


WORKSHOP SERIES



INDIGENOUS KNOWLEDGE & POLLINATOR GARDENS

MAY 2021 * KELLY MARACLE

Figure # 1

CONTENTS

03	INTRODUCTION	16	SESSION 6 ANIMAL LIFE
04	SESSION 1 OUR TERRITORY	19	SESSION 7 PLANTING
07	SESSION 2 WHAT GROWS HERE?	21	SESSION 8 TREES
10	SESSION 3 WATER	24	CONCLUDING ACTIVITY
12	SESSION 4 EARTH	25	CURRICULUM LINKS
14	SESSION 5 SUN, MOON AND STARS	33	BIBLIOGRAPHY
		36	ABOUT THE AUTHOR



Figure # 2



Figure # 3 & 4

INTRODUCTION

INDIGENOUS KNOWLEDGE & POLLINATOR GARDENS:

This series of eight workshops is meant to teach children in Grade 6 about the importance of biodiversity, local community and Indigenous knowledge by creating pollinator gardens in the local community. Students will examine their local territory and re-Indigenize space by tracking what is growing in the identified space, and identifying what should be growing. Students will then do the work to plant, create and maintain a space that will encourage pollinators by identifying, planting and caring for native plants. Students will participate in a variety of learning activities connected with the Ontario curriculum in the areas of:

- The Arts
- Language
- Science and Technology
- Social Studies
- Health and Physical Education

WHAT IS AN INDIGENOUS APPROACH?

An Indigenous approach to education consists of experiential, hands-on educational activities that is focused on local spaces/places, that are land-based, multi-generational and cross-curricular. Students learn through distinct methods including observation, participation, listening, relationship building, narrative storytelling, journal keeping and cooperation/collaboration with others in their classroom and community. Indigenous education is rooted in a wholistic approach, paying attention to four aspects for each student: the mental, spiritual, emotional and physical parts of the self. It is important that students have choice of the activities they participate in.

OUR TERRITORY

SESSION 1

We live in an area with a history that goes back thousands of years. Indigenous people have lived in this area from time immemorial, and have culture, language, and knowledge associated with our local area that pre-dates European settlers. It is important for everyone to be able to understand the rich culture and knowledge associated with the place that we live in.

Activity 1.1

Map out your local area. Explore the Great Lakes Watershed and the biodiversity of the area.



Figure # 5

Whose traditional territory do you live on? In this series of workshops, we will learn about the **Haudenosaunee** and **Anishinaabe** people. There are also other Indigenous people that live in this area. It is important to know who you are, and where you come from. What is your unique identity? What gifts do you have to share with others? Throughout this unit, we will continue to gather information using primary and secondary sources such as maps, stories, songs, and wampum belts. Record the information into a collection to be added to a class journal/photo journal to document class learning. We will get practice reading and making maps.

Activity 1.2

One of the nations within the Haudenosaunee Confederacy are the Mohawk (Kanien'kehá:ka) people. At the beginning of ceremonies, meetings and gatherings, there is an oral recitation of the **Ohèn:ton Karihwatéhkwén**, also known as the Thanksgiving Address. A more literal translation, in the words of Elder Tom Porter is "what we say before we do anything important". This ceremony acknowledges and recognizes the importance and relationship of all life forces in Creation. The purpose is to bring the minds of everyone at the gathering together as one.

- <http://mbq-tmt.org/ohenton-karihwatehkwen/>

Activity 1.3

An interesting way to learn is by listening to the Ohèn:ton Karihwatéhkwen as a song.

- Bear Fox sings it here: <https://www.youtube.com/watch?v=eYxTGlp7SXc>

Listen to the music throughout this unit. How is music related to culture? Throughout the unit, you will be provided with links to listen to CBC's show, *Reclaimed*. How does listening to Indigenous music on the radio make it more accessible? Should more Indigenous music be played on the radio? Why or why not? Compare/contrast some of the Indigenous music you hear throughout the unit with music you listen to at home. Do you listen to Indigenous music at home? What are some of your favourite songs?



Figure # 6

Activity 1.4

An important part of learning about pollinator gardens is being able to recognize and appreciate the **inter-relationships** and **diversity** within our environment. This includes plant life, animal life and human life.

By studying the Ohèn:ton Karihwatéhkwen, we begin to appreciate how we are connected to all living things. It is important to acknowledge these relationships we have with all other living things and show gratitude for all they provide for us to be able to live on our planet, Mother Earth. One of the ways we show gratitude is by offering tobacco. Tobacco is one of the four sacred medicines of the Anishinaabe people, and is also an important medicine to Haudenosaunee people as well.

You can learn more about tobacco here:

- <https://aht.ca/traditional-teachings-new/the-four-sacred-medicines/>

An important activity to do is to invite an **Elder** or **Knowledge Keeper** into your class to teach about the importance of tobacco to Indigenous people, how to grow tobacco, harvest and dry it to use for offering gratitude. Be sure to offer the Elder/Knowledge Keeper tobacco for coming in!

What else are we thankful for? How do we show gratitude? Why is important to show gratitude and be thankful for all of the plant/animal life within our environment? How do we show gratitude to the plant and animal life?

Activity 1.5

The **Medicine Wheel** is an Anishinaabe approach to well-being. We can learn to take care of ourselves and our environment by learning about the Medicine Wheel. Invite an Elder in to help teach you about the meaning of the Medicine Wheel and how you can use it during this unit to develop your own well-being and to help live a healthy lifestyle. Working outside, planting, tending the environment, physical activity and having a healthy mind are all important ways to take care of yourself. Once we know how to take care of ourselves, we can extend this further to then take care of our local environment (including the plant and animal life we'll be nurturing here!). During the unit, we will be utilizing the teachings of the Medicine Wheel to help identify and set goals to further develop our emotional, physical, mental and spiritual learning.

- <http://www.threeblockmodel.com/fnmi-aboriginal-education--the-three-block-model-of-udl.html>

Activity 1.6

- **Dish with One Spoon Wampum.** According to Rick Hill, the dish with one spoon wampum belt, "is probably the most significant in terms of the Native people in this land," said Hill. "The old people say this represents the first treaty made in North America. It was made between all the Native nations before the Europeans arrived. It's a simple belt with a field of white which represents peace and unity and harmony, with a little dark figure which represents the bowl." Some of the belts contain an icon within the bowl that represents a beaver tail.
- Hill continues: Of particular importance in this age of environmental degradation is the fact that the dish with one spoon is also a covenant with nature. "Here's the great dish and inside the dish are all the plants, the animals, the birds, the fish, the bushes, the trees, everything you need to be healthy and therefore, happy."
- Hill spoke about the rules nature attaches to this covenant. "The three basic rules are: only take what you need, second, you always leave something in the dish for everybody else, including the dish, and third, you keep the dish clean... that was the treaty between us and nature, and then the treaty between us and everybody else."



Figure # 7

WHAT GROWS HERE?

Plants and Pollinators

SESSION 2

In this session, students will have an introduction to Pollinator Gardens. What are they? Why are they important? What are pollinators? What plants do they need? What is pollination? These questions should be explored and answered using inquiry, readings, charts, pictures, graphs, videos and infographics. (many of these have been provided in the additional resources for this session). Students should become familiar with maps: maps of species (plants and pollinators, watersheds, traditional Indigenous territory) and learn how to analyze them.

Activity 2.1

What are pollinators?

Many insects, especially bees, are important pollinators. Other important pollinators include the dragonfly, butterflies, moths, birds (especially the hummingbird), bats, and small rodents such as mice. Students will understand biodiversity and its importance to our environment paying special attention to our local community, plant and animal life that is present, and identifying what **should** be present.



Figure # 8

Activity 2.2

Plant Identification and Inventory: What grows here? What should grow here? What do we need to plant more of?

Explore the land around us. Map our yard.

1. Students will use nature journals to record/investigate/analyze what is growing in the area. Students will use appropriate vocabulary while classifying plants/pollinators into categories. Students will compare what is growing in the area, identify what should be growing there, and working to identify which plants need to be planted and where in their garden.
2. Students will keep nature journals, recording notes and thoughts using words, pictures, and numbers to show their learning over the space of 8 weeks.

Activity 2.3

Students will explore the uses of some important local, native plants by watching the videos made by Mohawk cousins Katsenhaien:ton and Ra'nikonhri:io, entitled **Onkwanonhkwa** (Our Medicines).

Katsenhaien:ton and Ra'nikonhri:io explain some of the medicinal and food uses of common local plants such as sumac, plantain and milkweed and mullein. Students will also hear and explore stories such as The Fire Dancer (moth), a Mohawk story.

Activity 2.4

Students will continue to look at biodiversity and interrelationships through the story and teachings behind two plants, **Aster** and **Goldenrod**. Students will explore the scientific teachings behind the story (see Robin Wall Kimmerer Braiding Sweetgrass) such as bees eyesight, the colour wheel and companion planting (plants that flourish when growing side by side). Students will examine and analyze/explain using words and pictures how Indigenous stories show the importance of biodiversity and interrelationships between all living things, including human beings.

Activity 2.5

Students will use artistic expression and create signs for in and around the garden depicting plants/pollinators/trees and their attributes.



Figure # 9

Activity 2.6

The idea of Seven Generations is that people need to remember and acknowledge the past seven generations that came before us, and care for and protect the next seven generations that will follow us. We need to make sure that we are leaving the planet, our Mother Earth, in a healthy way so that the next Seven Generations will have what they need to survive, take care of themselves and each other. This includes plant and animal life. We need to make sure that we are taking care of the planet in a way that is leaving the environment healthy to sustain all life.*Students will utilize the principles of the Seven Generations Stewardship to support healthy relationships with themselves, others and plant and animal life.

WHAT GROWS HERE?

SESSION 2

Additional Resources:

- <https://davidsuzuki.org/queen-of-green/create-pollinator-friendly-garden-birds-bees-butterflies/>
- <https://cwf-fcf.org/en/resources/DIY/outside/perfect-pollinator-garden.html>
- <https://www.pollinator.org/learning-center/gardens>
- <https://www.pollinator.org/pollinators>
- <https://www.youtube.com/watch?v=fOMbAegJ1wQ>
- <https://kidsgrowingstrong.org/pollinator-works/>
- <https://xerces.org/blog/cedar-oak-pollinator-garden>



Figure # 10

WATER

SESSION 3

Water is an important part of caring for any plant and animal life and this includes our pollinator garden! There are many important traditional teachings of water from Indigenous peoples, including the Haudenosaunee and Anishinaabe people.

Activity 3.1

In the **Anishinaabe** teachings, **Nibi** (water) is the blood of **Aki** (Earth), the giver of life — a sacred energy that is part of us, flowing within and between us.

- <https://theconversation.com/children-make-connections-to-aki-earth-through-anishinaabe-teachings-133669#:~:text=In%20the%20Anishinaabe%20teachings%2C%20Nibi,places%20and%20return%20to%20water.>
- <https://www.waterteachings.com/water-is-life>

Record and reflect on some of these teachings. How do they relate back to the Seven Generations Stewardship principles? Compare and contrast some of these traditional teachings about water with some of the things you see happening today. Do people value water the way we should? What are things that can be done?

Activity 3.2

Listen to the **Mohawk Water Song**. Add this to your growing knowledge of songs. What do the Mohawk words mean?

- <https://www.youtube.com/watch?v=9MvNaFWcQf4>

Activity 3.3

Learn about the water walkers. Read about and collect pictures/images of water walkers across Turtle Island. Josephine Mandamin was the original water walker. What did she stand for? What issues was she trying to bring awareness to? How did she accomplish this? Research an upcoming water walk in your area and make plans to participate. If there isn't one in your local area, organize one! Create artwork and posters and social media campaigns to spread awareness. Are there funds being raised? Where do the funds go? Do you think this is helpful? How does this represent Indigenous and Canadian values?

- <https://www.thecanadianencyclopedia.ca/en/article/josephine-mandamin>
- <https://www.cbc.ca/news/indigenous/josephine-mandamin-water-walk-activist-obit-1.5032535>

Activity 3.4

Water collection.

Investigate and Research: How will you collect water for your garden? Is there a water source or will you need to create a water source? (Rain barrels? Water collection?) Once you've figured out your water source, estimate how much water you will need. Also, how healthy is your water? Test it to find out!

Take pictures and keep notes throughout to create photo journal describing the importance of water in your garden and how to collect water for other kids!

Activity 3.5

Students analyze and discuss works of Indigenous art as a media text such as *Issac Murdoch Water is Life*. Examine it's impact as an image used on t-shirts, posters, and on social media to spread a message. What message is being sent? Design and create media texts of their own to promote pollinator gardens to their community.

- <https://justseeds.org/product/water-is-life-10/>



Figure # 11

Activity 3.6

Inquiry Questions: How can pollinator gardens be used to protect habitat and water?

Investigate how Canada can contribute to habitat, water and environmental protection on a global scale.

Activity 3.7

Design posters advertising the garden and teaching others about the uses, diversity, care of and purpose of pollinator gardens.

EARTH

SESSION 4

Working with Mother Earth. Mother Earth, along with sunlight and water, is one of the most valuable things that all life needs to survive.

Activity 4.1

Explore the *Haudenosaunee* and *Anishinaabe* **Creation stories** to see how our land came to be. Land is an important part of Indigenous traditional teachings.

- https://www.sofn.band/images/teachings/Earth_Mother.pdf
- <https://www.torontozoo.com/pdfs/tic/ways-of-knowing.pdf>

Indigenous people have a sacred relationship to land. All people can have this relationship. It is important for us to acknowledge the places and spaces that we are born into, respect and honour the history, stories and teachings that come from that land, and know it in a real way. It is an important part of Indigenous worldview that people know the land around them. It is important for you to know what is around you—the land, watersheds, creeks, rivers, lakes, animals and plants that grow around you. You are part of this habitat—you are a part of this land. Know where you come from and what makes you unique. What lives near you? What grows near you? How are you part of this? How can you help take care of the land around you?

Activity 4.2

Learn about the earth that will be supporting your pollinator garden. Learn how to test the soil and why this is important. Do you need to add anything to the soil to make it healthy?

- <https://www.soils4kids.org/experiments>

Learn how to compost. Make a compost in your school yard and/or at your home. What types of materials do you need to make a compost? How does it work? What kinds of things go into compost? Why is this beneficial to both the garden and to our environment?

- <https://www.youtube.com/watch?v=Q5s4n9r-JGU>

What role do worms play in our soil? Explore the role of worms and how and why they keep our soil healthy. Check the garden—are there worms there? Is it a healthy environment to begin growing?

- <https://kidsgrowingstrong.org/worms/>
- <https://www.earthrangers.com/this-just-in/whos-saving-the-earth/#:~:text=As%20worms%20wiggle%20around%20underground,important%20for%20successful%20plant%20growth.>
- <https://www.seewhatgrows.org/kids-guide-beneficial-bugs-garden/>

Activity 4.3

Listen to CBC's Reclaimed with *Jarrett Martineau* Episode **Protectors**

- <https://www.cbc.ca/listen/live-radio/1-184-reclaimed/clip/15838294-protectors>

Add this to your growing music collection. How are we all protectors of our environment? How will you be a protector of your pollinator garden?

Activity 4.4

Use iPads to create a one-minute film about the pollinator garden and its importance to our environment. Talk about things that you have learned about biodiversity, interrelationships (don't forget you are part of this!) and healthy environments.

Activity 4.5

Explore the role of muskrat in the **Haudenosaunee Creation story**. (Activity 4.1) What is muskrat's role in creation? Does muskrat still carry out their original teachings? Explain how muskrat benefits the environment by continuing to contribute to healthy soil, distribution of seeds and organic material and cleaning up the areas where land and water meet. Muskrat perseveres, both in the Creation story, as well as in everyday environments. In your nature journals, track your feelings and keep track of themes including motivation and perseverance.

Activity 4.6

Students will design and make step by step presentation/checklist for others to follow (PowerPoint, poster, pamphlet) to show safety procedures while working in the garden. What types of health and safety considerations do we need to keep in mind while working in the garden? Will we be working in the elements? It is important to layer and make sure you have appropriate clothing and gear. Will we be working with tools? Which ones? How do we use them properly and take care of them? How do we keep ourselves and each other safe while doing hands on work, planting and maintenance in the garden? What types of things do we need to be sure to keep in mind each time we are planning to work outside?

SUN, MOON AND STARS

SESSION 5

The sun plays an integral part in any living thing!
We all need sunlight to survive.



Figure # 12

Activity 5.1

It is important to know which plants need more sunlight, and which ones need less. Some plants prefer full sun while others need some shade throughout the day. Put this into your notes for planning your garden! It is a good idea to take pictures of your garden at certain times throughout the day so you know where there is mostly sun, and you can identify if you have some shady areas. Sit outside at different times of the day and incorporate still-like drawings/paintings into your nature journals.

- <https://sciencing.com/the-effect-of-sunlight-on-animals-plants-13427960.html>

Activity 5.2

Learn about the four directions and refer back to the teachings about the Medicine Wheel. How are the directions important while growing things? Is wind speed and direction important? How?

Indigenous people had a rich understanding of the **Four Directions**.

- www.fourdirectionsteachings.com

There are teachings and medicines that come from each direction. Indigenous people also used the knowledge from the sun, stars and moon to tell time and direction to be able to find their way.

- <https://www.nlm.nih.gov/nativevoices/exhibition/healing-ways/medicine-ways/medicine-wheel/images/ob1420.html>
- <http://solar-center.stanford.edu/AO/Medicine-Wheels.pdf>

Activity 5.3

Students will learn how to use a compass and how this relates back to maps and the four directions.

- <https://sciencing.com/teach-children-how-use-compass-4841689.html>

Activity 5.4

Students will be able to make a sundial. This was an important way to tell time and is used throughout Indigenous cultures all over the world.

- <https://era.library.ualberta.ca/items/1f5810ef-f476-4f59-a70b-37c67c828902>

Activity 5.5

Students should explore star stories and the night sky maps to correlate how all of these things relate to each other. Students should learn about the teachings of **Grandmother moon**. The moon is related to the water. She teaches us about tides and we can plant by the lunar cycle (insert resource here).

- <https://www.nativeskywatchers.com/>
- <http://www.northernnc.on.ca/indigenous/moontime/#:~:text=Some%20teachings%20say%20that%20when%20the%20moon%20is%20full%20women,to%20give%20them%20new%20energy.&text=She%20takes%20water%20with%20her,are%20held%20in%20many%20communities.>
- <http://www.akwesasne.ca/whw-traditional-medicine-planting-by-the-moon/>



Figure # 13

Activity 5.6

Listen to CBC's *Reclaimed* with Jarrett Martineau Episode 'Indigenous Kids'. After listening to this, explore what other kids are doing to protect our environment across Turtle Island. What kinds of things can we do?

- <https://www.cbc.ca/listen/live-radio/1-184-reclaimed/clip/15800621-indigenous-kids>
- <https://janegoodall.ca/wp-content/uploads/2017/02/ProtectingOurSacredWater-FNMIResource.pdf>

ANIMAL LIFE

SESSION 6

Now that we have figured out how to get our garden growing with pollinator friendly plants, we need to make sure the pollinators will feel comfortable!

Activity 6.1

The whole unit we've been talking about interrelationships (we are all connected!), biodiversity and taking care of the ourselves and the plant and animal life around us as an equal part of life on earth. Our relationship with the world and environment around us is very important.

Continue to refer back to, and say the Ohèn:ton Karihwatéhkwén everyday.

As we study biodiversity and interrelationships, let's reflect on how this relates to Indigenous teachings learned throughout the unit. For example, what do we learn about biodiversity and interrelationships from the Mohawk Thanksgiving Address?

Activity 6.2

Inquiry Question: investigate Canadian and Indigenous identities-What are the values/morals and guiding principles? (Importance of environment, reconciliation, Inclusion, Treaties)

Activity 6.3

Encourage bees to come to the garden by making it "bee-friendly". Follow the tips from these websites, and make a bee bath!

- <https://gardentherapy.ca/bee-bath/>



Figure # 14

Activity 6.4

Encourage bats to come to your garden by building a bat box!

- <https://blog.nwf.org/2014/06/not-just-the-birds-and-bees-6-fast-facts-about-pollinating-bats/>
- <https://www.lohud.com/story/life/home-garden/2019/06/05/bees-butterflies-and-bats-why-theyre-good-your-garden/1270076001/>

Bats are very important to the pollinator garden. See the attached links for information about bats as pollinators. Some interesting facts you will find? Bats eat flower nectar, have extremely long tongues, and use echolocation to find flowers!



Figure # 15

Figure # 24

Activity 6.5

Attracting birds to the garden is an important part of a healthy pollinator garden. Students can choose to make a bird bath for resting, thirsty birds. Bird baths are also important for birds to help them keep their feathers clean and healthy for their flying! See this link for why birds need to maintain their feathers with water.

- <https://blog.nature.org/science/2015/03/09/backyard-bird-baths-science-birding-wildlife-habitat/>

See ideas for unique bird baths kids can make here:

- <https://morningchores.com/diy-bird-bath/>

Activity 6.6

Build an insect hotel to welcome all of our insect pollinator friends. See a plan here:

- <https://www.fix.com/blog/guide-to-making-your-own-insect-hotels/>



Figure # 16

Activity 6.7

Protect the birds that will come to pollinate the garden. Check out this bird apartment!

- <https://gardentherapy.ca/wood-pallet-bird-apartments/>

A fun way to make shelters for the pollinators in your garden is by inviting people from the community in to help out. Lots of people would donate tools, materials or time to help get these shelters made and in the garden!



Figure # 17

Activity 6.8

Create a film poster to accompany the one-minute film about pollinator gardens from Session 4. Be sure to depict the animal life, pollinators and how images of how we are making our pollinator garden friendly to our friends, the pollinators!

PLANTING

Interrelationships and good medicine

SESSION 7

Students will spend a majority of this week figuring out the garden, where and what to plant!

Activity 7.1

Choosing the plants:

Have students (in groups of 2-3) choose plants they'd like to have in the garden. Students should research the plant, find interesting facts, and depict them (using words, images, drawings, art) on a piece of 8x10 cardstock. Once all group images are done, students should hang them up around, so they are visible to everyone. Students should then vote on plants to include and explain why they would be a good fit for the garden (space, sun/shade, water needs, location, companion plants, etc.). At the end of the activity, tally up votes and choose which plants will go into the garden!

Check out these resources for planning the garden:

- <https://savvygardening.com/pollinator-garden-design/>
- <http://www.trca.on.ca/dotAsset/149974.pdf>
- https://herbsociety.org.presencehost.net/file_download/inline/76c2cc5f-a737-4e1e-9b40-2ba27b197f9c

Activity 7.2

Planning out the garden-where to plant things?

Check out these resources for how to plan out and plant your garden:

- <https://www.northeastpollinator.com/pages/planting-for-pollinators>
- <https://landscapeontario.com/pollinator-friendly-garden>
- <https://gardenontario.org/wp-content/uploads/roadsidesguide.pdf>
- <https://kidsgardening.org/lesson-plans-planning-a-pollinator-garden/>
- <https://guelph.ca/living/house-and-home/lawn-and-garden/sample-garden-designs/creating-a-pollinator-garden/>

Activity 7.3

How to take care of our pollinator garden. Students will learn all about maintaining the garden. Make a checklist of things that need to be done and a chore wheel so students can have jobs to do.

- <http://www.trca.on.ca/dotAsset/150579.pdf>

Activity 7.4

Plant!

Invite an Elder and/or traditional knowledge keeper in to help with the planting. Many Indigenous cultures, including the Haudenosaunee and the Anishinaabe have ceremonies to do before, during and after planting. Seed ceremonies, opening the garden ceremonies and giving thanks are all part of the planting process. An important part of Mohawk gardening is the singing of seed songs. This should be done by a knowledge keeper who you invite into the garden. Don't forget to show your gratitude by offering tobacco!

Learn about Mohawk seeds here:

- <https://seedkeeper.ca/>



Figure # 18

TREES

SESSION 8

Now that the garden is done, students can also learn about native trees and which may be good to plant as a second part to the garden!

Activity 8.1

Students can learn about native trees here:

- <https://www.cbc.ca/kidscbc2/the-feed/trees-of-canada>
- [https://www.eomf.on.ca/media/k2/attachments/Tree Identification.pdf](https://www.eomf.on.ca/media/k2/attachments/Tree%20Identification.pdf)
- <https://www.rom.on.ca/en/collections-research/centres-discovery/biodiversity/trees-toronto/getting-know-trees>

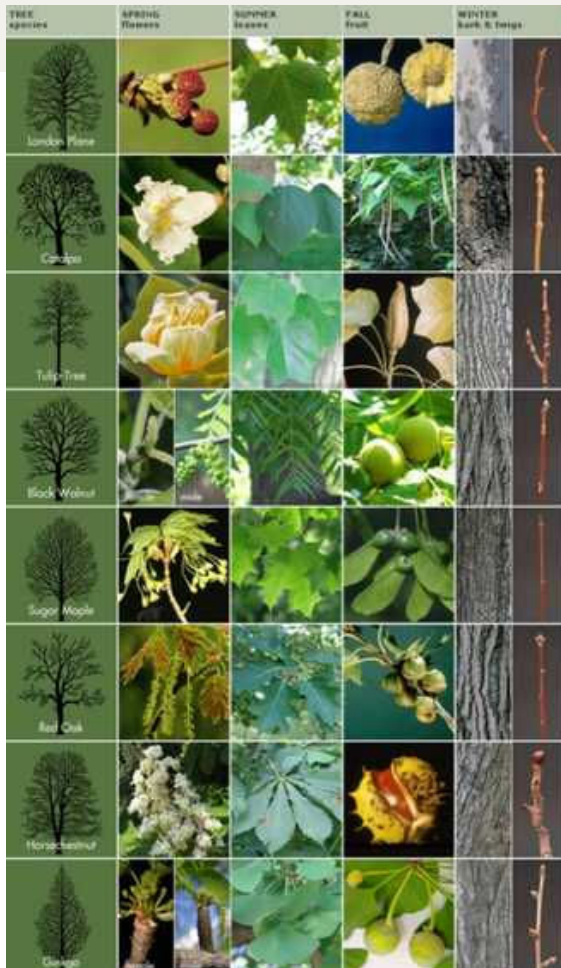


Figure # 19

Activity 8.2

Students can learn about and appreciate cedar as a medicine for Indigenous peoples.

“Keezhik, or cedar, represents the southern direction. The leaves are cleansed from the stems and separated into small pieces, which are used in many ways. When burned, Keezhik acts as a purifier, cleansing to the area in which it is burned and emitting a pleasant scent. Elders say put some in your shoes and goodness will come your way.”

- https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs141p2_023459.pdf

Students can invite people into the classroom to see the garden, and can learn how to make cedar tea for their guests. Adding a little maple syrup will make the cedar tea taste delicious!

Activity 8.3

Students will examine **Métis** Dot Art for inspiration on creating murals featuring plant/animal life. Students should create murals for use in/around the garden incorporating Indigenous artwork, themes and styles, paying special attention to the dot art of Métis artists such as **Christie Belcourt**.

- <http://christibelcourt.com/>



Figure # 20

Activity 8.4

Students should become familiar with stories about trees. Invite an Elder in to tell stories, or find resources such as *Leanne Simpson* **The Gift is in the Making**. There are several tree stories, in particular about maple trees, birch trees, hickory, butternut and ash trees, to name a few. What do these stories teach us? Why are trees important to people? Think about the role of trees in the environment, the air they produce, the teachings they carry, the knowledge they hold, the life they've lived...trees are amazing!

Activity 8.5

Students should learn about the story behind the **Tree of Peace** and how it relates to Haudenosaunee culture.

- <https://easternwhitepine.org/tree-of-peace-the-iroquois-legend-of-the-eastern-white-pine/>
- <https://indigenousvalues.org/haudenosaunee-values/great-tree-peace-skaehetsi%CB%80kona/>
- <https://www.haudenosauneeconfederacy.com/symbols/>



Figure # 21

Activity 8.6

Explore the uses of trees. Indigenous people had many uses for trees. As well as providing shelter, food, medicine, habitats for animals, and oxygen, trees provided many raw materials that people could use for a variety of purposes!

One use of importance to both the Anishinaabe and the Haudenosaunee was the making of baskets. Basket making is a practical and beautiful art form. People use baskets to store corn, carry food, store seeds, as well as pieces of art. Many basket makers use fine detail with other materials such as sweetgrass, to make the baskets beautiful. Learn about basket making, in particular, black ash, here:

- <https://www.michiganradio.org/post/artisans-michigan-anishinaabe-black-ash-baskets>
- <https://akwesasne.travel/baskets/>

CONCLUDING ACTIVITY

- Students will create an oral presentation to be delivered in a format of their choice (video/audio recording, in-class, PowerPoint, etc.) to show their learning over the course of the unit.
- Students will use an **Indigenous worldview** to show their understanding of how we are all a part of and benefit from the biodiversity within the environment, and the importance of interrelationships.
- Students will also reflect as part of their art and writing for the unit. How do pollinator gardens promote hope and optimism for the future of our communities and our environment? How do pollinator gardens promote hope and optimism for our relationships with ourselves? With others? With plant and animal life? How can we inspire others to better care for our environment?



Figure # 22

CURRICULUM LINKS

With Guiding Questions / Activities for each subject area

<http://www.edu.gov.on.ca/eng/curriculum/elementary/grade6.html>

The Arts:

MUSIC

C.3 Exploring Forms and Cultural Contexts

C3.1 identify and describe ways in which awareness or appreciation of music is affected by culture and the media (e.g., people attend concerts of music that they know and like or have found out about through the media; people can be influenced to buy products that are advertised with music that they relate to)

C3.2 compare some aspects of the music of one culture and/or historical period with aspects of the music of another culture and/or historical period (e.g., compare selected characteristics of music from the baroque and classical periods, using a Venn diagram; write a review of music from another society, comparing the music of that society with the music with which they are familiar)

GUIDING QUESTIONS/ACTIVITIES FOR THIS UNIT:

- Listen to the music throughout this unit. How is the music related to culture?
- Listen to CBC's Reclaimed. How does listening to music on the radio make it more accessible? Should more Indigenous music be played on the radio? Why or why not?
- How is the Thanksgiving Address song or Seed songs similar to music that you listen to at home? How are these songs different? What teachings of culture come through the songs?
- How is culture present in this music? In the music that you listen to at home?

VISUAL ARTS

D.1 Creating and Presenting

D1.1 create two-dimensional, three-dimensional, and multimedia art works that explore feelings, ideas, and issues from a variety of points of view (e.g., art work inspired by the motifs in other art forms [dance, music] or by hopes and dreams; a mixed-media piece or one-minute video "short" about adaptation and survival; a still-life painting that offers a social commentary on fast-food packaging)

D1.2 demonstrate an understanding of composition, using selected principles of design to create narrative art works or art works on a theme or topic (e.g., use a larger area of a lighter tint and a smaller area of a darker tone of one colour in an asymmetrically balanced painting; use repetition, simplification, and exaggeration of proportion and shape to create a sense of rhythm in a graphite and-pastel drawing of musical instruments and their shadows)

D1.3 use elements of design in art works to communicate ideas, messages, and understandings (e.g., a design of a letter of the alphabet using shapes, symbols, colour, and font style to represent a selected animal and its habitat; a DVD cover design or movie poster that uses line, shape, space, colour, and value to communicate information about the content)

GUIDING QUESTIONS/ACTIVITIES FOR THIS UNIT:

Students can choose to participate in art activities throughout the unit in the following ways:

- Create murals for use in/around the garden incorporating Indigenous artwork, themes and styles.
- Create signs for in and around the garden depicting plants/pollinators/trees and their attributes
- Take pictures and keep notes throughout to create photo journal.
- Use iPads to create a one-minute film about the pollinator garden and it's importance to our environment
- Incorporate still-like drawings/paintings into their nature journals, with a culminating piece from one of their journal entries
- Create film poster to accompany the one-minute film about pollinator garden

Language:

ORAL COMMUNICATION

SPEAKING TO COMMUNICATE

CLARITY AND COHERENCE

2.3 communicate orally in a clear, coherent manner, using appropriate organizing strategies and formats to link and sequence ideas and information (e.g., present an argument in favour of one point of view on an issue, with an opening statement, sequence of points with supporting evidence, and summary/conclusion)

VISUAL AIDS

2.7 use a variety of appropriate visual aids, (e.g., video images, maps, posters, charts, costumes) to support or enhance oral presentations (e.g., wear a costume to help portray the speaker in a monologue; create a slide show to accompany a report)

MEDIA LITERACY

UNDERSTANDING MEDIA TEXTS

PURPOSE AND AUDIENCE

1.1 explain how a variety of media texts address their intended purpose and audience (e.g., T-shirts intended for supporters of particular institutions, groups, or causes are decorated with related images, logos, colours, and slogans; CD and DVD covers designed to appeal to young children have colourful images of their favourite characters; advertisements geared to parents of infants are broadcast during the daytime whereas those geared to single adults run during late-night programming)

MAKING INFERENCES / INTERPRETING MESSAGES

1.2 interpret media texts, using overt and implied messages as evidence for their interpretations (e.g., explain why the advertisements used in a particular magazine are appropriate for that magazine, identifying the messages that would appeal to the magazine's audience; explain how advertisements for healthy food and those for fast food differ)

GUIDING QUESTIONS/ACTIVITIES FOR THIS UNIT:

- Oral Presentation
- Students design charts showing plants and pollinators with life stages
- Design posters advertising the garden and teaching others about the uses, diversity, care of and purpose of pollinator gardens
- Students keep nature journals keeping notes and thoughts using words, pictures, and numbers to show their learning over the space of 8 weeks.
- Students analyze and discuss works of Indigenous art as a media text such as Issac Murdoch *Water is Life*. Examine it's impact as an image used on t-shirts, posters, and on social media to spread a message. What message is being sent? Design and create media texts of their own to promote pollinator gardens to their community.

Science and Technology:

UNDERSTANDING LIFE SYSTEMS

BIOVIVERSITY

1. Relating Science and Technology to Society and the Environment

1.2 assess the benefits that human societies derive from biodiversity (e.g., thousands of products such as food, clothing, medicine, and building materials come from plants and animals) and the problems that occur when biodiversity is diminished (e.g., monocultures are more vulnerable to pests and diseases) Sample issue: Monoculture systems on farms allow crops to be grown in the soil that is best for them. But monoculture systems reduce diversity, and so more soil and pest problems result. In turn, farmers apply more chemical fertilizers and pesticides, which pollute the land, the water, and the food they are producing.

2. Develop Investigation and communication skills

2.1 follow established safety procedures for outdoor activities and field work (e.g., stay with a partner when exploring habitats; wash hands after exploring a habitat)

2.2 investigate the organisms found in a specific habitat and classify them according to a classification system

2.3 use scientific inquiry/research skills (see page 15) to compare the characteristics of organisms within the plant or animal kingdoms (e.g., compare the characteristics of a fish and a mammal, of coniferous and deciduous trees, of ferns and flowering plants)

2.4 use appropriate science and technology vocabulary, including classification, biodiversity, natural community, interrelationships, vertebrate, invertebrate, stability, characteristics, and organism, in oral and written communication

3. Understanding Basic Concepts

3.1 identify and describe the distinguishing characteristics of different groups of plants and animals (e.g., invertebrates have no spinal column; insects have three basic body parts; flowering plants produce flowers and fruits), and use these characteristics to further classify various kinds of plants and animals (e.g., invertebrates – arthropods – insects; vertebrates – mammals – primates; seed plants – flowering plants – grasses)

3.2 demonstrate an understanding of biodiversity as the variety of life on earth, including variety within each species of plant and animal, among species of plants and animals in communities, and among communities and the physical landscapes that support them

3.3 describe ways in which biodiversity within species is important for maintaining the resilience of those species (e.g., because of genetic differences, not all squirrels are affected equally by infectious diseases such as mange; some species of bacteria have become resistant to antibiotics because resistant individuals have survived and reproduced)

3.4 describe ways in which biodiversity within and among communities is important for maintaining the resilience of these communities (e.g., having a variety of species of wheat allows for some part of the crop to survive adverse conditions)

3.5 describe interrelationships within species (e.g., wolves travel in packs to defend their territory, raise their cubs, and hunt large prey), between species (e.g., the brightly-coloured anemone fish protects its eggs by laying them among the poisonous tentacles of the sea anemone, and in return the fish's bright colours attract prey for the anemone to eat; birds and bees take sustenance from plants and carry pollen between plants), and between species and their environment (e.g., algae and water lilies compete for sunlight in a pond), and explain how these interrelationships sustain biodiversity

GUIDING QUESTIONS/ACTIVITIES FOR THIS UNIT:

- Students will understand biodiversity and its importance to our environment paying special attention to our local community, plant and animal life that is present, and identifying what **should** be present.
- Students design and make step by step presentation/checklist for others to follow (PowerPoint, poster, pamphlet) to show safety procedures while working in the garden
- Students will use nature journals to record/investigate/analyze what is growing in the area. Students will use appropriate vocabulary while classifying plants/pollinators into categories. Students will compare what is growing in the area, identify what should be growing there, and working to identify which plants need to be planted and where in their garden.
- Study biodiversity and interrelationships and compare this to Indigenous teachings learned throughout the unit. For example, what do we learn about biodiversity and interrelationships from the Mohawk Thanksgiving Address?
- Examine and analyze/explain using words and pictures how Indigenous stories show the importance of biodiversity and interrelationships between all living things, including human beings?
- Using an Indigenous worldview, students should be able to understand and communicate how we are part of and benefit from biodiversity/interrelationships.

Social Studies:

HERITAGE AND IDENTITY: COMMUNITIES IN CANADA, PAST AND PRESENT

A2. Inquiry: The Perspectives of Diverse Communities

A2.2 gather and organize information from a variety of primary and secondary sources (e.g., photographs; letters and diaries; oral stories; maps; songs; paintings; newspaper reports; interviews with Elders, knowledge keepers, and/or community members at friendship centres or cultural centres; books written on the experiences of new settlers in a community; books written about a specific community; online databases and archival collections; treaties and wampum belts) that present different perspectives on the historical and/or contemporary experience of a few communities, including First Nations, Métis, and/or Inuit communities, in Canada

A2.3 analyse and construct print and digital maps as part of their investigations into different perspectives on the historical and/or contemporary experience of communities, including First Nations, Métis, and/or Inuit communities, in Canada (e.g., analyse a flow map showing the relocation of First Nations, Métis, and/or Inuit communities; plot census data on a map to show the locations of different communities; construct a thematic map to show changes over time in the ethnic origin of the people in a community; construct a map that identifies places of significance within selected Indigenous communities; construct a map that shows the historic Métis communities in Ontario; construct an annotated map that explains the use of an Inuksuk [or several Inuksuit] as a navigational tool and the significance of its [or their] placement within Inuit territories)

A.3. Understanding Context: The Development of Communities in Canada

A3.1 identify the traditional Indigenous and treaty territory or territories on which their community is located (e.g., Orillia is located on the traditional territory of the Ojibwe/Chippewa and Anishinaabe and is within the boundaries set by the Williams Treaties; Sault Ste Marie is located on the traditional territory of the Métis, Cree, Ojibwe/Chippewa, and Anishinaabe and is within the boundaries set by the Robinson-Huron Treaty; Red Lake is located on the traditional territory of the Métis and the Ojibwe/Chippewa and is within the boundaries set by Treaty 3)

A3.4 identify various types of communities in Canada and some ways in which they have contributed to the development of the country (e.g., First Nations, Inuit, Métis, French, and/or British; later immigrant groups such as Chinese, Germans, Scandinavians, South Asians, or Caribbean people; religious communities; economic communities such as resource towns; workers and labour organizations; rural and urban communities)

A3.10 identify and describe fundamental elements of Canadian identities (e.g., inclusiveness; respect for human rights; respect for diversity; multiculturalism; parliamentary democracy; constitutional monarchy; bilingualism; the recognition of three founding nations; universal health care; recognition of First Nations, Métis, and Inuit as Indigenous peoples and original inhabitants of what is now Canada; the importance of treaties and treaty rights)

B: People and Environments: Canada's Interaction with the Global Community

B1. Application: Canada and International Cooperation

B1.3 explain why some environmental issues are of international importance and require the participation of other regions of the world, along with that of Canada, if they are to be effectively addressed (e.g., issues such as global warming, carbon dioxide and sulphur dioxide emissions, ownership and availability of fresh water, deforestation, overfishing, invasive species, habitat protection of migrating species, or disposal of electronic waste)

B2. Inquiry: Responses to Global Issues

B2.1 formulate questions to guide investigations into global issues of political, social, economic, and/or environmental importance (e.g., child labour, dwindling oil supplies, ownership of and access to fresh water, climate change, food shortages, refugees, or natural disasters), their impact on the global community, and responses to the issues

GUIDING QUESTIONS/ACTIVITIES FOR THIS UNIT:

- Gather information using primary and secondary sources such as maps, stories, songs, wampum belts. Record the information into a collection to be added to a class journal/photo journal to document learning
- Read and analyze maps of species (plants and pollinators) as well as mapping our watersheds and traditional Indigenous territories local to student communities.
- Investigate Canadian and Indigenous identities-What are the values/morals and guiding principles? (Importance of environment, reconciliation, Inclusion, Treaties)
- Investigate how Canada can contribute to habitat, water and environmental protection on a global scale
- Inquiry Questions: How can pollinator gardens be used to protect habitat and water?

Health and Physical Education:

Strand A: SOCIAL EMOTIONAL LEARNING SKILLS

Identification and Management of Emotions*

A1.1 apply skills that help them identify and manage emotions as they participate in learning experiences in health and physical education, in order to improve their ability to express their own feelings and understand and respond to the feelings of others

Positive Motivation and Perseverance*

A1.3 apply skills that help them develop habits of mind that support positive motivation and perseverance as they participate in learning experiences in health and physical education, in order to promote a sense of optimism and hope

Healthy Relationships*

A1.4 apply skills that help them build relationships, develop empathy, and communicate with others as they participate in learning experiences in health and physical education, in order to support healthy relationships, a sense of belonging, and respect for diversity

GUIDING QUESTIONS/ACTIVITIES FOR THIS UNIT:

- Utilize the teachings of the Medicine Wheel to help identify and set goals to further develop their emotional, physical, mental and spiritual learning.
- Utilize the principles of the Seven Generations Stewardship to support healthy relationships with themselves, others and plant and animal life.
- How does the Medicine Wheel, Seven Generations teachings and stories of plant/animal life help support the building of awareness of self and others? How do they teachings support the need for diversity amongst ourselves as well as the plant and animal life around us?
- In their nature journals, track their feelings and keep track of themes including motivation and perseverance.
- As part of their art/writing, reflect on how pollinator gardens promote hope and optimism for the future of our communities? Our environment? Our relationships with self/others and plant/ animal life?

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- Figure #18: [Untitled picture of seedlings]. www.unsplash.com
- Figure #19: Getting to Know Trees. [photograph]. Royal Ontario Museum Botany, Toronto.
- Figure #20: Belcourt, C. (2014). Our Lives are in the Land. Christie Belcourt. <http://christibelcourt.com/ancestry/>.
- Figure #21: [Untitled picture of white pine]. www.unsplash.com
- Figure #22: [Untitled picture of Black Eyed Susan]. www.unsplash.com
- Figure #23: [Untitled image of strawberry vine sketch]. www.shutterstock.com

about the author

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Kelly Maracle (O'nahkwi:yo) is a Mohawk woman and member of the Mohawks of the Bay of Quinte at Tyendinaga Mohawk Territory. She is a teacher, mother of three children and sits with the Turtle clan. Kelly works as the Indigenous Student Support and Engagement teacher with the Limestone District School Board, and her areas of focus are developing culturally responsive, land-based educational programming and trauma informed practice. She is passionate about incorporating Indigenous ways of knowing and approaches to knowledge sharing into classrooms for all students. Land based education has the power and ability to inspire all students towards being an active participant in creating a healthy community and environment in which to live.

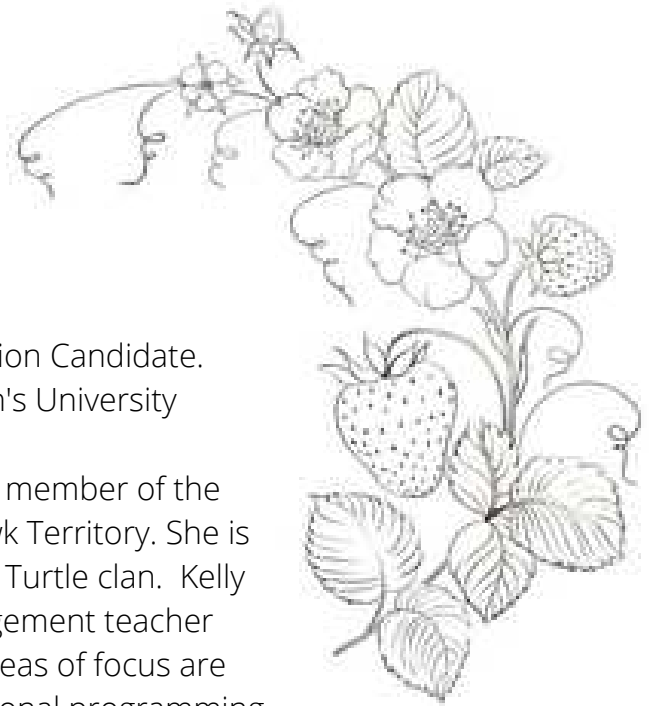


Figure # 23