

LET'S LEARN ABOUT Fall



OVERVIEW

Thanks for learning about the season of fall with us! In this autumnal curriculum, you'll find four unique environmental lessons filled with seasonal activities, stories and teachings.

This resource is intended to support learners in understanding the wonders of fall from cultural and scientific perspectives. This work can also help foster a deeper connection with the lands, waters and all those we share our home with.

We invite learners of all ages to engage with this resource, but the **lessons are ideal for those in Grade 3 and older.**



WHAT TO EXPECT FROM THIS CURRICULUM

This autumnal resource contains 4 lessons about:

- The physical science of the fall equinox
- Hibernation
- The salmon run
- Land as our First Teacher

ACKNOWLEDGEMENTS

While the energy and time of intentionally curating this curriculum is ours, some of the stories and supporting media come from open-access public domains. We own the responsibility to include and honour Indigenous voices and to ensure that unique Nations and worldviews are respectfully acknowledged.

This curriculum invites learners to align exploration with the [First Peoples Principles of Learning](#), a set of principles published by the First Nations Education Steering Committee and the BC Ministry of Education. These Principles thoughtfully alchemize the teachings of Indigenous Elders, knowledge keepers, and scholars to highlight relationships rather than capture the processes of a singular First Peoples' society.

We encourage folks to reach out with any questions or feedback in regards to the content shared in this curriculum. You can connect with us at education@sierraclub.bc.ca. **Huy ch' q'u, thank you, merci for witnessing this work.**

LESSON 1 • LET'S LEARN ABOUT FALL

The physical science of the fall equinox

INTRODUCTION

The fall equinox, also known as the autumnal or September equinox, occurs when the sun crosses the equator, more or less in line with the imaginary midline of the Earth. The Earth rotates on an axis that is tilted about 23.5°. When the northern hemisphere experiences winter, the north pole faces away from the sun. On its journey around the sun, the tilt doesn't change but as you might be able to imagine, the north pole will gradually face towards the sun as the earth tracks its circular path.

On the September or autumnal equinox, the northern hemisphere and southern hemisphere receive almost equal amounts of sunlight, which explains its name of Latin origin; Autumnus (autumn) Equi (equal) nox (night) — the phenomenon of equal parts day and night that occurs roughly on September 22 every year.

Fall equinox marks about three quarters of the way through the Gregorian calendar year (the calendar most used throughout the world in classrooms, offices and digital apps). The physical world experiences all kinds of seasonal changes. Have you felt any changes to your physical body from the shorter hours of daylight? Or the shifts in precipitation and temperatures?



This next section includes website links for deeper learning. To explore these resources, please visit sierraclub.bc.ca/fall-resource



ACTIVITIES

- **Shadow tracing activity:** [Watch this video](#) shared by Janine, a science educator from Pennsylvania, whose “Learn the Sky” resources encourage us to explore our shared sky together. After watching her video (or just 0:47 – 3:40) it's your turn to act out the earth's rotation using found materials in this [shadow tracing activity](#) to show your understanding of the Earth's position during the fall equinox.
- **Leaf rubbing activity:** Treehugger is an online library committed to sharing educational resources that promote sustainability. [This article](#) explains one of the seasonal displays you will see this season — leaves changing colours, also known as tinting! After reading this article, apply your learning through this [fall leaf rubbing activity](#)!
- **Crossword:** Complete this [crossword puzzle](#) to help your students practice their fall-themed vocabulary.
- **Video:** Climate change means rising global mean temperatures, driving longer and hotter summers. [Watch this video to learn more.](#) What happens to Earth's delicate rhythms when the warm summer season is prolonged? How would animals, such as birds, be affected? How would plant cycles be affected?
- **First Peoples Principles of Learning:** [We invite you to check out this teaching kit shared by Musqueam.](#) Consider how Musqueam divides their seasons not by weeks, months and years, but instead by harvest, drying periods, weather and spiritual practices. How can time be thought of differently than months or seasons? What are other markers of the passage of time?

LESSON 2 • LET'S LEARN ABOUT FALL

Hibernation

INTRODUCTION

In the Pacific Northwest, hibernation is a fascinating survival strategy used by various animals to endure the region's seasonal changes, particularly the cold, wet winters. The fall is when many animals prepare for hibernation. Generally, animals that hibernate build up significant fat reserves in the warmer months and use natural shelters, such as underground burrows or rotting logs to survive their months of dormancy. **There are 2 types of hibernation:**

- **Winter Sleep or Torpor:** Some animals, like black bears, enter a state of hibernation that is less intense than true hibernation. They remain in a deeper, but not as profound state of dormancy, called torpor. They may wake occasionally to move around or eat.
- **True hibernation:** This is a deep, prolonged state of torpor where an animal's metabolic rate drops significantly. True hibernators, like the Western Toad or the Little Brown Bat, enter a state where their body temperature closely matches the environment, significantly reducing their energy needs.

The Pacific Northwest has a temperate climate, which means that while winters are wet and cool, they are not as extreme as other regions. This influences hibernation behaviors. For instance, animals might enter hibernation later in the fall and emerge earlier in the spring compared to those in harsher climates. The milder winters might mean that some species use hibernation more as a way to avoid food scarcity and harsh weather rather than extreme cold.



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ACTIVITIES

- **Draw:** Read [this article](#) about species that hibernate and use a blank page to draw some of these animals!
- **Write:** Write a journal entry from the perspective of an animal experiencing the changes of fall.

LESSON 3 • LET'S LEARN ABOUT FALL

Salmon run

INTRODUCTION

There are several species of Pacific salmon that live in B.C., all of whom are extremely important to local ecosystems. Come fall time, as a part of their lifecycle, adult salmon will begin making their way from the ocean back to the freshwater streams where they were born. This annual migration event is called the salmon run. This migration can be long and arduous, often involving overcoming significant obstacles such as waterfalls and rapids. Once the salmon arrives successfully at the spawning grounds, they will lay and fertilize their eggs. Soon after, the parents will die, providing nutrients back to the local environment.



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ACTIVITIES

- **Salmon lifecycle cutout game:** Test your salmon lifecycle knowledge by using this [salmon lifecycle cutout game](#).
- **Colouring page:** Colour in [this scene](#) from the salmon run!

LESSON 4 • LET'S LEARN ABOUT FALL

Land as our First Teacher

INTRODUCTION

Autumn and the time around the fall equinox has always been a significant and ceremonial time of year for Indigenous Peoples across Turtle Island, as the land's inhabitants are preparing themselves to get ready for winter. This includes the preparation of wild rice, bird, hide, meat and fish, as well as gathering teas, medicines, and other foods and necessities.



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ACTIVITIES

- **Reflect:** Think about the food you eat, the people around you, and the things that you have. How do you express gratitude for everything that the land and waters provide you? How can you share these gifts with the people around you?
- **Reflect:** Much of the natural world rests and renews itself through hibernation. What are other ways that nature rests? What are the benefits of humans using this time to slow down, rest and reflect?
- **Read:** The Neskonlith People air-dry salmon in the winter for food. [Read this article](#) to learn about other foods the Neskonlith People would harvest in the fall!
- **First Peoples Principles of Learning:** The Stó:lō People use the word Temhílawx for Autumn, which means “the time when things are finished.” Why might that be the meaning of Autumn?
- **Reflect:** Why do we carve pumpkins in the fall? What do they symbolize and represent during this time?

Keep learning with Sierra Club BC!

EXPLORE OUR LIBRARY OF EDUCATIONAL RESOURCES AND ACTIVITIES

If you enjoyed this curriculum, we invite you to check out our growing library of materials that can help learners in your community connect with the web of life. You can access our educational resources at sierraclub.bc.ca/educators.

We also offer in-person environmental workshops for youth and professional development opportunities for educators to help bring place-based learning into the classroom. If you'd like to schedule a session with our facilitators of learning, [please request a workshop here](#).



ABOUT SIERRA CLUB BC

At Sierra Club BC we are creating a more inclusive movement, empowering new partners and local leaders to take positive steps in their communities that help restore balance to vital ecosystems in B.C.

As part of this work, we've run environmental school workshops and developed educational resources for over 20 years. Our programs use a place-based approach that centres ecological and cultural knowledges. They facilitate a shift to respectful, reciprocal relations with the land, water and all living beings.

We believe that education, especially for children and youth, is key in ensuring future generations are well-versed in stewarding abundant ecosystems and a stable climate. After all, they're the decision-makers of tomorrow!

We are so grateful that you're on this journey with us. **Together, we can build a brighter future for all.**



HAVE QUESTIONS?

It's a pleasure to connect with you and the learners in your community. Please don't hesitate to contact us if you are looking for ideas, other supports, or just to chat!

You can reach us via email at education@sierraclub.bc.ca.