



Using Fire to Curb the Spread of Invasives

Organization:

Title: Using Fire to Curb the Spread of Invasives

Summary: Students learn about how controlled burn fires can be used to curb the spread of invasive plants and about the benefits of heating homes with wood.

Inquiry Question: Inquiry Question 4. What can be done to protect these plant species?

Duration: 1 class period

Learning Environment: Classroom, outdoor

Season: All

Materials:

- Indigenous Fire (Shkode) Keeping and Land Management.pdf;
- Indigenous Fire Management Talking Points.pdf;
- Segment embedded on QUILLS website of Rick Beaver discussing the work of Alderville Black Oak Savannah;
- Benefits of Fire.pdf

Curriculum Links:

Grade 7 Science and Technology: A1.1, A1.5, A3.2, A3.3, B1.1, B1.2, B1.3, B2.1, B2.2, B2.5, B2.8

Grade 9 Science: A1.1, A2.3, A2.4, A2.5, B1.1, B1.2, B1.3, B2.4, B2.5

Grade 9 Academic Geography: B1.4, C1.4, C2.3

Grade 9 Applied Geo: C3.3

Meta Data:

Content Type: Activity, language learning

Bundle: Tools

Theme: Invasive Species

Subject Area: Biology, Environmental Education, Geography, Outdoor Education, Science, Social Studies

Spotlight on Language

Fire:

Anishinaabemowin: Shkode

Kanyen'kéha: Ó:tsire

- Students add the local Indigenous names for fire to their *Outdoor Learning Journal*. Students can also go onto the online QUILLS dictionary to hear the pronunciation of words.

Indigenous Fire Keeping

- Internationally, Lewis (1993) notes that Indigenous people have over 70 uses of fire. Some of these specific uses include tree felling, clearing travel corridors, fireproofing settlements, and hunting etc.



- Teacher leads a discussion with the class focused on Indigenous Fire Keeping and Land Management and how it relates to controlling the spread of invasive species. As a primer to help lead the discussion teachers can review the following article:
<https://www.stateofthebay.ca/indigenous-fire-shkode-keeping-and-land-management/> made available in the **Indigenous Fire (Shkode) Keeping and Land Management.pdf**.
- Points for teachers to highlight in the discussion can be found in **Indigenous Fire Management Talking Points for Discussion.pdf**.
- After discussion teacher can show students, video embedded on the QUILLS website depicting Rick Beaver from Alderville Black Oak Savanna discussing the objectives and purpose of Black Oak Savanna's work using controlled burn fires to control the spread of invasive species.

Activity:

Western STEM Connection-Benefits of Fire: Heating with Wood

- Students examine InfoGraphic titled the **Benefits of Fire.pdf** that shows the salient points from the following STEM study:

*Barto, D., Cziraky, J., Geerts, S., Hack, J., Langford, S., Nesbitt, R., Park, S., Willie, N., Xu, J., and Grogan, P. 2009. An integrated analysis of the use of woodstoves to supplement fossil fuel-fired domestic heating. **Journal of Natural Resources and Life Sciences Education** 38: 87-92.*

- Teacher explains how the strategy of burning wood to supplement other home heating approaches is particularly important to consider given the large number of trees that are being cut down to restrict the spread of invasive species that are currently affecting forests (eg: emerald ash borer and harvesting of trees killed by diseases such as Dutch elm disease).
- Also, mountain pine beetle affected forests in which much dead wood is being harvested and made into wood pellets out in B.C.
- With teacher guidance students explore different methods used to heat homes (propane, natural gas furnaces, electric baseboards, wood burning etc.). Students compare benefits and drawbacks of each of these methods.
- Students can also explore and discuss the difference between renewable and non-renewable energy sources and analyze how to improve efficiency and cost effectiveness drawing on these different sources.

Please note that the learning represented in these activities reflects Big Idea B. in the Indigenous Knowledge Learning Bundle: "Indigenous Knowledge is Place-Based". To help your students learn more about this Big Idea check out the Learning Activities titled: *Land-Based Meditation, Land Acknowledgement Workshop, Ceremony Ensures Right Relations with the Land, The Clan System, and The 13 Moons* found in the *Indigenous Ways of Knowing and Being with the Natural World* Learning Bundle (Grades 7-10). The learning also reflects Big Idea C. in the Indigenous Knowledge Learning Bundle: "Reciprocity, Interdependence, and Holism are at



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the Heart of Indigenous Ways of Knowing and Being”. To help your students learn more about these foundational concepts check out the Learning Activities titled: *Holism*, *The Honorable Harvest*, and *Our Responsibilities* found in the *Indigenous Ways of Knowing and Being with the Natural World* Learning Bundle (Grades 7-10).