



# Learner Outcomes: Biodiversity



Biological diversity means the variability among living organisms and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems. In order to ensure a sustainable future for the planet, youth must learn what biodiversity is, what the current threats to local and global biodiversity are, and identify ways they can effectively contribute to protecting and restoring biodiversity both individually and collectively with others. The table below outlines key outcomes for learners throughout their education journey.

	THEME	LEARNERS WILL BE ABLE TO . . .	THIS CAN LOOK LIKE:
<b>Foundations</b> Early Childhood Kindergarten-Grade 1	Understanding biodiversity	<ul style="list-style-type: none"> <li>Identify the differences and similarities between living beings.</li> <li>Describe how living beings depend on resources in their habitat to survive.</li> </ul>	<ul style="list-style-type: none"> <li>Identifying living and non-living beings.</li> <li>Naming resources required for living beings to survive.</li> <li>Comparing how different animals survive winter.</li> <li>Observing the different animals and plants in the school yard.</li> </ul>
	Threats	<ul style="list-style-type: none"> <li>Recognize that humans and other living beings share the environment where we live.</li> <li>Identify human activities that can support or harm other living things.</li> </ul>	<ul style="list-style-type: none"> <li>Identifying living beings that share our habitat.</li> <li>Recognizing that humans alter and change habitats, like forests and wetlands, where other animals and plants live.</li> </ul>
	Restoration activities	<ul style="list-style-type: none"> <li>Name ways that humans can create, support, and restore habitats for living beings.</li> </ul>	<ul style="list-style-type: none"> <li>Creating habitat for local wildlife (e.g. building a birdhouse)</li> <li>Demonstrating respect and care for living beings.</li> </ul>
<b>Fundamentals</b> Middle Childhood Grades 2-6	Understanding biodiversity	<ul style="list-style-type: none"> <li>Explain the concept of diversity of life and how each species plays a role in an ecosystem.</li> <li>Identify adaptations that help plants and animals survive in particular environments.</li> </ul>	<ul style="list-style-type: none"> <li>Participating in a BioBlitz and seeing the wide variety of plants, fungi, and animals in an area.</li> <li>Comparing plants, animals and fungi found in different habitats.</li> </ul>



## Learner Outcomes: Biodiversity Continued

	THEME	LEARNERS WILL BE ABLE TO . . .	THIS CAN LOOK LIKE:
<b>Fundamentals Cont.</b> Middle Childhood Grades 2-6	Threats	<ul style="list-style-type: none"> <li>Understand that biodiversity makes an ecosystem more resistant to change (e.g. natural disasters).</li> <li>Explore a local issue related to biodiversity while considering different perspectives, including First Nations, Métis and Inuit perspectives.</li> </ul>	<ul style="list-style-type: none"> <li>Planting a native flower garden at school, and/ or a nature area, and being able to explain how it supports biodiversity.</li> <li>Responsibly examining a local ecosystem to identify current or potential threats to biodiversity.</li> </ul>
	Restoration activities	<ul style="list-style-type: none"> <li>Practice the concepts of conservation (to be a steward of nature) and restoration (to bring back nature).</li> <li>Identify different jobs and careers that support biodiversity.</li> </ul>	<ul style="list-style-type: none"> <li>Staying on the trail and leaving no trace when in a nature area.</li> <li>Describing different pathways to pursue green jobs/careers.</li> <li>Demonstrating environmental stewardship in their community (e.g. picking up litter).</li> </ul>
<b>Essentials</b> Adolescence Grades 7 - 12	Understanding biodiversity	<ul style="list-style-type: none"> <li>Understand that species have taken many thousands of years to adapt to their specific environment.</li> <li>Identify ecosystem services that are provided by healthy, biodiverse ecosystems.</li> </ul>	<ul style="list-style-type: none"> <li>Naming the ecosystem services of local parks, forests, or wetlands.</li> <li>Naming the social benefits of local parks, forests, or wetlands.</li> </ul>
	Threats	<ul style="list-style-type: none"> <li>Identify human activities that threaten biodiversity in Canada (e.g. habitat destruction or alteration, pollution, introduction of invasive species, overexploitation of resources, climate change).</li> <li>Recognize that human activities are causing the sixth mass extinction (the Anthropocene), but action is still possible and needed.</li> </ul>	<ul style="list-style-type: none"> <li>Knowing our ecozone and identifying the biggest human threat to a sustainable future.</li> <li>Exploring how the conservation of local ecosystems, like wetlands and forests, can help mitigate biodiversity loss and climate change impacts.</li> </ul>
	Restoration activities	<ul style="list-style-type: none"> <li>Identify local, nature-based solutions to biodiversity loss (e.g. reforestation, wetland restoration, sustainable forest management).</li> <li>Understand the importance of sustainable resource extraction, forestry, agriculture and fishing to ensure the sustainability of human societies and the biodiversity that supports them.</li> <li>Understand the importance of Indigenous Peoples knowledge of land management and how it supports biodiversity.</li> <li>Consider jobs and careers that support biodiversity.</li> </ul>	<ul style="list-style-type: none"> <li>Describing the benefits of sustainable forest management in supporting biodiversity.</li> <li>Engaging in stewardship activities (e.g. planting trees, removing invasive species).</li> <li>Engaging in awareness campaigns (e.g. writing letters to government officials, spreading the word on social media).</li> <li>Engaging in environmental projects led by Indigenous Peoples.</li> </ul>

## Learner Outcomes: Biodiversity Continued

	THEME	LEARNERS WILL BE ABLE TO . . .	THIS CAN LOOK LIKE:
<b>Consolidation</b> Adolescence Grades 7 - 12	Understanding biodiversity	<ul style="list-style-type: none"> <li>Consider the economic and social benefits of ecological services in decision-making.</li> <li>Understand how biodiversity can help cities and communities mitigate and adapt to climate change.</li> </ul>	<ul style="list-style-type: none"> <li>Exploring ways that biodiversity can be used as green or blue infrastructure.</li> <li>Investigating natural carbon sinks and how they are important solutions to mitigating and adapting to climate change.</li> </ul>
	Threats	<ul style="list-style-type: none"> <li>Understand the urgency of the biodiversity loss crisis.</li> <li>Describe why it's critical that Canada and the world meet biodiversity targets.</li> </ul>	<ul style="list-style-type: none"> <li>Adopting personal behaviours that promote biodiversity.</li> <li>Advocating for national policies that support meeting world biodiversity targets.</li> </ul>
	Restoration activities	<ul style="list-style-type: none"> <li>Identify what different groups of people (e.g. homeowners, farmers, forest managers, etc.) can do to make an impact within their community, whether that means implementing sustainable practices within forestry, agriculture, fishing, resource extraction or working to change school or government policy.</li> </ul>	<ul style="list-style-type: none"> <li>Identifying actions that can be taken at an individual and a group level to make an impact in the community.</li> <li>Encouraging municipal leaders to restore important ecosystems in the community, like salt marshes and urban forests.</li> </ul>