



Date: _____

The Seasons

ACKNOWLEDGEMENT

Please read this Acknowledgement before the start of this lesson to respect the knowledge that is being shared and the Land of the People where the knowledge originates.:

This lesson plan was created by faculty, students, and partner school boards of Trent University's School of Education and Professional Learning. We recognize and honour Traditional Knowledge carriers - Anishinaabe Elder Doug Williams, of Curve Lake First Nation, and Potawatomi faculty Barbara Wall, of the Chanie Wenjack School for Indigenous Studies at Trent University.

LEARNING OUTCOMES

Upon successful completion of this lesson plan, students will be able to:

1. Identify sugar maple trees by knowing the leaves, bark, and seeds of the tree.
2. Identify the patterns of nature through the four seasons in a year.
3. Explain what sweet water is and re-tell the origins of sweet water.

LIST OF ACTIVITIES

1. Seasonal Trees
2. Reflection
3. Activating Prior Knowledge
4. Cross-Curricular Extension Activities

MATERIALS

- Maple Sugar Videos
- Supplies: art supplies or photos of Sugar Maple trees at different times of the year
- Supplies: Pictures of Maple Trees in different seasons
- YouTube video: Sweet water collecting in a bucket

 Math

Origin

Elders and Traditional Knowledge carriers involved with Trent University and Curve Lake First Nation
Peterborough
Ontario

Learning Level / Grade

Kindergarten

Also: Early Childhood Education, 1



95 mins

Related Subjects

Art, Science, Social Studies, Indigenous Ways of Knowing & Being, Biology, Indigenous Language

DESCRIPTION

This lesson looks at sugar maple trees throughout the seasons and is designed for young learners. It is written as one lesson plan but could easily be developed into multiple shorter lessons or unit plans as the children explore the different activities and aspects of learning about sugar maple trees.

HOLISM AND ALL OUR RELATIONS

This lesson plan has been developed with an Indigenous lens that is holistic in nature, a way of being and knowing that acknowledges our relationships with 'all our relations', including plants and animals, other human beings, the water, land, wind, sun, moon, stars, and more - everything seen and unseen. With 'all our relations' in mind, this lesson plan has been developed with a focus on:

- Language and Culture
- Participatory and experiential learning activities
- Different learning styles; attention given to mind, body, and spirit
- Connections are made with everyday life
- Ethics in the classroom: care, truthfulness and trust, respect, integrity
- Relationship with the land
- Personal reflection time (connecting with thoughts and feelings)
- Intergenerational learning with Elders/Knowledge Holders
- Healthy relationship with self and identity

TEACHERS' GUIDE

Background/Foundational Information

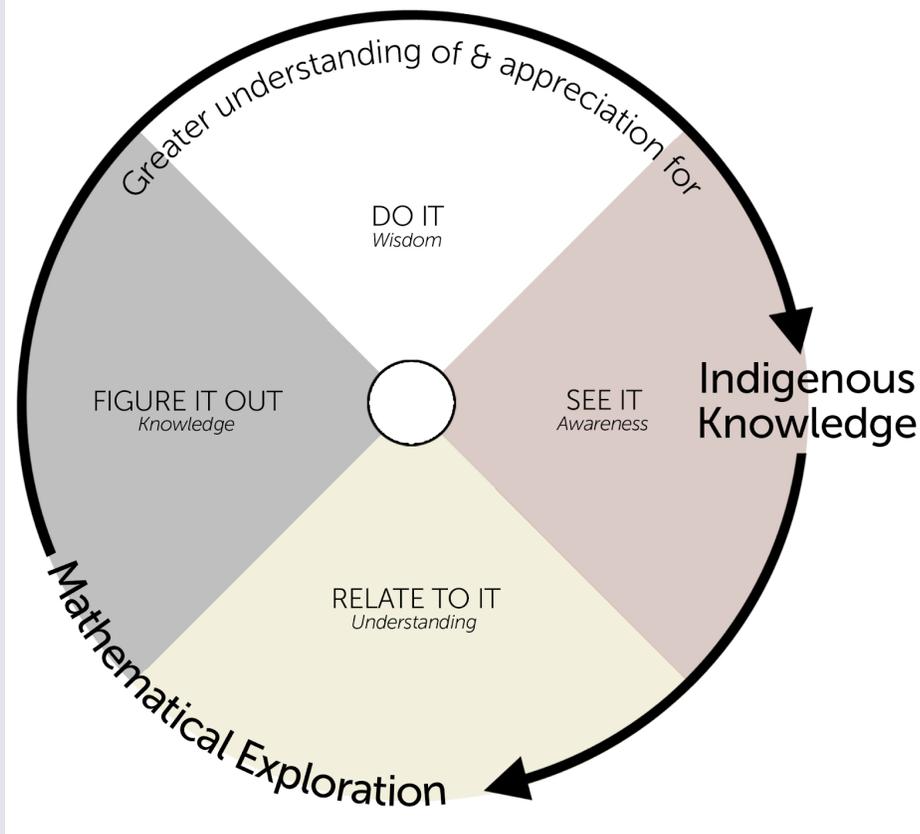
- This lesson plan was designed according to the Medicine Wheel diagram produced by Anishinaabe faculty in Trent University's School of Education and Professional Learning, Dr. Nicole Bell (see figure below). We recommend educators familiarize themselves with the Medicine Wheel and how learning commences through each of the four quadrants (<https://www.edcan.ca/articles/teaching-by-the-medicine-wheel>). Through using the Medicine Wheel as a theoretical framework for inquiry-based learning, each lesson starts with and concludes with Indigenous Knowledge by watching a video (<https://vimeo.com/paradigmpost/maple-videos> - see the 'Materials' section in the Activities for more information about the videos).

The objective of this lesson is for students to form a greater appreciation and deeper understanding of Indigenous Knowledge as transmitted through the act of making maple sugar or maple syrup. In essence, this is land-based education.

Familiarity with the following resources is also recommended: "Nanaboozo and the Maple Tree" in *Keepers of the Earth: Native American Stories and Environmental Activities for Children*, M. J. Caduto & J. Bruchac (1997) and "Nanaboozo Saves Nokomis" in *Tales of Nanabozho*, D. M. Reid (1963).

Educators should take additional time to study and learn about the importance of storytelling according to Anishinaabe ways of knowing. It is evident across many Indigenous cultures that while storytelling is an art, more importantly, stories emerge from Land and they embody ancestral knowledge and intelligence of Indigenous people that stretches back centuries.

We strongly recommend building relationships with Elders, Knowledge Holders, and your local Indigenous community. Please seek advice for protocols in storytelling; some stories are recited at certain times of the year (e.g. Nanabozho stories are only recited when Creation is resting during the winter months).



Connections to Curriculum (Ontario Curriculum Guidelines)

Note: reference numbers below are found in this document:

<http://www.edu.gov.on.ca/eng/Curriculum/elementary/math18curr.pdf>

Overall Expectation(s) addressed:

PSI 14. Demonstrate an awareness of the natural and built environment through hands-on investigations, observations, and questions;

DLMB 18. Recognize, explore, describe and compare patterns;

BC 28. Demonstrate an awareness of their surroundings;

BC 29. Demonstrate an understanding of the natural world and the need to care for and respect the environment.

Specific Expectation(s) addressed:

PSI 14.3 Recognize, explore, describe, and compare patterns in the natural and built environment;

18.1 Identify and describe informally the repeating nature of patterns in everyday contexts (e.g., patterns in nature such as the four seasons);

BC 29.3 Identify ways in which they can care for and show respect for the environment.

ACTIVITIES

1 - Seasonal Trees

Purpose

This activity encourages the children to reflect upon trees and weather throughout the seasons and how the landscape is impacted as a result of seasonal changes in trees.

Educators might choose to complete this activity over a series of shorter sessions given the age of the students.

Optional materials for this activity include paper, paint and brushes, collage, or a cut out of a tree trunk to guide the children's learning.

Time: 60 mins

Activity Instructions

1. Watch a video, or section of a video, selected from the 'Maple Sugar Videos' included in this lesson plan.
2. Educators discuss what sugar maple trees look like by season. Prompting questions include:

"What would the ground look like?"

"What would the sky look like?"

- Using paint, collage, printing, etc., create an image centered around the tree or use photos.

- Create, or use, one image for each season.

- Students arrange their pictures in sequence of the seasons.

- Students identify when the sweet water is harvested and processed to syrup; they use their knowledge gained from the video to help with this.

3. Guiding questions to the educator:

"How are your students 'relating to' the vision?"

"How are your students 'figuring it out' (the vision)?"

This activity is designed to connect with learners with these learning styles...

- Physical (e.g., Tactile, Experiential, Visual) Learners
- Intellectual (e.g., Rational, Logical) Learners
- Emotional (e.g., Feeling, Intuitive) Learners

... in the following ways:

Physical learners are engaged in creating images through using their hands.

Emotional learners reflect upon the seasons and remember how each season 'feels' through reflecting on their feelings and memories.

Intellectual learners are engaged during the process of arranging images in sequence of the seasons.

Materials

Click the 'Link' to open and view videos.

To open and print files, please go to the 'files' folder accompanying this downloaded lesson plan.

Resource Title	Type
Maple Sugar Videos	Link 

Resource Title	Type
<p>These videos provide a general overview in the process of making maple syrup from start (tree identification) to common practices for storing maple sugar. Each video is approximately 10-12 minutes in length, which is ideal for learners of all ages.</p> <ol style="list-style-type: none"> 1. Stories (11:41) 2. Language (7:43) 3. Collecting Sap (12:48) 4. Trees (11:20) 5. Maple Sugar (14:25) 	
<p>Supplies: art supplies or photos of Sugar Maple trees at different times of the year</p>	Supplies 📄
<p>Students can either draw pictures of trees during the different seasons or work with photos of trees from different seasons to explore how they change throughout the year.</p>	

TEACHING NOTES

2 - Reflection

Purpose

This activity is an opportunity for the students to reflect upon their learning and thinking about sugar maple trees.

Time: 15 mins

Activity Instructions

Summarize the learning with the following prompting questions:

"What do sugar maple trees look like when sweet water is being collected?"

"How should we treat these trees?"

"How do you treat your friends?"

"Do we take from our friends or do we share?"

"Could you treat the trees like your friends?"

These questions address the following:

- The Anishinaabe, like other Indigenous Peoples, have a strong relationship with Creation.
- All people need to look after the trees year-round so that sugar maple trees can provide us with the sweet water to make the syrup.
- A greater awareness and understanding of Indigenous Knowledge can be developed, with Indigenous Knowledge being the main focus to reinforce the learning.

Guiding question for the educator:

"How are your students 'doing' the vision?"

This activity is designed to connect with learners with these learning styles...

- Spiritual (e.g., Relational) Learners
- Physical (e.g., Tactile, Experiential, Visual) Learners
- Intellectual (e.g., Rational, Logical) Learners
- Emotional (e.g., Feeling, Intuitive) Learners

... in the following ways:

Spiritual Learners - can relate their understanding of friendship and care to their relationship with the trees. It is important for students to recognize trees and Creation as having Spirit, like us. Trees resemble us because the fall season is like us falling asleep; winter is us sleeping; spring is us waking up; and summer is us wide-awake and playing.

Emotional learners can reflect on their relationship with trees.

Tactile learners can physically explore trees outside, if the teacher holds an outside activity, or they can show their tree image(s) to a classmate, friends, or family.

Intellectual learners can relate the importance of care for the sugar maple trees to the production of maple syrup. They also can distinguish seasons by looking at the canopy, ground, and the areas surrounding each tree.

TEACHING NOTES

3 - Activating Prior Knowledge

Purpose

This activity is an opportunity for students to realize how trees change according to each season. The focus is on which season sweet water is collected.

Seasonal pictures of sugar maple trees are required.

Time: 15 mins

Activity Instructions

Educators provide four pictures of sugar maple trees corresponding to each season; ask students what they notice about the four pictures.

Or

Using the 'Maple Syrup Videos' in this lesson plan, show the video of sweet water collecting in a bucket or use this video (see the video link in the "Materials" section below). Ask students, using their prior knowledge: In what season is sweet water collected based on what the sugar maple trees look like?

Record questions and answers for further discussions.

Guiding question for the educator:

How are your students 'seeing it' (the vision)?

This activity is designed to connect with learners with these learning styles...

- Spiritual (e.g., Relational) Learners
- Physical (e.g., Tactile, Experiential, Visual) Learners

... in the following ways:

Spiritual Learners: Students can recognize their relationships with sugar maple trees through vocabulary usage. For example, educators differentiate "collecting what is provided by Land" versus "taking from the trees". Trees and Creation are our relatives and we must always demonstrate the utmost respect.

Physical Learners: Students have the opportunity to view images of sugar maple trees that correspond with each season and identify similarities or differences.

Materials

Click the 'Link' to open and view videos.

To open and print files, please go to the 'files' folder accompanying this downloaded lesson plan.

Resource Title	Type
Supplies: Pictures of Maple Trees in different seasons	Supplies 📁
Educators can look for four pictures of sugar maple trees corresponding to each season.	
YouTube video: Sweet water collecting in a bucket	Link 🔗

TEACHING NOTES

4 - Cross-Curricular Extension Activities

Purpose

To extend the learning into different subject areas

Time: 30 mins

Activity Instructions

If interested, the teacher can extend the learning in a variety of ways:

- **Math**
 - Data management
 - Explore differences between different trees and tree species
- **Geometry**
 - Shapes of tree trunks, leaves, branches
 - Collect fallen leaves and examine their shapes; notice that they are the same if you fold them in half (simple line symmetry)
- **Measurement**
 - Sizes of tree trunk, buds on branches, leaves
- **Science**
 - Look at the veins in the leaves; talk about how roots bring water from the ground through the tree to the leaves
 - Life Cycle of Trees - take students outside to record the differences of the trees in each season (perhaps taking pictures with tablets or another type of device); visit a sugar bush and taste the sweet water
 - Coniferous and Deciduous Trees - some trees like sugar maples drop their leaves in winter; others remain green

TEACHING NOTES

ASSESSMENT

This section contains information for assessing progress in students' learning. While Indigenous approaches to assessment may be highlighted, conventional assessment methods may also be discussed.

There is no formal summative assessment ('Assessment of Learning') in this lesson; assessment is integrated within the learning tasks to inform the next steps of the lesson. It is a supportive learning situation that is not focused on specific task outcomes but on developing an understanding of the importance of relationship with the trees. However, one potential form of Indigenous assessment could be through holding a sharing circle in which students are asked to share what they learned or found to be important to them. Prompting questions (in the 'Activities' section of the lesson plan) can easily be adapted to 'Assessment for, as, and of learning'.

ADDITIONAL RESOURCES

Click the 'Link' to open and view videos.

To open and print files, please go to the 'files' folder accompanying this downloaded lesson plan.

Resource Title	Type
Story: Nanaboozo and the Maple Trees	Link 
See if your library has the book, <i>Keepers of the Earth</i> (by Michael J. Caduto and Joseph Bruchac), where this story is found. Otherwise, here is a link to the story re-printed on-line.	
Article: Teaching by the Medicine Wheel: An Anishinaabe framework for Indigenous education	Link 
by Dr. Nicole Bell	
Maple Sugar Videos	Link 
<p>These videos provide a general overview in the process of making maple syrup from start (tree identification) to common practices for storing maple sugar. Each video is approximately 10-12 minutes in length, which is ideal for learners of all ages.</p> <ol style="list-style-type: none"> 1. Stories (11:41) 2. Language (7:43) 3. Collecting Sap (12:48) 4. Trees (11:20) 5. Maple Sugar (14:25) 	

HOLISM AND ALL OUR RELATIONS

This lesson plan has been developed with an Indigenous lens that is holistic in nature, a way of being and knowing that acknowledges our relationships with 'all our relations', including plants and animals, other human beings, the water, land, wind, sun, moon, stars, and more - everything seen and unseen. With 'all our relations' in mind, this lesson plan has been developed with a focus on:

Relationship with the land
Through their explorations of maple trees, consideration of care for the trees, and sharing, students will develop a relationship with the land. Students will come to recognize that we are only to collect what the trees give us and we must be careful in not over-harvesting so future generations can reap the same benefits. This lesson will also help students realize that trees and plants are living, they are our teachers because they hold knowledge, and that we have many similarities to trees.
Participatory and experiential learning activities
Language and Culture

Depending upon the video used, the Ojibwe language can be introduced, explored, and developed throughout this lesson.
Connections are made with everyday life
Maple syrup has become a staple of Canadian homes. This lesson aims to develop a greater understanding of, and appreciation for, the Indigenous Knowledge that underpins the making of maple syrup. Sugar maple trees, in addition to providing maple syrup, help clean our air and they provide us with natural resources that heat our homes or 'warm bodies when the wind becomes cold'. In essence, trees play vital roles in our everyday lives.
Intergenerational learning with Elders/Knowledge Holders
Were Elders or Knowledge Holders involved in the development of this Lesson Plan? Yes Can Elders or Knowledge Holders be invited to help teach part of this lesson plan? Yes
Intergenerational learning with Elders/Knowledge Holders
Ethics in the classroom: care, truthfulness and trust, respect, integrity
Care and Respect - care and respect for the trees, the need to look after and nurture the trees for future generations. Truthfulness and Trust - the trust that is placed in us all to look after and not exploit the gifts of the trees. Integrity - that we will do the right thing in honouring our relationship with the trees and other aspects of Creation and Land.
Different learning styles; attention given to mind, body, and spirit
Healthy relationship with self and identity
Students will recognize an important worldview or understanding that people are the youngest of Creation. We have much learning to do and our learning takes place by spending time (re)building our relationship with Creation. This is applicable to all peoples since we all depend on the natural world for survival.
Personal reflection time (connecting with thoughts and feelings)
These students are very young. The reflection is a guided part of the consolidation of the learning, asking the children to consider that we need to treat and respect trees in the same way we treat our friends, how we don't just take from our friends but also share with them. As a reflection activity, educators can consider a group sharing time in which everyone verbally shares something they found interesting or that was new information to them.

OTHER DETAILS

This Lesson Plan aims to meet curriculum expectations or outcomes for: Ontario Yes

RELATED LESSON PLANS

- Measuring Sweet Water and Maple Syrup
- Maple Syrup and Climate Change
- Tree Tapping
- Ratios of Maple Syrup and Sweet Water
- Sirop d'érable et changements climatiques

CONTRIBUTORS

Name	Role/Job Title	Place
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QUESTIONS/MORE DETAILS

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