



# Canada C3 Digital Classroom Learning Module

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Name of School Board/District, Education Authority: Department of Education, Cape Breton University

Learning Module Title: Mi'gmaq Language as a Means of Promoting Indigenous Sustainability

Grade(s)/Teaching Division(s): 3

Subject(s)/Course(s): Science

Time: 230 minutes

## Learning Module Topic & Description

In these lessons, students will use Mi'gmaq information and culture to identify certain medicinal plants and understand their use and importance in a way that demonstrates respect and important Mi'gmaq values. Students will also have an opportunity to discover that plants are important to all living things and are connected to us in many ways. Students will learn these two important concepts through the use of many different activities and learning styles.

## Essential Question(s)

How can we use Mi'gmaq values and understandings to enhance student learning on topics relating to science? Can students learn about themselves by drawing a correlation between Mi'gmaq values and their own values?

## Canada C3 Central Theme(s) Addressed

Diversity & Inclusion

Environment

Reconciliation

## Learning Objective(s)/Goals

Students will deepen their understanding of Mi'gmaq Values:

- Respect: honouring all living beings and the lands
- Reflection: allowing time to absorb and reflect on a matter, before making a decision
- Appreciation: recognizing the value in all living things
- Justice: defending and promoting a just society that includes environmental equity
- Responsibility: being action-oriented by not waiting to take responsibility

## Essential Concepts/Knowledge/Skills to be Learned/Applied

The Processes of Scientific Literacy have been adopted and adapted from the New Brunswick Science Curriculum document\* to support learning outcomes achieved through a Mi'gmaq lens and worldview:

Inquiry: Students will work co-operatively to brainstorm, explore, predict, and reflect.

Problem Solving: Students will work co-operatively to consider, propose, and reflect upon human problems to determine the best solution.

Decision Making: Students will work co-operatively to make conclusions and achieve consensus-based decisions (if feasible).

Storytelling: Students will use stories to transmit knowledge and values and as a means of initiating discussion and reflection. Stories are also used to explain the many scientific complexities as understood by the Mi'gmaq.

\*For more information, please see:

<http://www2.gnb.ca/content/dam/gnb/Departments/ed/pdf/K12/curric/Science/Science-Grade3.pdf>

## Curriculum Connections/Big Ideas

- Science
- Social Studies
- Mi'gmaq Studies

## Teacher Goals

First Nations languages are reflective of our relationship to and with our territories. Anecdotally, the loss of our language as Mi'gmaq runs parallel to a disconnect from our territories and a tacit acceptance of western standards of "development" and "managing natural resources". As educators, we're working to strengthen our language in an attempt to re-educate our children and people, not only to survive and thrive in today's world, but also to resume and strengthen our stewardship and protection of our lands. In these lessons, cooperative learning will be used to explore Mi'gmaq knowledge, values, culture, and language.

## Lesson 1 of 3: "Mi'gmaq Plant Names and Connections to the Land" (85 minutes)

Student Groupings <i>(e.g., whole class, small groups, pairs, independent work):</i>	Materials/Resources <i>(e.g., equipment, PowerPoint/Keynote slides, manipulatives, hand-outs, games, assessment tools):</i>
<ul style="list-style-type: none"><li>• Whole class</li><li>• Pairs</li></ul>	<ul style="list-style-type: none"><li>• Visual chart/list of Mi'gmaq values (see "Learning Objectives/Goals" section above)</li><li>• Photos of plants</li><li>• Outdoor gear/clothing</li><li>• Writing, drawing, and artistic materials (for Extension activity)</li></ul>
Instructional Strategies <i>(e.g., direct instruction, demonstration, simulation, role-playing, guest speaker, etc.):</i>	Considerations <i>(e.g., contingency plans re: technology failure, student absences or groupings, guest speaker cancellations, or safety concerns):</i>
<ul style="list-style-type: none"><li>• Direct instruction</li><li>• Experiential outdoor learning</li></ul>	<ul style="list-style-type: none"><li>• Plan to conduct this lesson when weather conditions are favourable.</li><li>• Outdoor safety is an important consideration, and teachers should ensure a chaperone is present at all times when students are outside.</li></ul>

## **Accommodations & Differentiation Strategy (*to address different needs & preferences of students*)**

Every student has their own learning preference. This lesson can be accommodated, modified, and/or differentiated to ensure all students are learning at their fullest potential. Needs and preferences can be assessed and acted upon on a case-by-case basis.

## **Assessment for Learning, Checking for Understanding, Success Criteria & Feedback**

Students can engage in Self-Evaluation by asking them to reflect upon what they learned and what Mi'gmaq values they demonstrated. Have them create a personal reflection about how the plants are important medicine and how they keep people healthy.

An optional extension and opportunity for summative assessment would be to have students create a field guide/herbarium about the traditional medicines you study. Students could include drawings/photos/plant pressings, Mi'gmaq names, traditional uses, and other information.

## **Motivational Hook (*process for acquiring & focusing students' attention*), Time (10 minutes)**

Display the visual chart of Mi'gmaq values where all students can see it. In pairs, ask students to think about and discuss what these values mean and how they model these values, particularly in an environmental sense. Ask for volunteers to share their ideas with the class.

## **Open (*process for introducing/framing module & agenda*), Time (10 minutes)**

Introduce the students to the two types of medicinal plants they will be searching for today, including their Mi'gmaq names and uses. Be sure to show photos of the plants so that students will know what they are looking for while out on the land.

Apatamkiejit (ground juniper) is made into a tonic using the tree's twig ends, and is used to treat kidney ailments, especially bladder infections, afterbirth pains, and diabetes or high blood sugar.

Wijokjemusi (cherry tree)'s bark can be chewed or boiled into a tonic to treat coughs, sore throats, high blood pressure, and sleeping problems.

Both of these plants are also medicines of Mila-L'uiknek, or the Seven Sorts, which is a combination of seven special plants that, when boiled together to the consistency of molasses, are used to treat internal pains.

\*Sourced from the research of Miawpukek First Nation:

[http://www.tcii.gov.nl.ca/heritage/supported\\_projects/miawpukek.html](http://www.tcii.gov.nl.ca/heritage/supported_projects/miawpukek.html)

## **Body (*main instructional & learning processes to build understanding, skills, attitudes*), Time (40 minutes)**

Take students out onto the territory to search for apatamkiejit and wijokjemusi. Review with students the Mi'gmaq names and medicinal uses of the plants as you search. While locating the plants, pay attention to the surroundings and make note of the area's characteristics (e.g., marshy land, animal tracks, etc.).

## **Consolidation (*processes for application & practice of knowledge, skills, attitudes*), Time (15 minutes):**

When back in the classroom, discuss with students their observations of the territory while they were out searching for the plants. Explain that the Mi'gmaq language is very descriptive of the territory. Share the meanings behind the Mi'gmaq names of these plants:

- wijokjemusi (cherry tree):
    - wij- means *together with each other*
    - -ok- means *stick or stem*
    - -je- means *round object*
    - -misi is the word ending that means *trees and bushes that give some useful fruit or other substance*
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- apatamkiejit (ground juniper):
  - apat- means *coming back, return*
  - -amk- means *gravel, sand*
  - -ie- means *moves*
  - -ji- means *be little one*
  - -t means *the one that*

Ask students to think about the meanings behind the Mi'gmaq names, what this tells you about the plants, the environment they grow in, and any of their special features.

#### **Closure (processes for recapping, looking ahead), Time (10 minutes):**

Verbally in a talking circle or in writing, ask students to reflect upon what they learned and what Mi'gmaq values they demonstrated, including how the plants are important medicine and how they keep people healthy.

#### **Student Reflection on Learning (i.e., critical thinking questions to extend the learning)**

See "Closure" section above.

#### **Extension Ideas & Additional Resources**

Have students create a field guide/herbarium about the traditional medicines you study. Students could include drawings/photos/plant pressings, Mi'gmaq names, traditional uses, and other information.

#### **Teacher Reflection (e.g., notes for next time)**

During the Closure portion of the lesson, note students' questions and any remaining misconceptions they might have about medicinal plants, so that these can be addressed in Lessons 2 or 3.

### **Lesson 2 of 3: "Storytelling" (45 minutes)**

<b>Student Grouping</b> <i>(e.g., whole class, small groups, pairs, independent work):</i>	<b>Materials/Resources</b> <i>(e.g., equipment, PowerPoint/Keynote slides, manipulatives, hand-outs, games, assessment tools):</i>
<ul style="list-style-type: none"> <li>• Whole class</li> </ul>	<ul style="list-style-type: none"> <li>• It is respectful to thank First Nations Elders by offering a tobacco pouch or tobacco tie when extending an invitation and before they begin their teaching.</li> <li>• Consider displaying Mi'gmaq language visuals with vocabulary about plants and the territory for students to refer to during the storytelling.</li> </ul>
<b>Instructional Strategies</b> <i>(e.g., direct instruction, demonstration, simulation, role-playing, guest speaker, etc.):</i>	<b>Considerations</b> <i>(e.g., contingency plans re: technology failure, student absences or groupings, guest speaker cancellations, or safety concerns):</i>
<ul style="list-style-type: none"> <li>• Guest speaker</li> </ul>	<ul style="list-style-type: none"> <li>• Connect with the community Elder with plenty of notice before this lesson so that they can adequately prepare.</li> <li>• Consider how you will appropriately welcome, thank, and reimburse the Elder who visits your class for their time and knowledge keeper expertise.</li> </ul>

## **Accommodations & Differentiation Strategy (to address different needs & preferences of students)**

Every student has their own learning preference. Needs and preferences, such as strategic seating or sensory tools, can be assessed and acted upon on a case-by-case basis.

### **Assessment for Learning, Checking for Understanding, Success Criteria & Feedback**

During the Elder visit, there are opportunities for teachers to engage in observational assessments of students sharing their knowledge about the medicines and how the environment is important to our well-being. Along with their knowledge and experience, students will be reminded to practice effective communication, manners, and courtesy.

### **Motivational Hook (process for acquiring & focusing students' attention), Time (5 minutes)**

Tell students that a guest storyteller will be visiting the class today to teach about plants and medicines. As bell work, give students two minutes to write or draw anything they know about plants. When the two minutes have passed, ask for volunteers to share the ideas that they recorded.

### **Open (process for introducing/framing module & agenda), Time (5 minutes)**

Gather in a circle and remind students about how to practice effective communication, manners, and courtesy. Ask one or two students to formally welcome the guest speaker with a tobacco tie, and invite the visiting Elder to introduce themselves.

### **Body (main instructional & learning processes to build understanding, skills, attitudes), Time (25 minutes)**

Support students to listen attentively and respectfully to the guest speaker's storytelling about plants and medicines.

### **Consolidation (processes for application & practice of knowledge, skills, attitudes), Time (8 minutes)**

Provide time for the students to ask questions to the storyteller and to share their own ideas.

### **Closure (processes for recapping, looking ahead), Time (2 minutes)**

Thank the visiting Elder for their time and knowledge.

### **Student Reflection on Learning (i.e., critical thinking questions to extend the learning)**

Students can reflect upon their learning by writing thank-you notes to the visiting Elder. These notes could include messages of gratitude, as well as an expression of what students learned from the storytelling activity and why learning from a knowledge keeper is important to them.

### **Extension Ideas & Additional Resources**

See "Student Reflection on Learning" section above.

### **Teacher Reflection (e.g., notes for next time)**

During the Consolidation portion of the lesson, note students' questions and any remaining misconceptions they might have about medicinal plants, so that these can be addressed in Lesson 3.

## Lesson 3 of 3: “Plants Jigsaw” (100 minutes)

<b>Student Groupings</b> <i>(e.g., whole class, small groups, pairs, independent work):</i>	<b>Materials/Resources</b> <i>(e.g., equipment, PowerPoint/Keynote slides, manipulatives, hand-outs, games, assessment tools):</i>
<ul style="list-style-type: none"> <li>Collaborative small groups</li> </ul>	<ul style="list-style-type: none"> <li>Learning station materials, such as:           <ul style="list-style-type: none"> <li>Plant cuttings or samples</li> <li>•</li> </ul> </li> </ul>
<b>Instructional Strategies</b> <i>(e.g., direct instruction, demonstration, simulation, role-playing, guest speaker, etc.):</i>	<b>Considerations</b> <i>(e.g., contingency plans re: technology failure, student absences or groupings, guest speaker cancellations, or safety concerns):</i>
	<ul style="list-style-type: none"> <li>Teachers will need to prepare the learning stations materials ahead of time.</li> </ul>

### **Accommodations & Differentiation Strategy** (*to address different needs & preferences of students*)

Strategic grouping may need to occur if the teacher feels that certain students should or shouldn't work together. The teacher may use his or her professional discretion in choosing the accommodations required.

### **Assessment for Learning, Checking for Understanding, Success Criteria & Feedback**

During the jigsaw activity, opportunities exist for observational assessments about students' inter-personal, communication, and collaboration skills. The Exit Tickets provide an opportunity for formative assessment. Finally, the poster activity can be used as a summative assessment task.

### **Motivational Hook** (*process for acquiring & focusing students' attention*), **Time** (5 minutes)

As a warm-up activity, ask students to recall what happened in the storytelling activity from the previous lesson. Ask questions like, What happened first? What happened afterwards? How did the story end? What did we learn from the story? Record their responses on the board as students share them.

### **Open** (*process for introducing/framing module & agenda*), **Time** (10 minutes)

Introduce the lesson's jigsaw activity. Divide students into groups of 4; these will be their “home groups”.

Assign each student in each home group to one of the learning stations:

- Plants as medicine (e.g., balsam fir)
- Plants as climate helpers (e.g., moss)
- Plants as habitat (e.g., cattails)
- Plants as food (e.g., bakeapple)

At each learning station, students will work collaboratively with others from different home groups to learn about their assigned plant. After completing their learning station activity, students will return to their home group with the responsibility of teaching the rest of their group about their plant, and of learning about the plants studied by their other home group mates.

### **Body** (*main instructional & learning processes to build understanding, skills, attitudes*), **Time** (20 minutes)

Direct students from their home groups to their assigned learning stations. The teacher will decide what tasks will be at each station, but some ideas could include:

- Observe a plant sample, sketch the plant, and label it as a diagram.
- Read or colour maps that show where in the community the plants are found.

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- Read an information card about the plant and record the information in a graphic organizer, such as a 6-Ws graphic organizer about where the plant grows, when it blooms, who it is useful for (e.g., animal species, people with certain ailments), how it is harvested or collected, why it is considered a medicine/climate helper/habitat/food, and what challenges it faces (e.g., over-harvesting, reduced distribution due to land development, etc.).

#### **Congolidation (processes for application & practice of knowledge, skills, attitudes), Time (20 minutes)**

After completing the activity at their learning stations, direct students back to their home group. Each home group member will have approximately 5 minutes to share their learning with their group mates. Remind students that they are responsible both for sharing their knowledge, and listening to the expertise of their group mates.

#### **Closure (processes for recapping, looking ahead), Time (40 minutes)**

Ask students in their home groups to reflect upon their learning by discussing a concluding question: *Based on what you learned during our class, why is it important to show Respect, Appreciation, and Responsibility for plants?* Ask each home group to collaborate to create an artistic poster that illustrates their knowledge of plants and answers the above question. Emphasize the use of Mi'gmaq in the students' written portions of the poster.

#### **Student Reflection on Learning (i.e., critical thinking questions to extend the learning), Time (5 minutes)**

Hand out one large sticky note to each student. As an Exit Ticket activity, ask students to write an answer to the question, *What are some ways that plants are important to living things?*

#### **Extension Ideas & Additional Resources**

The teacher can collect the Exit Tickets, read and group them thematically, and display them in a mind map format to consider possible directions for further inquiry about plants.

#### **Teacher Reflection (e.g., notes for next time)**

Revisit the Teacher Goals of this Learning Module to reflect upon the success of these lessons. How did learning the Mi'gmaq language names and etymologies for the medicines help students develop environmental stewardship? How did students respond to working in co-operative groups and how could they be supported to further develop this skill? How can students continue to learn about the curriculum from traditional knowledge keepers?

## Appendix A: Supporting Photographs

