



LSF

Learning for a
Sustainable Future

BIODIVERSITY & CLIMATE ACTION

A grade 3-6 lesson plan for Canadian educators



This project was undertaken in partnership with
the Government of Canada.

Ce projet a été réalisé en partenariat avec
le gouvernement du Canada.

Canada 

Lesson Overview

Experiential Learning Lesson

This lesson helps students explore biodiversity, ecosystems, and environmental stewardship while connecting learning to the global goals developed by the United Nations, including:

- [Sustainable Development Goal 15](#): Life on Land
- [Sustainable Development Goal 13](#): Climate Action
- [The 17 Goals | Sustainable Development](#) (United Nations)

The lesson incorporates resources from Environment and Climate Change Canada and Learning for a Sustainable Future to support environmental education.

Students learn that **humans are part of ecosystems and share responsibility for caring for the natural world.**

In many Indigenous ways of knowing, such as Anishinaabe teachings, we understand that we are not separate from nature, we are part of it. The land is our first teacher and all living things are our relatives. ([The Land is our Teacher, CCUNESCO](#))

Invite students to acknowledge the land in an age-appropriate way

Grade Levels: 3-6

Total Time: 60 minutes

Extension:

- Bird Migration Lesson - Example of Real-World Action: Protecting Birds

Guiding Question: How are living things connected in ecosystems, and how can people help protect biodiversity?

Learning Goals

Students will:

- Understand what habitat, ecosystems and biodiversity means
- Examine how positive and negative environmental changes affect species and habitats
- Identify actions people can take to protect biodiversity

Materials

Prior to the lesson we suggest that there needs to be a space for the class to gather and move freely.

Setup for [Habitat Game - Survival Shuffle](#)

- Place several tokens - can be coloured paper or lego or any other coloured material (at least 25 of each) at 4 clearly marked stations spaced out around the room: **Food = Red, Water = Blue, Shelter = Yellow, Space = Green.**

Suggestion: You may want to write the stations on coloured paper rather than print them.

- Put students in pairs (make sure they know who their partner is ahead of the lesson)
- Print, cut and shuffle both the Obstacle and Positive Event cards

Setup for [Canadian Ecosystems & Species Food Web Activity](#):

- Print, cut the [Ecosystems & Species](#) cards and assign one to each student. Students will need to move around freely.
- Post the 5 ecosystems around the room

Suggestion: You may want to write the ecosystem on paper rather than print them.

Activities

- Minds On: [Biodiversity Picture](#) (10 min)
- Habitat Game: [Survival Shuffle](#) (20 min)
- Systems Thinking: Ecosystem Connections - [Canadian Ecosystems & Species Food Web Activity](#) (15 min)
- Action Planning - Brainstorm how to help Biodiversity (15 min)

Assessment Ideas

- [Outdoor Biodiversity Field Journal](#)
- You are **school artists** and you are invited to explain to the **school community** about **biodiversity**. You have been given a space on a **wall called a graffiti wall**. Spend some time learning about the history of graffiti.
 - [Graffiti Facts for Kids](#)
- Share your ideas and opinions about biodiversity. Add different species, habitats and ecosystems as you learn and then present it to your school community.

- **Create Your Own “Green School”** Provide a picture of your school to each pair of students or small group in your class. Each group can add changes to the school that they believe will make the school “greener” and help with climate change. Have them present their thinking to the principal /superintendent /custodians or any other stakeholders.

Minds On: Exploring Biodiversity

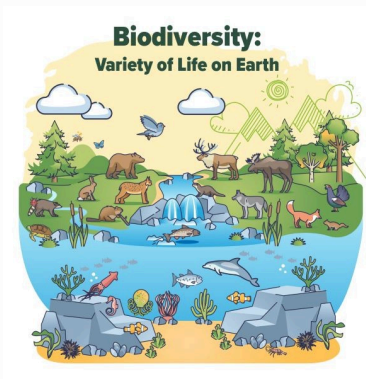
Time: 10 minutes

Materials: [Picture of Biodiversity: Variety of Life on Earth](#)

Before the lesson: Begin by showing students images of different ecosystems such as forests, wetlands, grasslands, or coastal habitats.

Teachers may use visuals from: [Biodiversity classroom resources - Canada.ca](#)

Activity



Ask students:

- What living things do you see?
- What non-living things support life here?
- How might these things depend on each other?

Explain: Biodiversity means the variety of living things in an ecosystem, including plants, animals, fungi, and microorganisms.

Consider framing this concept in local Indigenous teachings. For instance, in Anishinaabe teachings, biodiversity is understood as a network of relationships. Plants, animals, water and land are all relatives who depend on each other to live in balance. We require balance to live in harmony.

Guiding Question/Thinking Prompt: “who are the relatives in this ecosystem?”

Teacher Tip: Canada is home to **80,000 wild species**, all connected through ecosystems. Encourage students to consider how living things rely on: sunlight, water, soil, air

Habitat Game: Survival Shuffle

Time: 20 minutes

Materials: [Instructions & Printables](#)

Red = Food | **Blue** = Water | **Green** = Space | **Yellow** = Shelter

Activity

Students participate in a habitat simulation game (instructions linked).

Students represent different species in a habitat such as plants and animals.

During multiple rounds, species are affected by positive events or an obstacle.

Examples of environmental changes:

- Habitat loss
- Changes in food supply
- Pollution
- Climate change

Students observe how these changes affect survival.

Discussion Questions:

- What happened when habitat elements disappeared?
- Which species were most affected?
- What helped ecosystems stay healthy?
- How do human actions affect habitats?

This activity helps students understand that species depend on healthy ecosystems.

Systems Thinking: Ecosystem Connections

Time: 15 minutes

Materials: [Ecosystems & Species](#)

Activity

[Canadian Ecosystems & Species Food Web Activity](#)

Teacher Background: What is Systems Thinking?

Systems thinking helps students understand that ecosystems are made up of many connected parts. **Plants, animals, water, soil, sunlight, and climate all interact and depend on each other.**

When one part of an ecosystem changes, it can affect many other living things. Understanding these connections helps students see why biodiversity and healthy habitats are important.

Using their experience from the [Habitat Game](#), students explore cause-and-effect relationships in ecosystems.

In this activity, students find the ecosystem they belong to and create a simple food web to show how species depend on each other.

Examples:

- Plants → insects → frogs → fish
- Plants → rabbits → foxes

Discussion Questions:

- How are all of your species connected?
- What happens if one species disappears from the food web?
- How might pollution affect ecosystems?
- How could changing temperatures affect plants and animals?

Explain that ecosystems function as **interconnected systems**, where changes to one part of the system can affect many other living things.

Action Planning: Protecting Biodiversity

Time: 15 minutes

Activity

Teacher prompt: What responsibilities do people have to care for the land and the living things around us?

Students identify:

- One issue that affects biodiversity
- One possible solution
- One action people can take

Examples include:

- Planting pollinator gardens
- Protecting green spaces
- Reducing waste
- Making windows safer for birds
- Planting native plants

These actions support global goals including:

- Sustainable Development Goal 15: Life on Land
- Sustainable Development Goal 13: Climate Action

Consolidation: Closing Circle Reflection Prompts

- What is one way you can show respect to the land this week?
- What is one way you can be a good relative to the land?
- What can you do to positively impact the 7 Generations to come?

Relationships in Nature:

NOTE: Many First Nations, Inuit, and Métis knowledge systems describe the natural world as a web of relationships.

- Humans are part of nature
- Plants, animals, water, and land are interconnected
- People have responsibilities to care for the land

This perspective highlights values such as **respect**, **reciprocity**, and **stewardship**.

Introduce [Seven Generations Ahead Thinking](#) to your students:

- **Will our actions today affect people and the land seven generations from now?**

Additional prompt connecting to earlier perspective on ‘relatives to the land’:

- **How can we be good relatives to the land?**

Lesson Plan Extension

Example of Real-World Action: Protecting Birds

Simulation Extension: [Migratory bird lesson plan – Grade 3 to 6 - Canada.ca](#) (1 hour)

Students explore:

- Why birds migrate
- The habitats they need along the migration route
- Challenges they face

Discussion questions:

- Why do birds migrate?
- What might happen if migration habitats disappear?
- How might climate change affect migration?

Urban buildings and glass windows can harm migratory birds.

- Teachers may explore:
 - [Bird safety in urban spaces - Canada.ca](#)
 - [How to make windows and glass safer for birds - Canada.ca](#)

Students can brainstorm ways communities can help protect birds and how they might prevent birds from hitting school windows. Migration demonstrates how ecosystems across continents are interconnected.

Additional Educator Resources from ECCC

Biodiversity Resources	Environmental Indicators
Biodiversity education resources for grades K to 12 - Canada.ca	Resources for educators (Environment and Climate Change Canada)
Pollution education resources for grades K-12 - Canada.ca	UV index, heat and wind chill products - Canada.ca
Number of species in Canada	Air Quality Health Index publications - Canada.ca

Teachers can explore additional teaching tools from:

[Environment and Climate Change Canada - Resources for Educators](#)

These resources include lesson plans, infographics, activities, and videos designed to support environmental learning in Canadian classrooms.

About Learning for a Sustainable Future (LSF)

LSF is a Canadian charity founded in 1991 to integrate sustainability education into Canada's school system.

LSF's mission is to promote, through education, the knowledge, skills, values, perspectives, and practices essential to a sustainable future.

We work together with educators, students, parents, government, community members and business leaders to integrate the concepts and principles of sustainable development into education policy, school curricula, teacher education, and lifelong learning across Canada.

Check out our programs and resources at [LSF-LST.ca](https://www.lsf-lst.ca)



This resource was funded by the Government of Canada.

This project was undertaken in partnership with the Government of Canada.

Ce projet a été réalisé en partenariat avec le gouvernement du Canada.

The logo for the Government of Canada, featuring the word 'Canada' in a large, black, serif font. A small red and white Canadian flag is positioned above the letter 'a'.

The views expressed in this publication are those of the authors and do not necessarily reflect those of the Government of Canada.