitat that it's adapted to live in. They have a relationship with all the other living things there. It's where they're able to find the food they need to eat. Some animals like pigeons and raccoons can live in a lot of places. Scientists call them habitat generalists. The Kirtland's Warbler has much more specific needs. Scientists call it a habitat specialist.
- Q: How are people helping this bird?
- A: The Kirtland's Warbler only likes to make its nest in two types of pine tree. They're called the Jack pine and the red pine. People are planting forests with these two types of trees, and other native plants to help create the right habitat for them. The cones of the Jack pine tree only open up after a forest fire. Without fires, new Jack pines can't grow. Scientists are helping the Kirtland's Warbler by having safe, controlled fires in these forests to help make the habitat healthier. This allows the Jack pine and other native plants to grow and thrive.

- Q: Aren't forest fires bad for the environment?
- A: A lot of the time, yes they are. The forest fires that we've had the past few summers in Canada have all caused a lot of problems. Those fires were caused by climate change, they're not a natural part of the forest ecosystem. Some forest fires are natural and can actually help forests to stay healthy. Jack pines need these fires to grow. It's the only way that their cones will open, and their seeds will spread. For thousands of years, Indigenous peoples have been doing safe, deliberate fires to help regenerate nature. Animals like Kirtland's Warblers benefit from these.
- Q: If the Jack pines need fire to open up their cones and grow, why don't they just use the red pine?
- A Good question! Up until very recently, scientists thought that Kirtland's Warblers only nested in Jack pines. Recent research has revealed that they nest in red pines too, but a lot less often. Jack pines are still their favourites. Controlled fires are very safe, and they help a lot of other native plants to grow. They kill invasive species too.

Additional Resources:

- [Oak Ridges Moraine Land Trust](#)
- [YouTube Video – Ontario Kirtland's Warbler Habitat Restoration Initiative](#)
- [Kirtland's Warbler – All About Birds \(Cornell Lab of Ornithology\)](#)
- [Kirtland's Warbler – American Bird Conservancy](#)
- [Kirtland's Warbler – BioKids \(University of Michigan\)](#)