

LESSON PLAN ALL ABOUT

Fire



OVERVIEW

Thanks for learning about the fires with us! In this document, you'll find fire-themed activities, stories, and teachings to support connection with the lands, skies, waters, and beings we share our home with. While we invite learners of all ages to engage with this resource, the lessons are ideal for those in **Grade 5 and older**.

This curriculum has been developed due to the rapid advancement of climate-change-induced fire events. We hope to remind those utilizing this resource that we can do so much to protect communities! This resource is intended to galvanize learners in their journey to protect the communities they cherish.



WHAT TO EXPECT FROM THIS CURRICULUM

We've broken this resource into 4 different lessons, with suggested activities aligned with the BC Curriculum:

1. Fire Physics: What is fire? How does it work? How does it spread?
2. Exploring Through Culture and Tradition: Fire Around the Globe
3. Relationships with Fire: Animals, Humans, Plants Relationship with Fire
4. Water & Fire: How Elements Sustain Life

Each of these **lessons is comprised of 3 components** to explore:

- Introduction to build context and give background information
- Related media to use with questions and activities
- Suggested activities to engage with content and build understanding

ACKNOWLEDGEMENTS

While the energy and time of intentionally curating this curriculum is ours, the stories and supporting media are not. The information we have gathered comes from public domains, and still we acknowledge that there is some knowledge that is sacred and only intended to be shared with permission and in certain situations. 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 • FIRE PHYSICS

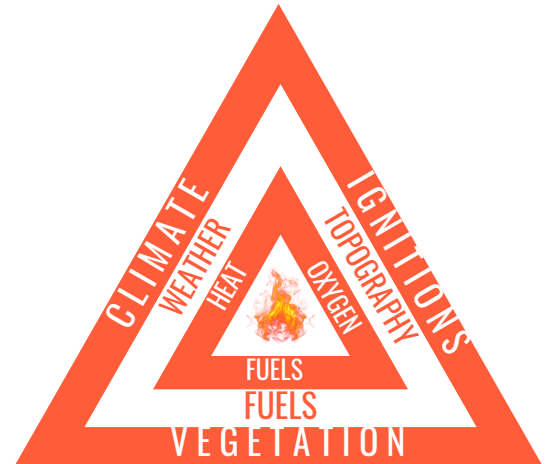
What is fire?

INTRODUCTION

In society, fire is often seen as something that does harm or destroys an area. In reality, fire can be a regenerative force of nature. But how does it actually spread? And why does it spread so fast? How does it work? Dangerous forest fires are called *crown fires* and they spread due to the abundance of *heat, fuel, and oxygen*. These three components make up the fire triangle (seen at the right).

Increases in heat and drought are present due to human-caused climate change. One of the best things that we can do to prevent huge crown fires is forest management! By reducing the number of fuels and prescribing small-scale fires across the landscape, we can reduce the severity of these fires.

Lesson 1 explores the physical event of fires, both forest and urban.



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



RELATED MEDIA RESOURCES TO EXPLORE

Introduction to Fire Behavior

<https://www.youtube.com/watch?v=SB4pk91yq24>

How Does Topography Influence Fire

<https://www.youtube.com/watch?v=P2wEp--e1Ss>

Different Types of Fuels for Fire

Forest Fuels blog by BC Wildfire Service

How Does Climate Change Relate to Fire

<https://www.c2es.org/content/wildfires-and-climate-change/>

How Have Fires Changed in the Past 20 Years (B.C. specific via CBC)

<https://www.cbc.ca/news/canada/british-columbia/bc-wildfires-climate-2023-1.6962307>

Why Do We Have Fire Bans? All Info on Fire Bans

<https://parks.canada.ca/pn-np/bc/kootenay/visit/feu-alert-fire/interdit-ban>

Activities

Here are some suggested activities to engage with the content and build understanding!



ACT

Act out how a fire would move through a forest! Each person can play a part in the forest, making sure there are fuels, trees, and more. *Are there animals or fungi in the forest? Are there advancements you can make by including slope and topography? Will there be someone acting out climate change in the group?*



APPLY

Based on what you know about the fire triangle, *how would a prescribed burn limit the severity of wildfire?*



REFLECT

Try to keep a journal entry throughout the seasons. Notice how the air feels in the summer, fall, winter, and spring. *Does this change if there is a fire? If there is a drought or a rainfall? In what ways does the air smell different in different locations?*



FIRST PEOPLES PRINCIPLES

One of the First Peoples Principles of Learning states that learning “involves recognizing the consequences of one’s actions.” After learning about fire behavior, *in what ways can we learn and apply this principle? In what ways do our actions have consequences when considering the fire triangle?*



EXTEND

Watch the [video on introduction to fire behavior](#). Try to make observations the next time you build a fire. *How does adding more fuel change the fire? Is there wind and does blowing on the fire change it? Does the fire change if the temperature outside changes? What was the most important element for changing the size of the fire?* Remember to only build a fire in a safe situation!

LESSON 2 • EXPLORING FIRE THROUGH CULTURE AND TRADITION

Fire around the globe

INTRODUCTION

Fire has been an integral part of humanity since its discovery. It has been used for warmth, for cooking, for agriculture and industry. On Turtle Island (North America), fire has historically been used by First Nations in prescribed burns. Prescribed burns are small-scale intentional fires that help reduce the number of ground and ladder fuels in a forest. This can also help to increase seed supply and biodiversity by fostering room for new plants to grow. As colonial forces arrived on Turtle Island, prescribed burns were suppressed and monoculture stands were planted, leading to our current severe fire regime.

From Turtle Island to Europe, Asia and Oceania, Central America, Africa and Antarctica, communities from all over the globe have different traditions and stories around fire. In the media resources below, we share stories and traditions from places throughout the globe. Fire is something that brings us together as a society, and is certainly something to celebrate!

Lesson 2 explores stories and cultural teachings of fire.



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



RELATED MEDIA RESOURCES TO EXPLORE

Wendingeng Ishkode: The Origin of Fire Among the Ojibwe

<https://www.youtube.com/watch?v=5Gqqa-U7eR4>

Maasai, Kenya: Enkima (Fire)

https://www.youtube.com/watch?v=tfCm_sc1Fsk

Luzon, Philippines: Kabayan "Fire" Mummies

<https://www.youtube.com/watch?v=Ja31lBinT5k>

<https://pursuit.unimelb.edu.au/articles/ancestral-ties-to-the-kabayan-fire-mummies-is-driving-research-to-save-them>

Spain: Fallas Festival in Valencia

<https://ich.unesco.org/en/RL/valencia-fallas-festivity-00859>

Guyana: Cultural Burning Practices

<https://yourforestpodcast.com/good-fire-podcast/2022/7/18/tq9n1gmndxgt7ifcw7g6yhr0z5zqp>

China Fireworks

<https://www.npr.org/2024/07/04/nx-s1-5027826/fireworks-history-ancient-china-revolutionary-america>

LESSON 2 • EXPLORING FIRE THROUGH CULTURE AND TRADITION

Activities

Here are some suggested activities to engage with the content and build understanding!

ACT

Read the story about the Origin of Fire Among the Ojibwe. Find a story from the place you live about sun, light or fire. *What does your story have in common with the Ojibwe story? What elements are different?*

APPLY

What traditions does your community have around fire? What stories are shared around a campfire, and what lessons can we extract from these stories? Create your own story using the themes of fire, what characters did you use and why?

REFLECT

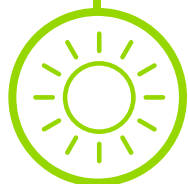
Are there similarities between the ways different cultures celebrate fire? Go through the related media resources, on your own or with a class. What makes these celebrations different from each other?

FIRST PEOPLES PRINCIPLES

One of the First Peoples Principles of Learning is “learning involves generational roles and responsibilities”. Consider the generational roles involved in passing down traditions in a community. *What responsibilities do you share with future generations? What would you want passed down to your descendants?*

EXTEND

Our experiences can occasionally be limited to our own worldviews! Explore the related resources, individually or with your class. *As a class, can you work in groups to extend your learnings and present on one of these traditions? What information can you add to the already existing links? How has extending your learning expanded your worldview or perspective of other cultures?*



LESSON 3 • RELATIONSHIPS WITH FIRE

Animals, Humans, Plants Relationship with Fire

INTRODUCTION

When people hear the word “fire”, we often think of the massive mega-fires that have been ravaging the landscape in recent years. However, small-scale fires are helpful for many different beings. Fire has existed across the landscape long before humans could control it. Because of this, there are many plant and animal species that are adapted to co-exist with fire. Fire can create openings in the forest that allow new species to grow, can unlock seeds in serotinous cones, and can create new habitats for wildlife. This lesson does a deep dive into some of these species.

As seen in the last lesson, fire is an important aspect of culture throughout the world. Humans have worshipped, utilized and fostered relationships with fire — and other beings have done the same. Explore the related media resources below to understand a bit more about these relationships, to discover how we can help these species co-exist with fire.

Lesson 3 explores how different plants and animals are affected by fire for better or for worse.



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



RELATED MEDIA RESOURCES TO EXPLORE

SCBC Worksheet: Fire Friends, Beings That Flourish After the Flame
<https://sierraclub.bc.ca/fire-friends-resource/>

Wildlife That Depend on Fire to Survive
<https://www.youtube.com/watch?v=Q8mD-4rexo0>

How Wildfires Are Impacting Canada Lynx
<https://www.youtube.com/watch?v=u-zBBlygzHU>

Learn to Say Fire, Terms with First Voices
<https://www.firstvoices.com/>

Why Certain Naturally Occurring Wildfires are Necessary
<https://www.youtube.com/watch?v=cNVZEVq3KzY>

Fire and Douglas Fir
<https://www.youtube.com/watch?v=pJld5yb7fyQ>

Activities

Here are some suggested activities to engage with the content and build understanding!

ACT

Choose a fire-friend from our worksheet linked in the related resources. *What can we do to steward the growth of these species? How can we help foster better relationships with this plant or animal?* Write a list of actions you could take to help this species.

APPLY

Choose a plant in your community, one you can see most days. Document their change over the course of the season, or challenge yourself to notice how the being changes over the course of a school year! *How would this plant be hurt or helped in a fire?* Synthesize your findings as a poster, video or other artistic form.

REFLECT

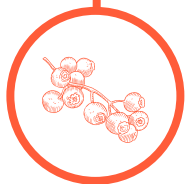
Think about a time when you smelled a fire. Was it a wildfire, a campfire, a wood-burning oven? Create a list of as many other sounds or senses that come to mind. *How do you think animals respond to the smell or sound of a fire?* Either acting or drawing it out, create a tableau scene of an animal responding to a fire. Add in as many sense-elements as you can. Send it to us at education@sierraclub.bc.ca to maybe see your work featured in a future newsletter!

FIRST PEOPLES PRINCIPLES

One of the First Peoples Principles of Learning is “learning recognizes the role of Indigenous knowledge”. Try connecting with a Knowledge Keeper or Elder in your community to learn some of the traditional names and uses of the plants in your region. Try to find ways to recognize them without their blooms or berries. First Voices is a language resource to support your learning: <https://www.firstvoices.com/languages>

EXTEND

Check out our accompanying worksheet Fire Friends: Beings That Flourish After the Flame. Print this worksheet out, or share it with your class. *What types of fire friends can you recognize in your own communities?* Share your charcoal drawings with us at education@sierraclub.bc.ca to maybe see your work featured in a future newsletter!



How elements sustain life

INTRODUCTION

Water and Fire go hand in hand. Without water, specifically groundwater, our fire seasons get much worse. Similarly, without a steady period of rainfall or snow-pack our forests are much more likely to have dry fuels ready to be engulfed in flames. Currently, B.C. is significantly lacking in stable groundwater which can lead to higher likelihoods of fire. These droughts have become worse in recent years, resulting in severe fire seasons. Not all hope is lost! There are many projects working to reintroduce streams, fish, and groundwater into drier areas of the province.

Urban areas are also more severely impacted when we have drier winters. Heat domes can affect urban areas, resulting in damaging conditions for seniors, and those vulnerable to heat. The Urban Heat Island Effect occurs when there is little green space in an area. This results in more absorption of the sun's rays into concrete jungles.

Lesson 4 explores how to teach about drought, and reimplement water and greenery onto urban landscapes.



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



RELATED MEDIA RESOURCES TO EXPLORE

SCBC Beaver Worksheet

<https://sierraclub.bc.ca/beavers-resource/>

SCBC Urban Heat Worksheet and Diorama Activity

<https://sierraclub.bc.ca/diorama-activity-urban-heat-and-cooling-your-community/>

Heat Domes Explained by Meteorologists

<https://www.youtube.com/watch?v=OR8wRIGtoBE>

The Urban Heat Island Effect Explained

<https://www.youtube.com/watch?v=sWzfly3wVAs>

British Columbia Drought Map - Updated Each Summer

<https://droughtportal.gov.bc.ca/pages/drought-map>

Water Is Much More Than a Resource: It's a Relative

<https://indigenous.knowhistory.ca/stories/think-piece-world-water-day>

Resilient Urban Systems & Habitat (RUSH) Initiative - Dynamic Mapping Tool

whatstherush.ca

What is a Rain Garden?

<https://www.crd.ca/environment/stormwater-watersheds-harbours/stormwater/managing-your-rainwater>

Activities

Here are some suggested activities to engage with the content and build understanding!

ACT

Create a rain garden in your school! Read "What is a rain garden?" on how to create a rain garden and log it on whatstherush.ca. This will actively manage rainwater runoff.

APPLY

Explore our beaver worksheet. *How does the beaver help alleviate droughts and climate change's effects? How can we be more like beavers to help our local environments?*

REFLECT

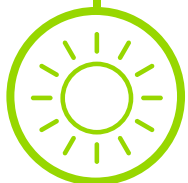
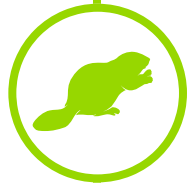
Keep a tally of each time it rains. *Does it feel like this year there was more rain compared to previous years? How long can you keep up the rain tally?*

FIRST PEOPLES PRINCIPLES

One of the First Peoples Principles of Learning states that "learning ultimately supports the well-being of the self, the family, the community, the land, the spirits, and the ancestors." Consider how you have supported these in the past. *How would stewardship of the lands and waters support well-being? How does water help to support well-being?*

EXTEND

Explore our related activity: Urban Heat Worksheet and Diorama Activity. Can you use this activity and create real changes in your school and your community? What areas of your school are especially prone to severe heat effects? Does this concern you?



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 those learning tools at sierraclub.bc.ca/teachers.

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 facilitated environmental school workshops and educational resource development for over 20 years. Our programs use a place-based approach that centers 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.