



Gifts of the Forest

Organization:

Title: Gifts of the Forest

Summary: By reading a story and spending time outside students learn about the gifts of the forest and the interdependence of all things in nature including humans. As an extension, students learn some of the proper protocols for food collection in forested areas.

Inquiry Question: Inquiry Question 1: Forest Harvesting: How does observing the land teach us that an ecosystem is comprised of interdependent beings (including humans) that all have important roles and responsibilities that must be fulfilled in order for an ecosystem to thrive?

Duration: 1-2 class periods

Learning Environment: Outdoor

Season: Summer, Spring, Fall

Materials:

- Zhiishiib Makes Everybody Lunch.pdf from *The Gift is In the Making* by Leanne Simpson
- Outdoor Learning Journals
- Pencils for each student
- Maple Tree Identification.pdf
- Ball of yarn
- Mindomo- Google Drive Extension (optional)
- Tobacco
- Instructions for Interconnected Forest Ecosystem Game.pdf
- Indigenous and WS Plant Knowledge.pdf

Curriculum Links:

Grade 9 Destreamed: A2.5, B2.3, B2.5

Grade 10 Academic: D3, D2.9

Grade 10 Applied: D1, D2.7

Meta Data:

Content Type: Activity, storytelling

Bundle: Food

Theme: Global Climate Change

Subject Area: Biology, Environmental Education, Geography, Health, Language Arts, Outdoor Education, Physical Education, Science

Curriculum Focus: 9, 10

Please note that without the presence of a Knowledge Keeper or community member tobacco should not be harvested and plants should not be picked or harvested.



- Listen to or read *Zhiishiib makes Everybody Lunch* in *The Gift is In the Making* by Leanne Simpson found in **Zhiishiib Makes Everyone Lunch.pdf**. Leanne Simpson is a Mississauga Michi Saagiig Nishnaabeg writer, musician and academic from Alderville First Nation.
- Teacher asks students to reflect on the many gifts the natural world provides for inhabitants of Turtle Island. These should include but also extend beyond providing us with food required for survival. These examples touch on the importance of *interdependence* for local Indigenous groups. Anishinaabe and Haudenosaunee folks locally understand that they are embedded in and a part of the natural world. The natural world provides community members with many important gifts and in turn it is a human responsibility to give back to the natural world.
- Teachers take students on tree/forest walk at Elbow Lake or in a local Maple Forest.
- During the beginning of the walk, in silence, students should be asked to notice as much as they can using their five senses. For instance, ask students what they can see, smell, hear, taste, and touch as they make their way through the forest. Students can journal about their ideas in their *Outdoor Learning Journals*.
- Students can also use the **Maple Tree Identification.pdf** handout to identify their Maple relatives.
- Keeping in mind the gifts that the earth provides, as the walk progresses, the teacher can share the information contained in the **Gifts of Maple.pdf** with students. Knowledge was shared with QUILLS by Métis and Ojibway Knowledge Keeper Deb. St. Amant.

Maple trees contribute to biodiversity by housing different mosses and providing shelter for insects, birds, mammals, reptiles, and amphibians.



Photo: Different maple leaves Credit: natureupnorth.org



The indentations of the Sugar Maple leaf are U-shaped, similar to the outline of a cup one would collect syrup in, whereas the Red Maple tree leaf has V-shaped indentations. Young Sugar Maple leaves can be eaten raw. Local Indigenous people collect and consume maple sap in the spring as a cleanser and spring tonic for the liver and bowels. Maple sap helps to wake up the body after a long sluggish winter of relative inactivity. Local Anishinaabe and Haudenosaunee people use sap to sweeten juices such as the Strawberry drink and boil it down to make Maple syrup. About 40 L of Maple sap makes 1 L of Maple syrup. Maple sap and syrups are good medicine to have and to share. In addition to Maple trees, Birch and Black Walnut trees can also be tapped for sap.

Please Note that Maple teachings are incredibly important to both the Anishinaabe and Haudenosaunee locally. As a result, there are many fabulous educational resources already developed on this topic. For instance, the following resource(s) can be used by teachers who wish to explore this topic further with their students: <https://www.nccie.ca/lessonplan/maple-syrup-and-climate-change/>

- On the walk, students brainstorm some of the other gifts the forest (area) provides in an ecosystem. (eg: Trees provide humans with many gifts- sap/syrup, wood to build with and burn, beauty, place to find solitude, shade, noise reduction, clean air -leaves filter out particulate pollution-, food).
- The manner in which trees produce oxygen for animals to breathe is an example of human interdependence with the natural world. For instance, photosynthesis requires the products of cellular respiration while cellular respiration requires the products of photosynthesis. These reactions together allow cells to make and store energy and regulate the amount of carbon dioxide and oxygen in the atmosphere. Teacher can show students how the equation for cellular respiration is the opposite of photosynthesis.
 - Cellular Respiration: $C_6H_{12}O_6 + 6O_2 \rightarrow 6CO_2 + 6H_2O$
 - Photosynthesis: $6CO_2 + 6H_2O \rightarrow C_6H_{12}O_6 + 6O_2$
- Forests have many other gifts. For instance, trees contribute to vegetation succession and many changes in a developing forest. Forests also play an important role in supporting the lives of many different creatures in an ecosystem (eg: food for animals from nuts, fruits, bark, roots, and other parts of the trees, erosion protection, and oxygen). Many insects live in soil beneath trees, birds eat bark, animals' nest in tree cavities. Trees contribute to biodiversity by housing different tree mosses and lichens as well as providing shelter for birds, mammals, insects, reptiles, and amphibians.



- The teacher continues by discussing with students the interconnected food web that is in the forest. Outside, or in the classroom, each student chooses to represent a plant, or animal (try to include 1 human), sun, or any other part of the ecosystem. Using a ball of yarn, show the interconnectedness of each student's plant/animal. Students must say how they are connected to the next person and toss the yard while holding onto one end. Go until every student is holding onto the long string of yarn to show that everything is connected. (Instructions regarding how to play this game will be included in the document titled **Instructions for Interconnected Forest Ecosystem Game.pdf**. This activity highlights the importance of *interdependence* to the Indigenous worldview. Indigenous groups locally understand that they are embedded in and a part of the natural world. The natural world provides them with many gifts and in turn it is their responsibility to give back to the natural world.
- Teacher will then ask students to make a map of the connections between the plants, animals, insects, soil, etc. in the forest and to show how people fit into this web. Or, using Mindomo (Google Drive Extension) student can make a digital map.
- Teacher discusses with students how each living being (including humans) and each non-living being has a role to play in the healthy functioning of an ecosystem. Similarly, if elements of an ecosystem do not fulfill their role there are consequences.

Optional Extension Activity: Food Collection

- One of the gifts the forest provides is food! Students can learn how to ID local plants harvested for food and about protocols related to forest food collection. (eg: making cedar tea, collecting maple keys, acorns, or hickory nuts off the ground). Information included in the worksheet titled **Indigenous and WS Plant Knowledge.pdf**.
- Yakothehtón:ni Jennifer E. Brant who sits with the Bear Clan and is Kanyen'kehá:ka from Kenhtéke Tyendinaga Mohawk Territory reminds us that it is important to stress with students that children and young people watched and learned from their family (parents, grandparents, aunties, uncles) for years to learn how to identify trees/plants and participate in gathering and processing before gathering foods on their own. For example, when making White Cedar Tea, knowing the difference between red and white cedar is critical. Even more important than making tea! Similarly, Indigenous folks understand that acorns must be processed in a particular way before they can be eaten. It is not as simple as collecting acorns to have a quick snack.
- If a Knowledge Keeper who possesses this understanding is available to help facilitate this lesson, the class can practice harvesting by following the tenants of the Honorable Harvest. The *Honorable Harvest* is a Haudenosaunee and Anishinaabe practice introduced in the Indigenous Knowledge Bundle.
- Before collecting, with the assistance of a Knowledge Keeper, teachers can ask students how they can show their gratitude for the food and how they can give back to the forest. Teachers can review the Anishinaabe and Haudenosaunee practice of offering tobacco



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introduced in the Indigenous Knowledge Bundle. If students are non-Indigenous, they can come up with their own words of gratitude and offer something to the land in the place of tobacco.

- To extend this, students could practice sketching the plants they find and/or presenting to their peers regarding the various gifts the plant provides.

The learning represented in these activities reflects Big Idea C. in the Indigenous Knowledge Learning Bundle: “Reciprocity, Interdependence, and Holism are at the Heart of Indigenous Ways of Knowing and Being”. To help your students learn more about this Big Idea 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).