### Anishinaabe Nandagikenjigewin Miinawaa Eshandizoyang: An experiential introduction to Anishinaabe Science and Food Sovereignty

Aamookwe Amy McCoy Gaa-ozhitood (Created by)



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### Biminzha'aadaa Bineshiinhyag: An invitation to follow the birds. An experiential introduction to Anishinaabe Science and Food Sovereignty.

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Have you seen a murmur of birds dancing across the sky on your way to school or another required destination? Did you feel a pull of wonder that you did not have time to explore? Anishinaabe science involves a shift of time and space that necessitates taking the time in pursuit of wonder. When are these birds dancing in collaborative groups and why? January 2, 2024 hundreds of cedar waxwings and bohemian waxwings had a meeting in Bawating. As human beings, what have we learned from our waxwing relatives? One of our creation stories tells that the birds carried the seeds when Mother Earth was young. Different birds carry leadership for certain seeds. Which plants do the waxwings call us to pursue as we learn to build our relationship with them through wonder. What do your grandparents, aunties, uncles or elderly neighbors recall about waxwings growing up? What is their relationship with the moons as they move through our turtle shell calendar? What relationship do waxwings have with gardens? What about agroforestry? Does a bird's relationship with popular garden crops make it relevant or irrelevant to the food systems of the human being? What wonders come to mind when you see birds dance in the sky together? What do you feel when you look up and take notice? What do you think? Feel? See? Hear? Smell? Wonder?

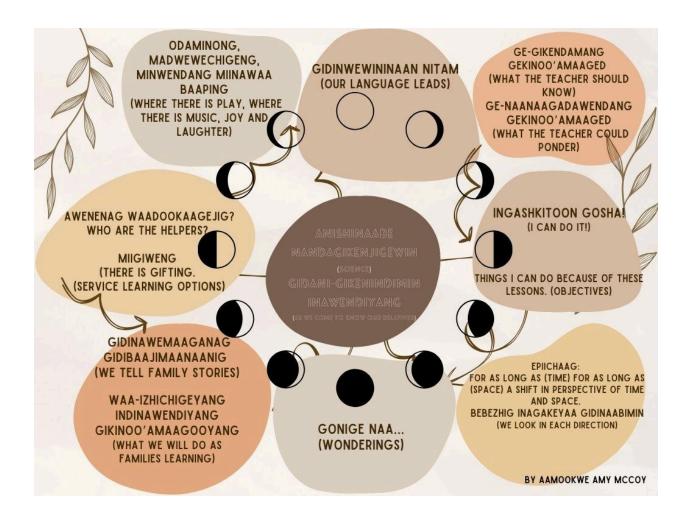
Anishinaabe science doesn't fit into a clean cut Western educational category like reading, math, social studies and science in a silo. It is interwoven with all. You can see this within the example of a watershed lesson plan as food sovereignty. Food is a category siloed by the societal disconnection between humans and our more than human relatives that sustain and support us, otherwise known as "food". Through the relationality of Anishinaabe science, all relatives in creation are connected and cannot be siloed into separate categories in the same way we have been trained to perceive through western scientific methods. Thinking like an Anishinaabe scientist involves awakening interdisciplinary, interdimensional, intergenerational wonderings and accepting that there are great mysteries in the wonders of this grand family of human and more than human relatives. As the youngest siblings in the universal family, the Anishinaabeg depend upon the rest of creation for our sustenance. We have learned from the gifts of our more than human relatives since the first human being crawled upon Mother Earth, enticed to learn to walk by the wonder inspired by memengwaag, the butterflies. The next time you notice a murmur of birds dancing in rhythmic collaboration, take the time to follow the wonder and see what gifts your bird relatives have to offer through Anishinaabe science.

### Nandagikenjigedaa! (Let's search for knowledge!) miinawaa ashandizoyang Anishinaabe Science and Food Sovereignty Curriculum Format

The following lesson plans include a shift in thinking from an Anishinaabe perspective of relationships with our larger family within creation that include our more than human relatives. The gifts that each being has to share is an integral part of the whole interconnected system as are intergenerational relationships, play/art/music/game based learning and family stories. This framework is an introductory experience unsettling science curriculum. It is meant to change and adapt over time as we continue to reconnect with more than human relatives through the relational ways of being and knowing that is Anishinaabe science. I hope it inspires you and your students to value the teachings that your first family, or more than human relatives carry, but also to draw attention to the important teachings your human relatives carry in the memories of their own lives growing up.

As you experience the lessons, there are key opportunities for students to connect with their families and extended families at home. Conversations with relatives about what they remember activates the living history integral to community knowledge. This strand of the experience is also powerful in unsettling the hierarchy of knowledge systems. Anishinaabe scientific thinking involves respect for the stories our families carry. Common threads weave throughout these lessons to create a whole picture. Each lesson is meant to provide opportunities to awakening Anishinaabe thinking and being within your classroom community. Not every strand lies within each activity or lesson. Rather, the activities weave the aspects to awaken the larger picture as a whole.

You will find the following sections in lessons, however not every section will accompany every activity. These sections are designed to assist in the overall shift in relationship building with our first family.



### Gidinwewininaan Nitam (Our language leads)

Anishinaabemowin is an original language of the Indigenous people of Ontario, Michigan, Wisconsin, Minnesota and parts of Manitoba, Alberta, North Dakota, and Montana. It is a teaching that the language has everything we need. These learning experiences are created for people of all ethnicities and backgrounds as well as a full spectrum of language speaking abilities. If you are able to expand upon the Anishinaabemowin objectives presented here, please contribute to a language rich environment that is crucial to the revitalization of Anishinaabe ways of knowing and being. Anishinaabemowin language objectives are included with every experience. The language objectives are grounded in relationship building with our more than human relatives. Through the language, we encourage you to open your mind with a shift away from seeing Natural Resources and food as commodities. We invite you to come to know our older relatives that take care of us and have inherent value apart from their relationship with human beings.

Here you will find a pronunciation chart for the Anishinaabemowin objectives, <a href="https://www.fdlrezk12.com/documents/Ojibwe Double Vowel Sound Chart.pdf">https://www.fdlrezk12.com/documents/Ojibwe Double Vowel Sound Chart.pdf</a>

# Ge-gikendamang Ge-naanaagadawendang Gekinoo'amaaged (What the teacher should know and ponder)

Background information is provided to encourage your own wonderings in the hopes that you will be as inspired as your students in the wondrous world of Anishinaabe scientific discovery and connection. Further resources are also provided in the form of links to explore.

As a precursor to the following activities, please read the directions provided by Indigenous STEAM "Learning in Places" to prepare to create your outdoor classroom experience following the turtle shell calendar section of this curriculum.

http://learninginplaces.org/frameworks/designing-learning-in-and-with-outdoor-places-framework/

Learning in Places Collaborative. (2022). Framework: Designing Learning in and with Places. Bothell, Seattle, WA & Evanston, IL: Learning in Places.

### Epiichaag: For as long as (time) for as long as (space)

We learn a shift in perception of time and space from our more than human relatives. When planning your lesson, make sure to account for this expanded learning. Forty-five minutes might not be enough time. If bound by a certain increment of class time, please expand your planning to allow space for the activities to expand and require additional class periods when you have the same students again. Anishinaabe science involves unfolding with the natural progressions within nature. Likewise, when leaning into wonder and curiosity of play as human beings, we require the open space of time for unhurried realizations. Through the following activities, students and teachers will have opportunities to learn from more than human relatives from their own expanded life cycles of development. This includes beings with life spans of 800 years or more. Through Anishinaabe science, we unsettle the framework of post-colonial time frameworks and expand to the time and space frameworks provided by our older more than human relatives.

### Bebezhig Inagakeyaa Gidinaabimin (We look in each direction)

We zoom in and out of perspectives of current physical location of sight as well as widen to explore the perceptions provided by human and more than human relatives past, present and future as one in this moment. It is a shift of time and space. This includes intentional meditations that center within the seventh direction inside you. These meditations also serve to create new space for realizations in the relationship building process with more than human relatives. It helps us to unsettle human centrism that is not aligned with Anishinaabe science. It also involves intentional space making to strive to see from the lifespan perspective of relatives such as Grandmother cedar tree. Also taken into

consideration is the possible experiences of our great grandchildren and our great grandparents whom are one in our Anishinaabe language. Activities are provided that allow practice in these Anishinaabe scientific perspective shifts.

Naanaawayi'iing: What does this relative teach you about how to live by the way it lives its own life? What do you see at the ground level? What do you notice about the relatives above you?

## Ge-aabadakin: What will be useful. Ge-aabadakiban (What might be useful) Ayaabadakin: Things that are useful

Helpful links for more background information as well as for student exploration. Four Directions teachings: <a href="https://www.fourdirectionsteachings.com/transcripts/ojibwe.pdf">https://www.fourdirectionsteachings.com/transcripts/ojibwe.pdf</a>

### Awenenag Waadookaagejig? Who are the helpers?

Mindful attention is given throughout the handouts to help students see that Anishinaabe science involves relatives with gifts in community cycles of life, including death.

### Miigiweng: There is gifting. (Service learning options)

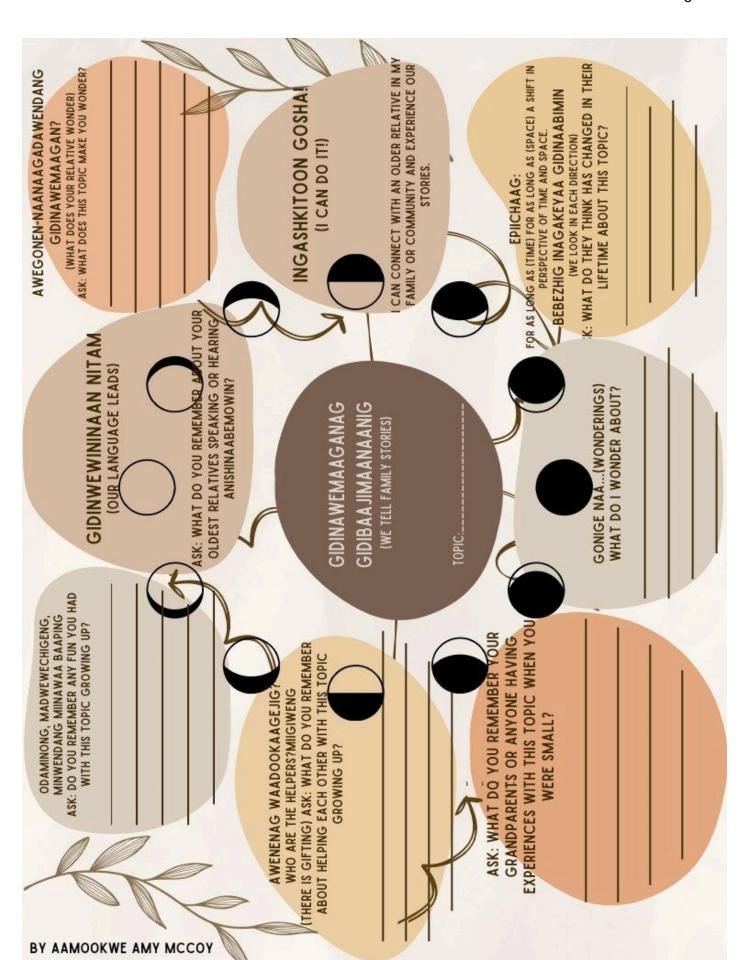
As our first family has gifts they share with us as the youngest siblings, we too have gifts to share in community. This section will focus on the gifts of our first family and encourage students to find ways to extend their own gifts to those behind or ahead of them on the path of life, both younger relatives and elders or other community groups. Options to engage service learning are included with many of these lessons and we invite you to allow your students to think of ways your classroom community could help others with what they do and learn.

Gidinawemaaganag Gidibaajimaanaanig (We tell family stories) Waa-izhichigeyang Indinawendiyang Gikinoo'amaagooyang (What we will do as families learning)

#### Family Storying Graphic Organizer

Each activity section includes a graphic organizer for students to use in closer relationship with their family at home or extended family. Anishinaabe scientific thinking includes deep value for family histories and intergenerational knowledge. This is not homework or something to penalize students for. This is a component that encourages communication between students and their families for important intergenerational knowledge. Avoid falling into assumptions about families not caring about the project or penalizing students that might not have someone to spend time with for the answers. The core of learning involves healthy relationship building and students should not be shamed or guilted if they do not bring back the organizer. Frame the activity as family learning rather than homework. It is also important to emphasize that family knowledge of history is valuable

regardless of western scientific background knowledge. Even if the graphic organizer does not come back, you can ask students what they discussed with their families and share valuable information together.



### Bizaanendamang / Naanaagadawendamang (Meditating / pondering)

Lessons include first family relationship building mindfulness meditations. These meditations are suggested guided meditations for both you and your students to imagine and embody within your relationship building experiences.

### Gonige naa...(wonderings)

Students and teachers are encouraged to lean into the wonderings that arise in self and other throughout the suggested experiences. Your wonderings and that of your students are a key connection to the curiosity and joy in learning crucial to Anishinaabe scientific thinking. As human beings, we have been gifted the power of dreams and visions. Being a catalyst for the next generation connecting with their own inspired wonderings will have a great effect on revitalization of our communities.

# Odaminong, Madwewechigeng, Minwendang Miinawaa Baaping (Where there is play, where there is music, joy and laughter).

There are suggestions for play through games, music and art throughout. Play, rhythm and joy open up space for wonderings and for new synapses to build in the brain.

### Awenenag gikinoo'amaaganag? (Who are the students?): 6th-12th grade

### Ingashkitoon gosha! (I can do it!) Things I can do because of these lessons. (Objectives)

I can have an experience building relationships with our first family in my own way.

I can express my experience building relationships with plant, bird, animal, fish and other relatives.

I can see plant relatives more compassionately.

I can take the time to imagine and wonder.

I can express my wonder inspired by my more than human relatives.

I can give an example of the interconnectedness of relatives and the river.

I can describe what I learned from one or more of my more than human relatives.

I can ask relatives at home questions that I am inspired to wonder about.

I can describe at least one difference between time for a cedar tree and time for a human relative.

I can describe nourishing gifts more than human relatives provide to each other.

I can describe nourishing gifts more than human relatives provide to human beings.

## Ge-naanaagadawendang Gekinoo'amaaged (What the teacher could ponder) Ge-gikendamang Ge-naanaagadawendang Gekinoo'amaaged (What the teacher should know and ponder)

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http://learninginplaces.org/frameworks/designing-learning-in-and-with-outdoor-places-framework/ Learning in Places Collaborative. (2022). Framework: Designing Learning in and with Places. Bothell, Seattle, WA & Evanston, IL: Learning in Places.

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### Suggested experiences

You won't find a script to read or traditional step by step instructions. This is in line with Anishinaabe thinking and ways of knowing through interrelated experiential learning. It allows space for creativity and true relationship building on the part of the teacher and the students as well as more than human relatives. This allows teachers the opportunity to develop these relationships themselves. How can a teacher expect students to develop or understand the process of Anishinaabe science if they have not developed relationships with these relatives themselves? This is an embedded process of discovery in relationship building fueled by curiosity, play, creativity and wonder rather than a script to follow and check mark when done.

(My name) nindizhinikaaz. (Where I'm from) nindoon jibaa. (My clan) nindoodem. Daga odaapinan wa'aw asemaa. ( Please accept this tobacco.) Giwii-kagwejimin gegoo. (I want to ask you something.) Wiidookawishin ji-nisidotamaan. (Help me to understand.)

then ask your question(s). If students do not know their clan, they can use the other two introductory sentences alone.

Milgwech.



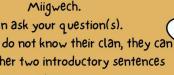
(My name) nindizhinikaaz. (Where I'm from) nindoonjibaa. (My clan) nindoodem. Daga odaapinan wa'aw asemaa. ( Please accept this tobacco.) Giwii-miigwechiwi in. (I want to ask you thank you.) Wiidookawishin ji-nisidotamaan. (Help me to understand.)

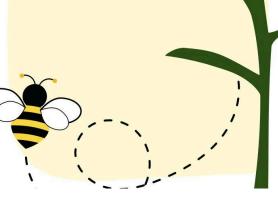
then ask your question(s). If students do not know their clan, they car use the other two introductory sentences alone.

### Ge-aabadakin

Pruning snips tobacco to offer the shrub before harvest. Student scissors to scrape bark Container for red outer bark Container for inner bark

take students on river walk to miskwaabiminzh (red willow). use tobacco talk to ask red willow to harvest to make traditional tobacco and why. Set up work stations to use student safe scissors to scrape outer bark into one container and then scrape inner bark into its own container. Bring the remaining sticks back to the river and thank them for helping you using the thank you tobacco talk.





By Aamookwe Amy McCoy

### Nanda-gikenjigedaa! (Let's seek to know!)

### Akawe Nibiidaakoojigemin! (First off we make an offering!)

### DIBIKIGIIZISOOG OPIKWANAANG MIKINAAK (Turtle Shell Calendar)

### Ingashkitoon gosha! (I can do it!) Things I can do because of these lessons. (Objectives)

I can describe the Anishinaabe moon calendar.

I can describe more about my relationship with the moon.

I can describe relationships of relatives with water.

I can explain which moon cycles help what kind of plant relatives grow the best.

I can demonstrate how the Americas are known as Turtle Island for the Anishinaabeg.

#### **National Science Standards**

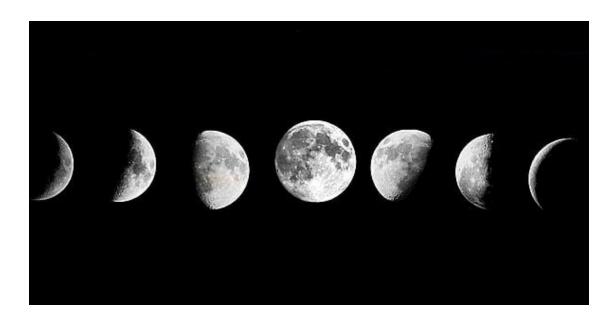
NGSS.MS: MS-ESS1-1, MS-ESS1.A.1, MS-ESS1.B.2

# Ge-gikendamang Ge-naanaagadawendang Gekinoo'amaaged (What the teacher should know and ponder)

Time and space from the turtle's back.

After a great flood, the great snapping turtle Mikinaak gave their back for a new Earth to be gifted life. That is why North, South and Central America is Turtle Island. Learning the rhythms of our Anishinaabe moon calendar can maximize the life of your relationship with plants in the garden and their relationship with you. Everything in the natural world is interconnected, and as Anishinaabeg we recognize the power of working with these relationships in creation. The moon herself is a Grandmother who has four 'phases' or 'quarters' that last about seven days.

In the first two quarters, the 'new' dark moon you see gets bigger and more visible. This is known as the 'waxing' phase where you see an increase in the light until the moon is visible. The last two quarters are after the full moon when light begins to wane or decrease until the cycle starts again. Her power pulls the water of all life on Mother Earth at the New and Full Moon stages that mark high tide. She has this effect on all of creation. For instance, the sap in plants, soil and water table and our own bodies as well.



### Gidinwewininaan Nitam (Our language leads)

Gookomisinaan Our Grandmother

Aabitawaasige 1st quarter and 3rd quarter

Mangaasige It is waxing gibbous

Miziweyaabikizi It is a full moon
Michaabikizi It is a full moon

Wiiyaw His/her/ that one's body

miinikaan(an) Seed(s) Bigiw Sand

Aki Earth/soil

Aandi wenjibaamagak bimaadiziwin? Where does life come from?
Oga-daapinaan asemaa gookomisinaan May she accept the tobacco our

grandmother.

Besho gidinawendimin We are closely related.

Ge-aabajitooyang

Atisibii'igan(an) Markers

Zhizhoobii'igan(an) Paintbrushes

Nibi Water

Minikwaajigan(an) Cups

Apibii'igaans(an) Clipboards

Atisibii'igan(an) Washable markers

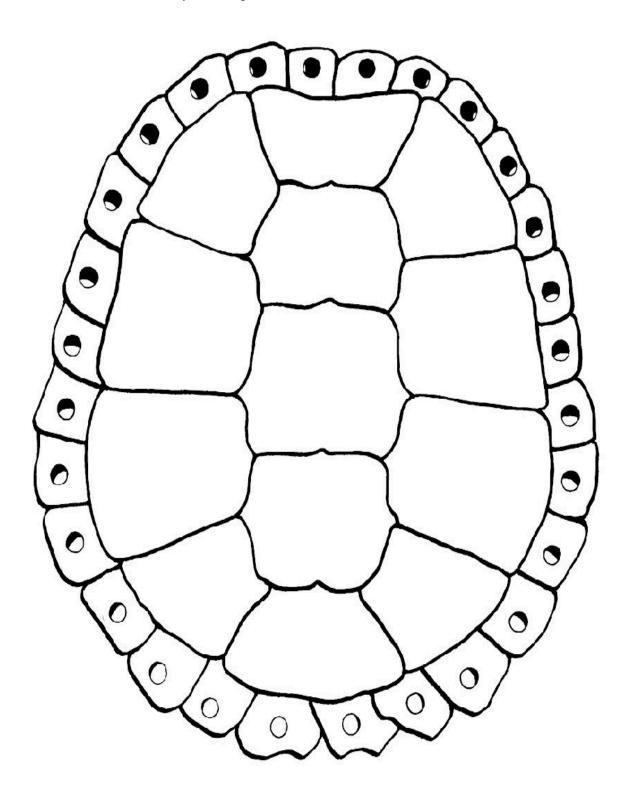
Turtle anatomy

 $\underline{https://www.animalwised.com/parts-of-a-turtle-turtle-anatomy-4759.html}$ 

Decolonial atlas map

Full page photo (wordpress.com)

Blank turtle shell handout by Beth Lepensee



Epiichaag: For as long as (time) for as long as (space) A shift in perspective of time and space. 5 - 45 minute class periods.

### Waa-izhichigeyang (What we will do)

Using Beth LaPensée's Mikinaak Minising (Turtle Island) image as a model, ask students to choose from the printed maps of the Americas to create their own artistic rendition. Print off maps of the Americas from the following links and make multiple copies of each. Allow students to explore more than one if they feel inspired to do so. and ask students to create their own mikinaak.

Before students explore the Turtle anatomy sites, allow them to artistically intuit which parts of Anishinaabe wakiing (Anishinaabe country) might be various parts of their own anatomy such as the heart, major arteries as rivers, lungs, mountain ranges as bumps on the shell etc. Allow for creativity and no one right answer.

Mikinaak Minising (Turtle Island) model handout of North, Central and South America Image by



### NORTH AMERICA



Produced by the Cartographic Research Lab University of Alabama

### MAWADISAADAA GOOKOMISINAAN (Let's visit our Grandmother)

# Ge-gikendamang Ge-naanaagadawendang Gekinoo'amaaged (What the teacher should know and ponder)

The moon is our grandmother and she balances the water of all life in creation. The way she creates the push and pull of the tides is the same way she pulls our ebbs and flows as the human beings. It is a crucial relationship for Anishinaabeg to build a deeper connection to ourselves and seeking holistic balance with her help.

### Ge-aabajitooyang (What we will use)

Moon calendar journal hand out Dibikigiizisoog mazina'igaans(an)
Pen ozhibii'igan(an)

Drawing pencils mazina'ibii'iganaak(oon)

Notebooks mazina'igan(an)

#### Ge-aabadakiban (What might be useful)

https://www.almanac.com/astronomy/moon/calendar

### Epiichaag: For as long as (time) for as long as (space) A shift in perspective of time and space.

A full moon cycle month of daily checking in and artistically, orally or written journaling.

#### Waa-izhichigeyang (What we will do)

Checking in with Gookomis dibikigiizis. Checking in with your grandmother moon.

Look up online the time of moonrise in your part of the world. Task students with a moon check in for their evening. Encourage them to invite any of their family members at home to step outside with them to check in with grandmother moon. As per Anishinaabe cultural protocol, they could place a pinch of tobacco or kinikkinik mixture outside for her. Otherwise they can simply check in and take a glance before closing their eyes and focusing inward to the way their own body feels. It is an Anishinaabe teaching in some communities that we are not to stare too long at the moon or she might think you are lonely. Then complete the moon check in activity with drawings or sentence based answers. This can be a private journal or students could choose to share, but leave that decision to them. The objective is to allow students to build a relationship with Grandmother moon and to build a closer relationship with themselves as they move through their own cycles as beings of water.

#### **DIBIKIGIIZISOOG**

# Ge-gikendamang Ge-naanaagadawendang Gekinoo'amaaged (What the teacher should know and ponder)

Art projects are about process not product for Anishinaabe scientific thinking. Students are to be encouraged to pursue curiosities and creativities rather than conforming to a specific product with strict measured definitions of what it "should" look like. Students will make a moon model with paper mache and enjoy the process of creation and experiencing the textures of paste on their hands shaping Grandmother moon. You will use these models to "play to learn" about the moon cycles with a flashlight or lamp once they are dry. You will also use the moon models and flashlights to role play the plants that give us life. After moon cycles are created and understood with student models and the light source, allow them to explore the seed catalogs to find out each food gifting relative's timeline for the planting calendar walking path as well as the kind of plant and which moon stage it would thrive when planted during. See the moon calendar planting stages handout for the stages of the moon cycle that each kind of food relative will thrive to be planted.

### Ge-aabajitooyang (What we will use)

Anishinaabemowin moon stages handout (1 blank and 1 with directions and Anishinaabemwoin).

Mazina'igaansan Newspaper

Moozhwaaganan Scissors

onaagan(an) Large plastic bowls

bibine-bakwezhigan(ag) Flour Nibi Water

Miinikaanens-mazina'igan(an) Seed catalogs Wayaawiyyaag-ombisijigan(an) Round balloons

### Epiichaag: For as long as (time) for as long as (space) A shift in perspective of time and space.

3-5 45 minute class periods. Allow time for creativity, joy and a lack of rushing.

### Waa-izhichigeyang (What we will do)

Have students cut newspaper into strips. Bring materials outside on dry ground in a grassy area. Give students the ratio of flour to water and allow them to mix their paper mache paste to desired conscience. Demonstrate the paper mache process by first blowing up your own round balloon. Place a strip of newspaper into your paper mache solution and use two fingers to slide the extra paste off of the strip back into the bowl before smoothing it onto your balloon. You will need to make 3 layers for this first round. Allow moons to dry overnight and repeat until desired thickness.

Let students know that it does not have to be flat. Remind them of the textures of the moon that you noticed in the previous activity of moon phases and remind them of the textures they noticed on Grandmother moon with the evening check in activity. She has craters and an interesting surface layer. Ask how they might create surface texture in their artistic process? Remind them that there is not one 'right' answer, rather many ways to create a model of Grandmother moon.

### Ge-naanaagadawendang Gekinoo'amaaged (What the teacher should ponder)

Allow the process inside student creativity to unfold and reinforce that one way we know we are creating art "right" is if our creations do not look exactly the same. This process takes time to unsettle because students have experienced years of being taught to create a specific product that is the same as all their peers and the teacher model.

Introduce the tides and planting cycles aligned with their new understanding of each moon stage.

# Odaminong, Madwewechigeng, Minwendang Miinawaa Baaping (Where there is play, where there is music, joy and laughter).

Have students create plant ID cards for the relatives that give us food from their lives in the garden. They can use the seed catalogs to inform the card creation.

Set up the room for a moon model and light source to create moon stages and split the class into groups.

Someone can be Grandmother Moon, while another student can be Father Sun and then 2 students that can role play high tide.

Copy the cards students have made such that each group has a full set.

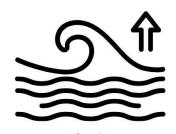
Play music or use the planting song. When the song plays, the sun shines on the moon creating a moon stage. Students will distribute their cards to members of their group and have students with a plant card that would thrive planted in that stage enter the circle and represent that plant. Allow students the time to assemble and work together. Give extra points when you see helpful, supportive and inclusive attitudes within groups. Highlight this as leadership thinking.

Bonus: If they embody the plant with their body language they earn an extra point. Keep a tally on the board of points for plants in the correct stages of best planting development. Alternatively, you can use

the miijim cards here. You can also find pronunciation for the Anishinaabemowin with these premade cards.

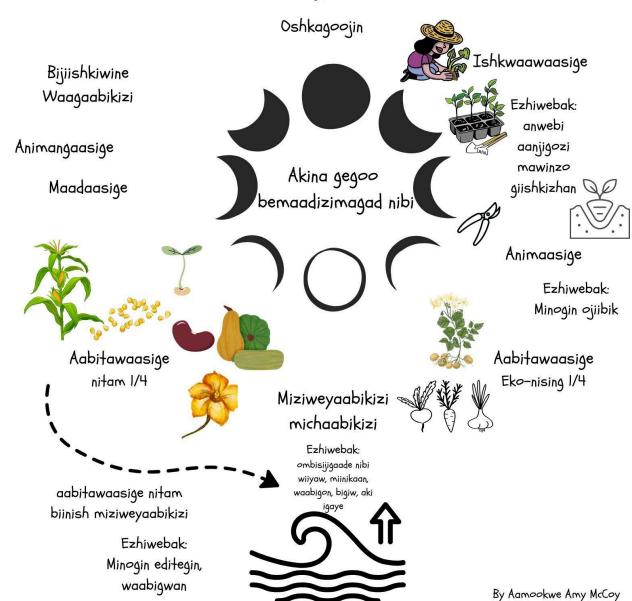
https://www.canr.msu.edu/tribal\_education/miijim-food-cards

Plant stages moon stages handout:



### Ezhiwebak: ombisijigaade nibi

wiiyaw, miinikaan, waabigon, bigiw, aki igaye



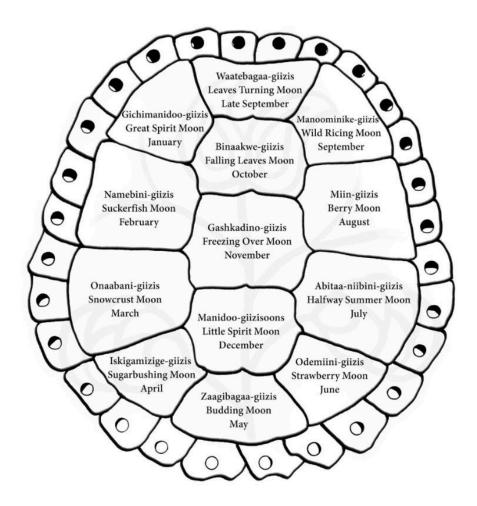
# MIKINAAK OPIKWANAANG DIBIKIGIIZISOOG GE-GITIGEYANG (Turtle shell planting calendar)

# Ge-gikendamang Ge-naanaagadawendang Gekinoo'amaaged (What the teacher should know and ponder)

Explore the following links to get a picture of the way that different Anishinaabe communities "name" the months of their months based on what is happening with our more than human relatives as the seasons change throughout the year.

The Thirteen Moons Teaching Cycle | Durham College https://www.nps.gov/apis/learn/historyculture/ojibwemowin-moons.htm

Explain to students that there are more than one name for each moon. A shift in thinking needs to occur toward Anishinaabe thinking. The names of the moons refer to actions of our first family, or more than human relatives. Depending on what is going on within the season that is most important to the community, that is what the moon is called. The seasonal activities of our first family within the names of each moon are largely connected to the gifts they give us as nourishment and food sovereignty. Our food sovereignty has been dependent on our first family taking care of us since the original instructions we received as Anishinaabeg lowered to Mother Earth.



Digital art by Elizabeth LaPensee

### Ge-aabajitooyang (What we will use)

Silicone molds available to check out from BMCC Waishkey Bay Farm

Glass mosaic beads

Miinjikawan(ag) Gloves

Bibine-asin(iig) Cement mix

Gegoo Naabi-waawiyeyaag 24" round silicone molds Omoodayaabik(oon) Blue glass mosaic pieces

Dibikigiizis Mazina'igaans(an)
Dibikigiizis agoojin Moon stages handout

4 plastic table cloths

Mazina'bikiwebinigan(an) Computers gichi-mazina'igaans(an) Flip chart

Markers atisibii'igan(an)

15 sheets white posterboard gichi-waabishki-mazina'igaans(an)

#### Raised bed 13 moons interior shell:

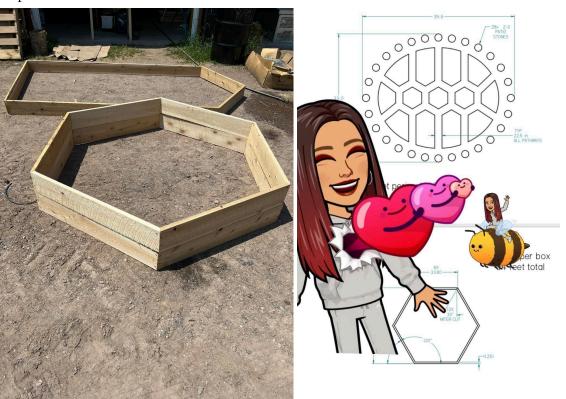
Cedar 10x1 boards. Quantity provided in Mikinaak blueprint directions. \*See Mikinaak Gitigaan Blueprint by Theodore Clark and Amy McCoy. You will need a professional builder to assist with this part of the process. The material list was created by an engineer skilled in cutting wood such that minimal waste occurs. You may wish to purchase additional cedar boards in case your team does not have the same skill set.

### Epiichaag: For as long as (time) for as long as (space) A shift in perspective of time and space.

This will vary based upon whether or not you will build the raised beds in the shape of the 13 sections of the turtle's back with the 28 cement stone moon stage walking path/planting calendar around them.

### Waa-izhichigeyang (What we will do)

Build a lifesize Mikinaak cement stone walking path planting calendar and raised bed garden in the shape of the turtle shell.



Watch the weather forecast to choose a week that is likely to be dry.

Separate the class into 4 groups and assign moon quarters to each. Task each group to explore online for information about their quarter stages of the moon. What information can they find about their quarter of the moon and lunar planting? Students can explore individually or with their group. Distribute blank paper and ask students to draw their moon stage and record their wonderings as they explore. Encourage them to draw their wonderings as well. Have students share their findings and wonderings in a large group discussion. Ask for student volunteers from each moon phase to draw their phase on the flip chart and share wonderings and art from the group. This exercise allows students to continue to build relationship with Grandmother moon.

Once groups have explored their quarter of the moon, it's time to gather your materials and set up a workstation outdoors. Students will be making the 28 round stepping stones that represent the 28 days between each of the 13 full moons in one year. Western thinking divides the days between moons into approximately 29.5 as students will see in the Khan Academy video link. Do not worry about the distinction. Each system of knowledge about the natural world is founded upon their own perspectives from their own positionality and grounding in the world. We will work on this Anishinaabe teaching about perspectives in a later activity: All Creation Stories are True.

Each of the 4 moon phase groups will draw a template for each of the 7 stepping stones and draw the size and shape of the moon stage for each of the 7 days in their quarter moon phase. Have each group cut 7 days of phases for their quarter after drawing on the posterboard. ½ sheet of posterboard should be large enough for many phases.

Group students according to their moon phase from the relationship building activity. Set up the outdoor work space with the table cloths on the ground and provide students with gloves. Mix the cement according to the directions on the specific cement mix purchased. The templates will tell them where to place the glass mosaic pieces in the silicone mold full of cement for each of the 28 stepping stones. Make sure mosaic pieces are flush with the cement as they will be walked upon. Encourage students to place the mosaic tiles onto the template and silicone mold as a test run before filling the mold with cement.

Gidinawemaaganag Gidibaajimaanaanig (We tell family stories) Waa-izhichigeyang Indinawendiyang Gikinoo'amaagooyang (What we will do as families learning)

Distribute the family stories graphic organizer

### Gonige naa...(wonderings)

Make space to discuss wonderings as they arise between students and also for yourself.

# Odaminong, Madwewechigeng, Minwendang Miinawaa Baaping (Where there is play, where there is music, joy and laughter).

Challenge students to invent their own game through which to practice the effect of the moon phases on (3 sisters) seed and plant growth. Paper mache moon and lamp sun activity. Introduce planting song, stages of the moon with plant cycles and tides.

Distribute seed catalogs and allow students to explore plant relatives and their growth cycles. Students will practice getting to know their plant relative's characteristics as well as matching stages of the moon where they would best be planted, transplanted and harvested.

\*Contact Aamookwe Amy McCoy <u>amccoy@bmcc.edu</u> for Ojibwemowin seed planting song. Here are the lyrics:
Aandi wenjibaamagak bimaadiziwin
Maajiishkaa ezhiged

Practice a planting song to use during the game. Students will take turns being singers as well as plants and also hungry people or Anishinaabe bekaded. Allow for groups to become the plants as a group or if someone would prefer to work alone, allow them that choice.

Once student groups have had enough time to practice embodying the plant relative they have chosen to get to know from the seed catalogs (as a group or individually), encircle the lifesize mikinaak garden. When the singers begin, plants enter the calendar path and find the stages aligned for their best sowing. They can follow the catalog information to act out the stage of growth in the moon stage they choose to land on. Once all plants have been settled into their choice of moon stage with their bodies shaped like the plant itself in that moon stage, then the seed singers can stop singing and the hungry Anishinaabe enter the moon stage path. The first to ask them in Ojibwe what kind of plant they are, give them tobacco with the Ojibwemowin language objectives and ask to harvest them gets to take that plant home and try to harvest another. After a hungry Anishinaabe harvests two plants their job is to find another Anishinaabe to help feed.

#### Resources:

Indigenous Lunar Planting Workbook by Rowen White of the Native American Food Sovereignty Alliance.

https://sierraseeds.org/seed-seva/Seeds as relatives

### Ba-azhe-giiweyang gikinwaa'amaading (After we are back in the classroom)

Ask students what kind of seeds they encountered on the walk. Pass out post-it notes and ask students to write any wonderings that come to mind. Alternatively, create a jamboard and have students add a digital post it note from their chromebooks. Explain to students that their wonderings may inspire interconnected wonder in their classmates. After students have a chance to share their wonderings, provide them this link to explore the following seed blog by Akwasasne member and expert seed keeper Rowan White. https://sierraseeds.org/blog/

Ask them to find one or two ideas that sparked their interest and attention connected to the wonderings and add to the post it note or jam board. Reiterate that their wonderings are important in that they are driven by inspiration which is a valuable part of human development. Learning to listen to what inspires you to wonder is a valuable Anishinaabe scientific skill.

Allow students some time to explore the following links for wonderings about the 13 moons and seasonal activity.

https://www.khanacademy.org/science/middle-school-earth-and-space-science/x87d03b443efbea0a:the-e-earth-sun-moon-system/x87d03b443efbea0a:the-moon-and-its-motions/v/phases-of-the-moon#:~:text=There%20are%20a%20total%20of,Created%20by%20Khan%20Academy

https://nmu.edu/nativeamericanstudies/moons-anishinaabeg-0 https://giizis13.wordpress.com/about/

https://ojibwe.net/wp-content/uploads/2022/04/Thirteen-Moons.pdf https://www.nps.gov/apis/learn/historyculture/ojibwemowin-moons.htm

#### **GITIGAANENSAG**

Ingashkitoon gosha! (I can do it!) Things I can do because of these lessons. (Objectives)

I can describe stages of plant development.

I can recognize Anishinaabemowin names for plant stages.

I can explain why we do not pick plants if we do not need their life for a purpose.

I can have an experience building my relationship with plants as relatives.

I can use my body to measure.

I can zoom into different scopes of focus into plant communities.

I can demonstrate respect for more than human relatives.

I can recognize trees with Anishinaabemowin names.

#### Standards:

#### **NGSS**

- 4-LSI-I Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction
- 5-LS2-I Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment
- MS-ESS2-I Develop a model to describe the cycling of Earth's materials and the flow of energy that drives this process
- HS-LS1-5 Use a model to illustrate how photosynthesis transforms light energy into stored chemical energy. [Emphasis is on illustrating inputs and outputs of matter and the transfer and transformation of energy in photosynthesis by plants and other photosynthesizing organisms. Examples of models could include diagrams, chemical equations, and conceptual models. Assessment Boundary: Assessment does not include specific biochemical steps.]

# Ge-gikendamang Ge-naanaagadawendang Gekinoo'amaaged (What the teacher should know and ponder)

Familiarize yourself with the stages of plant growth in Anishinaabemowin before taking your class to the river to look for the stages themselves. It's important that we respect these plant relatives and explain ahead of time that Anishinaabe science involves not taking life for nothing. We do not need to pick the plants to learn and wonder as we see their plant stages in each season. Also encourage students to trust their own creativity and let go of the notion that artistic drawings have to be realistic. The ways they choose to draw the stages are all going to be good enough! Allow for the space to open up to their own creative connection and practice letting go of the idea that it needs to look one certain way to be "good" or "right." Explain to students that we are unsettling the idea that art projects are focused on the product. For Anishinaabe thinking, the process is what we are going for rather than the end product looking a certain way. Allow the process inside student creativity to unfold and reinforce that one way we know we are creating art "right" is if our creations do not look exactly the same. This

process takes time to unsettle because students have experienced years of being taught to create a specific product that is the same as all their peers and the teacher model.

### Gidinwewininaan Nitam (Our language leads)

Ezhigid How s/he/that one grows

Ezhigin How it grows

Miinikaanens(an) Seed Zaagigin Sprout Plant Maajiigin Ojiibik(oon) Root Waabigwan(iin) Flower Editeg(in) Ripe fruit Nindizhinikaaz I am called Nindoodem My clan is I am from Nindoonjibaa

Oga-daapinaan May s/he/that one accept it

Ziigwang dibikigiizisoog: (Spring moons): Ziinzibaakwadookegiizis (Sugar making moon), Iskigamigizigegiizis (Sap boiling moon), Bookwaagamegiizis (Broken Snowshoe moon), Onaabanigiizis (Hard crust snow moon)

#### Ge-aabajitooyang (What we will use)

Materials: GLIFWC Plant book

Atisibii'iganaak(oon) Colored pencils

Atisibii'igan(an) Markers Zhizhoobii'igan(an) Paintbrushes

Nibi Water Minikwaajigan(an) Cups

Apibii'igaans(an) Clipboards

Atisibii'igan(an) Washable markers

Mazina'igaans(an) Mitigoog handout

Mazina'igaans(an) Tobacco talk handout

Gitigaanens Ezhigimagak handout Plant stages handout

# Ge-aabadakin: What will be useful. Ge-aabadakiban (What might be useful) Ayaabadakin: Things that are useful

https://ojibwe.lib.umn.edu/

https://dictionary.nishnaabemwin.atlas-ling.ca/#/help

https://www.inaturalist.org/

https://merlin.allaboutbirds.org/

### Waa-izhichigeyang (What we will do)

Task students to choose 5 relatives from this list to explore in the GLIFWC Plant book. It does not matter if there are plants chosen twice. What matters is that students choose plant relatives that they might be drawn to and curious to get to know. The goal is to engage wonder in relationship building.

Ask them to read the information provided and to do some follow up online research about these chosen relatives based on their own curiosity and wonderings that arise while learning about them from the Glifwc source. You might ask them to look into the plant relative's life in this way: What other more than human relatives does this plant feed or provide support for and how? What other relatives commonly live with and/or around them?

Use the links above to translate the names of the trees on the mitigoog handout. This can happen before or after the walk depending on whether or not you wish to have students strive to use only their Anishinaabemowin names while on the walk. This will give them some experience with Anishinaabemowin translation resources online. Encourage and give them time to explore these sites with each of the language sections you choose to create relationship building experiences with.

Ask them to create an artistic sheet of their own about each of their 5 relatives with their Anishinaabemowin name to bring on the river walk. Add these artistic relative sheets to a clipboard with the mitigoog (trees) handout.

#### Odaminoyang mikwendamang (When we play, we remember)

Invite students to engage their imaginations to create games. Share with them the Anishinaabe teaching from Nowatin Dale Thomasiban that the greatest gift given to the human beings is the power to have dreams and visions. Our imaginations are connected to that power. The more we exercise them, the stronger they grow.

#### Mazinibii'igedaa!

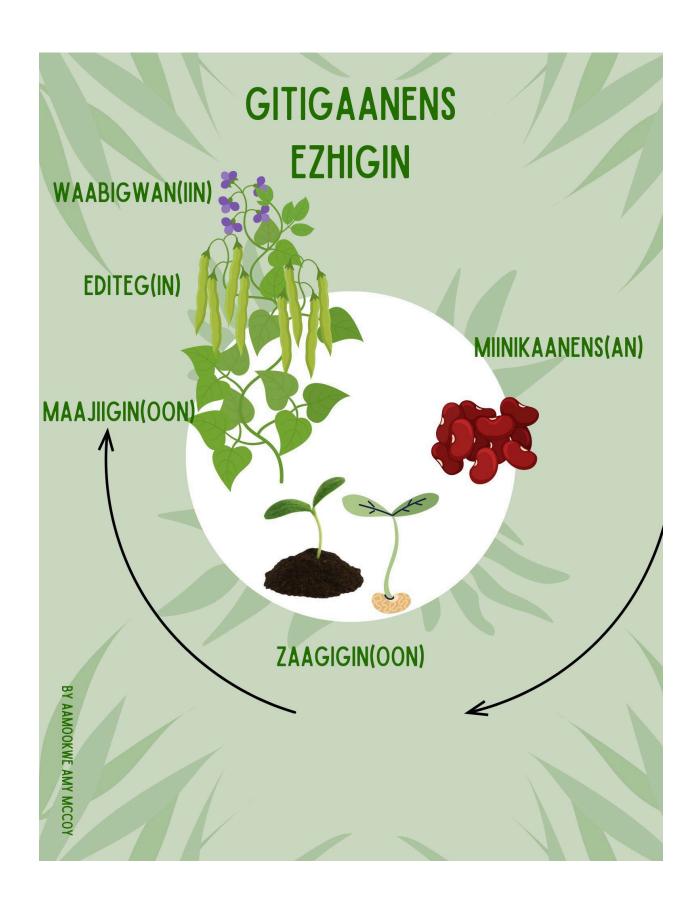
Activate creativity and the power of dreams and visions through imagination in relationship building. Explain to students that art is not a function of drawing a certain way and that it is important to unsettle the belief we have been given that art is drawing or creating to a certain form of perfected lines. Creating artistically activates an important part of our holistic being as humans. We do not need to draw a certain way for it to be good. Drawing for the sake of creating and engaging another part of our

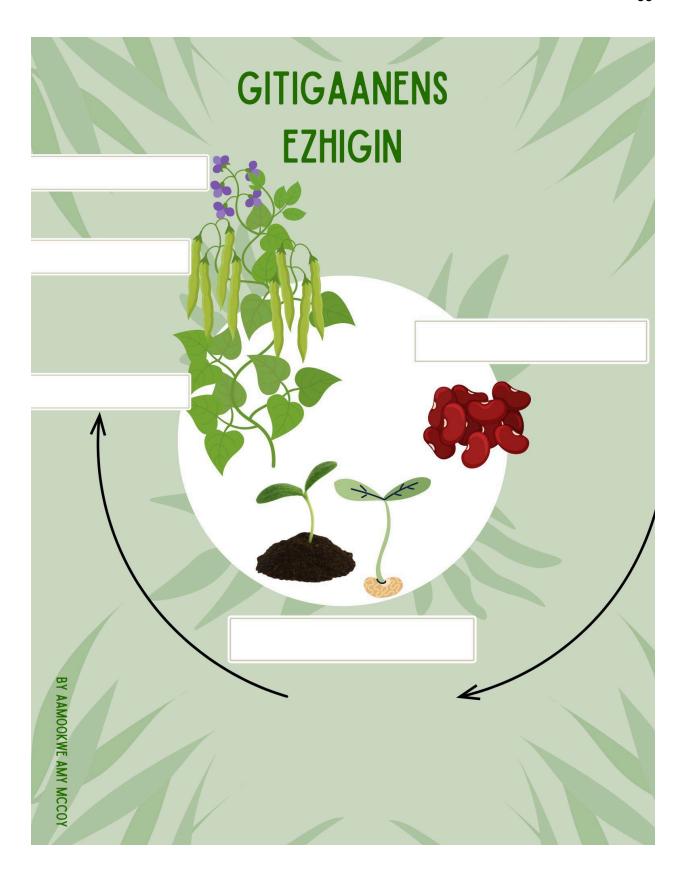
holistic being is valuable. Show students examples of symbolic drawings within Anishinaabe petroglyphs as well as other examples of symbolic drawings online for the purpose of their exercise story mapping the relationships of the land and waters.

## Odaminong, Madwewechigeng, Minwendang Miinawaa Baaping (Where there is play, where there is music, joy and laughter).

How do these plants help us with their gifts in other ways? Gifting: Other than food, what other gifts do these plants have? As fibers? Net-making. Pigments: Colors for paint or dye.

With the plant stages worksheet, ask students to invent body movements that could represent each stage of plant development. Challenge students to work in groups to create a game with which to practice the movements with their language objectives. Team up with a younger class at school and teach them the seed stage movement game. Challenge your students to think of new ways to teach a younger group of students about plant gifts.





Plan a walk to the closest water body in a walkable radius. Within this curriculum we will call these "river walks." This river walk will focus on seeking to meet any of the chosen plant and tree relatives in person. We invite you to offer them asemaa (traditional tobacco) and thank them for the teachings and gifts they share with the plant and animal community around them.

Tie in the plant growth stages by asking students to look for the 5 plant stages listed on the Gitigaanens ezhigin worksheet. With pencil, draw plant stages in spring and late spring. You can bring your sketches back to the classroom and perfect the pencil lines to your own quality while listening to bird songs on youtube of the birds you discovered by sight and sound yourself or with the help of inaturalist.com (see resource links) to inform you of what relatives others have seen and/or heard by your water body of choice.

Discuss the connections trees have with food sovereignty such as: They provide the materials to make our traditional harvest tools as well as meal utensils. They provide food for other relatives that give their lives such as the four legged and the winged. Also, hardwood ash is used to make hominy and also increases the nutrition content of maple syrup and maple sugar when used during the boil down.

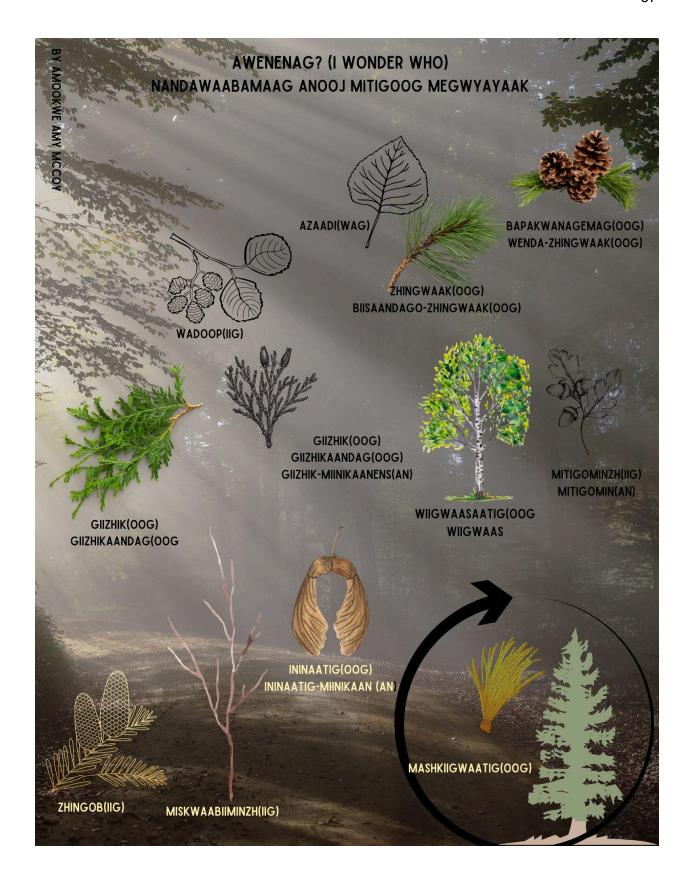
### Waa-izhichigeyang (What we will do)

Find the closest cedar tree. Offer her some asemaa (tobacco) and ask for her perspective. Sit down with your back flush with her trunk. If you're comfortable close your eyes, otherwise keep your gaze downward to keep your focus close. Take a few deep cleansing breaths. As you breathe inward think to yourself: indikwanaam (i'm breathing in). Imagine the fresh life force (oxygen) that the cedar tree is gifting you on the inhale. Inbagidanaam (I'm breathing out). Imagine the life you are giving back to the tree as you exhale their life force needed to take in CO2.

What do you think this grandmother cedar tree will see here in 100 years?

## Gidinawemaaganag Gidibaajimaanaanig (We tell family stories) Waa-izhichigeyang Indinawendiyang Gikinoo'amaagooyang (What we will do as families learning)

Our Grandmother cedar tree gives her lifespan as a time and space framework for us to learn from. What relatives does she help and how does she help them? Where is the oldest known grandmother cedar in Anishinaabewakiing (Anishinaabe territories) according to the US forest service? Ask your oldest relative if they have any stories to share about cedar trees from when they were growing up. Mitigoog handout for the walk:



#### Biindaakoojigedaa! Let's offer asemaa!

## Ge-gikendamang Ge-naanaagadawendang Gekinoo'amaaged (What the teacher should know and ponder)

Sustainable Harvest

Anishinaabe science involves a shift in the basic unit of value as respect for life. When a relative gives their life for food, we respect the entire being. We have scientific laws that go against waste and disrespect. While harvesting life, it is an important teaching to scoff at the grotesque nature of processing or call the relative gross or yell out ewwwww. Rather we are to put tobacco out in reverence and gratitude for the life that we have been given as sustenance. We strive to use as many of the gifts that come from the relatives body. For example, we make tools from the bones they gift us and clothing from skin. These processes are intimately connected to our food systems and have specialized Anishinaabemowin (Anishinaabe language) vocabulary. Please see the section of useful links and the google slide for language objectives you could use with your students while pursuing seasonal Anishinaabe food sovereignty activities. You will also find links for student exploration and future wonderings of more than human food relationships beyond the scope of this introductory glimpse into lessons of Anishinaabe science and food sovereignty relationships.

#### Waa-izhichigeyang (What we will do)

Biboong (when it's winter): Find a large area with miskwaabiminzh(iig) red willow. Use the tobacco protocol speech or use what you already know to petition the plant to help you. Introduce yourself and ask the plant to help you with the purpose you have for taking its life. You will need scissors for each student when you bring your harvest back to the classroom.

Tobacco talk handout for greeting and thanking relatives for their teachings:

# ASEMAAKE

Anooj gegoo ji-gaagiigidoyan megwayaak

(Some things to say in the middle of the woods)

(My name) nindizhinikaaz. (Where I'm from) nindoonjibaa. (My clan) nindoodem. Daga odaapinan wa'aw asemaa.

( Please accept this tobacco.)

Giwii-kagwejimin gegoo.

(I want to ask you something.)

Wiidookawishin ji-nisidotamaan.

(Help me to understand.)

Miigwech.

Then ask your question(s).

If students do not know their clan, they can use the other two introductory sentences alone.



### Ge-aabadakin

Pruning snips

tobacco to offer the shrub before harvest.

Student scissors to scrape bark

Container for red outer bark

Container for inner bark

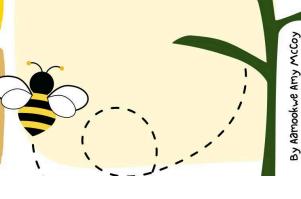
Waa-izhichigeyan
take students on river walk to miskwaabiminzh

take students on river walk the misk waabiminzh (red willow). Use tobacco talk to ask red willow to harvest to make traditional tobacco and why. Set up work stations to use student safe scissors to scrape outer bark into one container and then scrape inner bark into its own container. Bring the remaining sticks back to the river and thank them for helping you using the thank you tobacco talk.

(My name) nindizhinikaaz. (Where I'm from)
nindoonjibaa. (My clan) nindoodem.
Daga odaapinan wa'aw asemaa.
( Please accept this tobacco.)
Giwii-miigwechiwi'in.
( I want to ask you thank you.)
Wiidookawishin ji-nisidotamaan.
(Help me to understand.)
Miigwech.

then ask your question(s).

If students do not know their clan, they can use the other two introductory sentences alone.



My name nindizhinikaaz. Where I'm from nindoonjibaa. My clan nindoodem. Daga odaapinan wa'aw asemaa. Giwii-miigwechiwi'in. Please accept this tobacco. I want to thank you.

If students do not know their clan, they can use the other two introductory sentences alone.

### Odaminong, Madwewechigeng, Minwendang Miinawaa Baaping (Where there is play, where there is music, joy and laughter).

Demonstrate for students by drawing an outline of a simple leaf with pencil. Make sure there are large white spaces in between the lines so that there is room for the color to bleed. Go over your simple line drawing with washable markers and then immediately before the marker dries on the paper, use a wet paintbrush with water to blend the colors of your plant relative. This is an open ended creative drawing that is based upon the experience of each student getting to know the plant relative they chose. The drawings and colors do not need to be "realistic" to you or anyone else. This is specific to the art created by students uniquely learning in relationship to the relative and should not be criticized. It is about process, not product.

You will find plant relatives from the GLIFWC Spring Harvest Calendar here. We suggest repeating this activity seasonally, if not by each moon, to see how the plant relative changes throughout their lives. You can find a list of plant relatives and their gifts for each season here:

https://nrd.kbic-nsn.gov/sites/default/files/Harvest-Calendar.pdf

#### Ge-aabajitooyang (What we will use)

Paper

Clipboards

Pencils

Plant stages handout

Paper

Glifwc harvest calendar

Epiichaag: For as long as (time) for as long as (space) A shift in perspective of time and space. 3-45 minute class periods

#### Waa-izhichigeyang (What we will do)

With notebooks and pencils in hand or paper and clipboards, take your students on an adventure to connect with plants in their different stages of development. Discuss our stages of human development from the four directions teachings experienced in a previous lesson. Invite them to think of these plant relatives as transforming through growth spurts and transformations the same way that they do. They have their own languages and intelligences with which they communicate within their communities. We communicate with plants as well though cultural protocol of an offering of asemaa.

My name nindizhinikaaz. Where I'm from nindoonjibaa. My clan nindoodem. Daga odaapin wa'aw asemaa. Giwii-kagwejimin gegoo. Please accept this tobacco. I want to ask you something. Wiidookawishin ji-nisidotamaan. Help me to understand. Miigwech. Then ask your question(s). In this case we are simply offering tobacco and remaining open to listen to the plants and look for their growth stages.

If students do not know their clan, they can use the other two introductory sentences alone. Prepare students for the outdoor adventure seeking plant stages in Anishinaabemowin by going over the introductory speech they will give plant relatives. Play the movement game that accompanies plant stages in Anishinaabemowin. Ask for volunteer group leaders that will run the game for each group in the final game competition.

When you're ready to walk and explore the plant stages to be found, allow students the space to explore plants they find interest in.

## Waa-izhichigeyang Indinawendiyang Gikinoo'amaagooyang (What we will do as families learning)

Bring asemaa (tobacco) and a gift to a local elder and ask them about what they remember about their grandparents gardening. Draw, sculpt, paint, collage, create a video short or live skit with what you learn from their answers. Remember to bring your creation back to them to show them what their story inspired in you.

### AWENEN DEBENDANG JIIGI-ZIIBING? (Who belongs along the river?)

## Ge-gikendamang Ge-naanaagadawendang Gekinoo'amaaged (What the teacher should know and ponder)

Many of these relatives are known as food and all of them are interconnected within the greater food network of our larger extended family in creation. In fact, Awaazisii the bullhead is one of many who have stood up for Anishinaabe in the time where the clans came to the people. Awaazisii is one strong fish that can withstand tough conditions within which other fish cannot thrive. A creek that might dry

into disjointed puddles later in the summer could yet sustain the complete life cycle of awaazisii. We invite you to shift your perspective into all seven directions of creeks such as these and open to the gifted world of our older relatives.

Consider how long it will take to walk to your water body of choice. It is important not to lose sight of the relationship building experiences that are a core value of Anishinaabe science. Planning adequate time to ensure your focus is not on rushing is a key component. It is also critical to ground yourself in a shift toward thinking about children from an Ojibwe-Anishinaabe perspective that involves their existence as gifts. They come to this Earth with a full cup, rather than an empty one that needs to be filled. As mentors, it is our role to help them learn to discover their gifts. Seeing them through this Ojibwe lens is important in shifting the way we perceive behavior. For a land and water based experience of relationship building, these relatives can teach children (and adults) how to live and discover their gifts as we learn about the gifts they have and how they live in community. While building, children need to make sound. They might hum or sing. Be prepared to adjust your expectations of behavior to make room for joy inside their human development.

Plan ahead as to which relatives you might have them focus on and which questions you will choose to draw them into different levels of focus. You might want to let them bring crayons for rubbings of designs of relatives that call to them. Creating the art on the spot allows for us to respect these relatives and not take life unnecessarily.

The first meeting is much like meeting up at a public event where you don't know many of the people attending. When we first meet people, what do we pay attention to? What might we pay attention to when first meeting trees, plants, fish and animals? On our first walk to the creek we open our minds to the curiosity of meeting long lost extended family members. Our older relatives at a family reunion. We do not need to know much about them ahead of time. We know that they are part of us and we are part of them. We know that we belong. We know that they belong. Encourage your students to be curious about these relatives and what kind of relationships you will build with them. Remember to write down your own wonderings and center yourself with one of the meditations before embarking on the journey with your class.

#### Bebezhig Inagakeyaa Gidinaabimin (We look in each direction)

We are conditioned to set low value expectations for streams and creeks in a hierarchy of water bodies according to size in some respects. Anishinaabe scientific thinking involves a shift in value through time and space. We are called to wonder, how does she (this creek) change though each season? Who does she support in the spring? Summer? Fall? Winter? What happens when she transforms into

intermittent pools of life with dry space between? Is she safe from potential dangers of unsustainable cattle farms? In English we might say livestock for farms with animals raised for food systems. In Anishinaabemowin there is no such word because these animals are our older siblings and their cousins from other parts of the world who have taken care of us throughout multiple creations. They cannot be "stock" just as anyone in nature cannot be "resources" for extraction in the same way that the rest of our family members at home would not be defined in terms of commodities or resources for consumption. They are relatives with gifts they share for our continued well being on Mother Earth.

#### Gidinwewininaan Nitam (Our language leads)

Indinawemaaganag My relations

Odinawemaaganan His/her/their relations Bebezhig awiya miinigoowizi Each one has been gifted.

### Epiichaag: For as long as (time) for as long as (space) A shift in perspective of time and space.

This will vary depending on your experiences as they unfold.

#### Waa-izhichigeyang (What we will do)

Explore a walkable radius from your school for a waterbody. A creek will be perfect for the experience shifting perception to see as an Anishinaabe scientist. You do not need to find a stronger flowing river or stereotypically well valued fishing spot. You are creating a multi-faceted experience building relationships with more than human relatives that involves realizing non-hierarchy of relatives. Keep an eye out for animal relative tracks and scat! Here is a moo (scat) chart to explore before and after your walk.

#### Moo chart

https://www.thinktrees.org/wp-content/uploads/2019/03/Scat-Identification.pdf

#### Gidinawemaaganag Gidibaajimaanaanig (We tell family stories) Waa-izhichigeyang Indinawendiyang Gikinoo'amaagooyang (What we will do as families learning)

Distribute Family Learning graphic organizer. Attach a blank sheet of paper for additional questions and wonderings such as these: What do you imagine this river or creek looking like (for your great grandchildren? What do you imagine this river looking like for your great grandparents? Can you ask them? If you could still ask them what it looked like and what relationship they had with these relatives growing up, what do you imagine they might tell you?

What do your family members remember about this river area when they were a middle schooler? What role does this Native plant play in its local community? How is it affecting others?

How plants are named in Ojibwemowin. Plants have different names much like we do. How many different names do you have? Does a parent, aunt, uncle or grandparent call you something specific to them? Do friends call you something specific? Plants in Ojibwemowin have different names according to their different gifts and the people that have relationships with them in different ways.

https://nasagcce.files.wordpress.com/2011/07/cycles\_ojibwe\_plant\_names.ppt

## Miigiweng: There is gifting. (Service learning options) Wiidookodaadidaa! Let's help each other!

Here are some options for how you can make a difference as a leader in your school. Consider the following two resources to explore and create a plan to share what you learn with a younger grade class for a hands-on Anishinaabe science experience building relationships with relatives in your watershed based on your specific water body experience and the relatives you built relationships with!

#### Build a Watershed . PLUM LANDING | PBS KIDS

#### NAANAAGADAWAABANDAMING (Zooming in)

### Ge-gikendamang Ge-naanaagadawendang Gekinoo'amaaged (What the teacher should know and ponder)

Body based measurements add a shift of time and space. Time is measured relative to different lifespans of our older relatives and space is commonly measured in terms of our body parts. Anishinaabe science engages embodied measuring.

#### Ge-aabajitooyang

Asemaa Tobacco

Asabaab(iin) A spool of twine. Moozhwaagan(an) Pruning snips

Odoopiiwaatig (oog) Willow (Not tobacco red willow but another cousin)

Branches no wider than your pinky finger

Mazina'igan(an) Journal notebooks

Mazina'igaans Sustainable Harvest handout

### GIMINAAJI'AAG GIDINAWEMAAGANAG

We respect our relatives.

Sustainable Harvest of Plant Relatives and their Gifts



(My name) nindizhinikaaz. (Where I'm from)
nindoonjibaa. (My clan) nindoodem.
Daga odaapinan wa'aw asemaa.
( Please accept this tobacco.)
Giwii-kagwejimin gegoo.
( I want to ask you something.)
Wiidookawishin ji-nisidotamaan.
(Help me to understand.)
Miigwech.
Then ask your question(s).

If students do not know their clan, they can use the other two introductory sentences alone.



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nindoonjibaa. (My clan) nindoodem.
Daga odaapinan wa'aw asemaa.
( Please accept this tobacco.)
Giwii-miigwechiwi'in.
( I want to ask you thank you.)

Wiidookawishin ji-nisidotamaan. (Help me to understand.) Miigwech.

then ask your question(s).

If students do not know their clan, they can use the other two introductory sentences alone.

### Ge-naanaagadawendang

When we consider harvesting from an Anishinaabe scientific perspective, we look at the larger community of the relative we would like to harvest. We are mindful not to take too many of any relative from one spot. We need to look ahead to the future of this relative's livelihood and inherent rights as a being that is here for a purpose that goes beyond helping human beings. On the same hand, we do not follow the saying "leave only your footsteps" because we have been taught that these relatives remember the time period when they told us about each of their respective gifts. My elders in Bawating taught that if we stop using our tobacco and accepting the gifts they agreed to share with us for our survival, those gifts will disappear. We also know that our processes for harvesting help seed dispersal and the increased production for the next generation of that relative.

For sustainable harvest, it is important to ask the plant relative permission. Plants have their own intelligence and communication abilities that we learn from. Anishinaabe science includes respect for the multiple intelligences of our first family.

Another important piece regarding sustainable harvest is the health of the land where you are choosing to wild forage. Never harvest from areas affected by agricultural pesticides, herbicides and fungicides or roadside ditches polluted by car exhaust. At the same time, much of the fruit and vegetables available in the store have been sprayed as well. Looking in all directions, it is important to research the chemicals that are in your food systems as they will also be in your body and the bodies of generations to come.



Viizhing 2

## Ge-gikendamang Ge-naanaagadawendang Gekinoo'amaaged (What the teacher should know and ponder)

Sustainable Harvest

Anishinaabe science involves a shift in the basic unit of value as respect for life. When a relative gives their life for food, we respect the entire being. We have scientific laws that go against waste and disrespect. While harvesting life, it is an important teaching to scoff at the grotesque nature of processing or call the relative gross or yell out ewwwww. Rather we are to put tobacco out in reverence and gratitude for the life that we have been given as sustenance. We strive to use as many of the gifts that come from the relatives body. For example, we make tools from the bones they gift us and clothing from skin. These processes are intimately connected to our food systems and have specialized Anishinaabemowin (Anishinaabe language) vocabulary. Please see the section of useful links and the google slide for language objectives you could use with your students while pursuing seasonal Anishinaabe food sovereignty activities. You will also find links for student exploration and future wonderings of more than human food relationships beyond the scope of this introductory glimpse into lessons of Anishinaabe science and food sovereignty relationships.

#### Waa-izhichigeyang (What we will do)

Introduce to your students two measurements of focus that you will use near the river on your walk. One will be a zoom in focus hoop with a willow branch or another sapling tree relative that would not be harmed through the harvest for this focal point purpose.

Offer tobacco to the willow shrub asking to use her branches to make a hoop. The size of the hoop will become a new window through which to focus into when getting to know new relatives and the beings with which they share space. Yellow willow or another willow that has a larger population than red is a good choice. We always need to think about how we are affecting our relative's community for any harvest. Measure the willow branch to be cut the same length as your wingspan, from hand to hand. Then use twine to tie the hoop into a circle.

For the next level larger scope of zoom focus you'll use your body to measure a new circle.

Measure a circle using the diameter of a circle around a tree. You will sit with your back up against the bark of the tree and stretch out your legs.

Close your eyes and feel the support of the trunk behind your back. Awenen wa'aw? Who is supporting you? Take a deep breath and open your eyes. Draw an imaginary circle around the tree from the distance of your feet to the trunk. Explore and examine every being within your new circle with your senses. Who else is there? What do you notice about how they interact with each other? What do they

share? Look up above and down below. Draw and/or write in your journals about what you find and include your wonderings.

Tell them: Aaniin, boozhoo indiniwemaagan! Greetings my relative! What do you notice about how this relative interacts with other relatives?

#### Gonige naa...(wonderings)

Intergenerational wonderings: Ask any of your eldest relatives if they remember their grandparents' harvesting seasonally. What relationship do you imagine your great grandchildren having with these relatives?

#### Miigiweng: There is gifting. (Service learning options)

What gifts does this more than human relative have to offer other relatives? Human? More than human? Write your thoughts in your journal

We are conditioned to set low value expectations for streams and creeks in a hierarchy of water bodies according to size in some respects. Anishinaabe scientific thinking involves a shift in value through time and space. We are called to wonder, how does she (this creek) change though each season? Who does she support in the spring? Summer? Fall? Winter? What happens when she transforms into intermittent pools of life with dry space between? Is she safe from potential dangers of unsustainable cattle farms? In English we might say livestock for farms with animals raised for food systems. In Anishinaabemowin there is no such word because these animals are our older siblings and their cousins from other parts of the world who have taken care of us throughout multiple creations. They cannot be "stock" just as anyone in nature cannot be "resources" for extraction in the same way that the rest of our family members at home would not be defined in terms of commodities or resources for consumption. They are relatives with gifts they share for our continued well being on Mother Earth.

#### **GITIGAANENSAG (Plants)**

#### Ingashkitoon gosha! (I can do it!) Things I can do because of these lessons. (Objectives)

I can demonstrate learning rhythm from bird relatives.

I can explain how to make corn flour.

I can have an experience in relationship with corn seeds.

I can experience the joy of traditional food preparation with a bootaagan.

## Ge-gikendamang Ge-naanaagadawendang Gekinoo'amaaged (What the teacher should know and ponder)

Place based perceptions vary from nation to nation. For some Lake Superior Anishinaabek, Gichi Gami is in the heart of the great turtle island. Should you talk with Anishinaabeg from the western Anishinaabewakiing, you could be presented with an alternate perception of equal value. Much like our experience seated around a table with a cob of corn in the middle, we each described her differently and yet all of us are right. This is aligned with Anishinaabe scientific thinking. There is not ONE way of perceiving absolute and objective truth.

#### Gidinwewininaan Nitam (Our language leads)

Bootaagan(ag) Mortar Bootaaganaatig(oog) Pestle

Wiigwaasaatig(oog) Paper birch trees

Mandaamin(ag) Corn

#### Ge-aabajitooyang (What we will use)

Mazina'igaans(an) Paper

Apibii'igaans(an) Clipboards Ozhibii'iganaak(oon) Pencils

Gitigaan A garden space

Mandaamin Prepared, fresh or frozen corn.

#### Ge-aabadakin: What will be useful

Link to corn aadizookaan Nenaboozhoo Secures Corn (The Adventures of Nenaboozhoo) https://a.co/d/aBa4J7Q

https://www.learningtogive.org/resources/mon-daw-min-or-origin-indian-corn

### Epiichaag: For as long as (time) for as long as (space) A shift in perspective of time and space. 45 minutes

#### Waa-izhichigeyang (What we will do)

All creation stories are true.

Giwitaabidaa gitigaaning mandaamin ayaad nanaawiyi'ing. Form a circle around the garden being mindful of where to step. Choose a particular stalk of mandaamin (corn) to draw from.

Students draw the cob from the angle at which they view it from their place in the garden. Students may also choose to describe the cob's visual appearance from their seat in the room should you need to accommodate bringing the activity inside.

Ask for volunteers to present their mandaamin description. Discuss differences in perceptions. Highlight that each person's perspective is true. Simultaneous respected truth regardless of difference is a principle of Anishinaabe science.

After distributing a serving of the prepared corn to students in the circle, ask them to imagine back to the first stage of its life. Envision mandaamin as a relative with gratitude for the life they give us. What relatives gifted life to nourish them? Who might have been involved in the pollination of the plants that gifted them life? Imagine the wind pollinating the plants and start to feel gratitude rise up through your heart into your mind. Imagine the insect nation and who may have helped both overnight and in the sunshine of the day. Chew each bite a little longer with more intention and gratitude as you visualize the rest of the relatives involved in growing and tending to mandaamin. Who else was involved in the rest of the process that brought this relative to you?

Accommodation for lack of garden availability: Bring a corn cob from a garden and place it in the center of your circle outdoors with the space you have.

#### Gidinawemaaganag Gidibaajimaanaanig (We tell family stories)

Distribute Family Stories Graphic Organizer

#### Gikinoo'amaagooyang

#### (What we will do as families learning)

Take a walk in your kitchen or grocery store. Think of the seeds involved in their development. What kind of seeds do you notice or are you reminded of in this process? What are you curious about? Ask your family members what seeds they can think of that have evolved to take shape in your cupboards and refrigerator in the shape of flour, pre-packaged meals and other forms.

## Bizaanendamang / Naanaagadawendamang wiisiniyang (Meditating / pondering during a meal)

Invite your family to experience the mindfulness activity in appreciation of the first family of relatives who nourish us through food. Ask them to sit with you at dinner or a weekend meal. Name the foods in each dish. One by one, imagine back to the first stage of its life. If the relative is an animal, imagine them with gratitude for the life they give us. What plants might have gifted life to nourish them? What might the seeds of those plants look like? Who might have been involved in the pollination of the plants that gifted them life? Imagine the wind pollinating the plants and start to feel gratitude rise up through your heart into your mind.

### Odaminong, Madwewechigeng, Minwendang Miinawaa Baaping (Where there is play, where there is music, joy and laughter).

Offer asemaa and food to Wiigwaasaatig. Thank the tree relative for their gifts of the season. Dan Pine Jr. of Garden River First Nation taught me to drink one cup of sap from Wiinizik(oog) (Yellow Birch) as strong medicine and cousin to Wiigwaasaatig, after the maple run to clean your blood. In this way, our older relative takes care of us. She also gives of her life that we may create bootaagan(ag) (mortar(s)) and bootaaganaatig(oog) (pestle(s)) to create our corn flour.

Rhythmic collaboration challenge: In groups of 2-4, take turns creating rhythms with the bootaagan as you pound the nixtamalized flint corn hominy into flour. Each member of the group makes a rhythm with their bootaaganaatig. You are encouraged to help if a group member struggles to make rhythm. Then put all your rhythms together into an order.

Rhythms from the cedar waxwing: Listen to the cedar waxwing. Copy the rhythms with your bootaagan.

Have students make a list of relatives that they meet on the river walk. Download the Merlin Bird ID app and use it on the walk to identify birds as you hear them. When back in the classroom, ask students to research further about those relatives online. After they explore some, have them choose a bird to create rhythm with.

Alternative: Assign rhythms to each number on the board 1-6. Roll the die and create an order of the rhythms for each group to have their own song.

The interconnectedness of life includes more than physical contribution to the creation of this corn flour. You are physically shaping the flour with your body and movements, you are mentally and emotionally shaping the flour with your mind and emotional bodies as well. As my son's late grandmother Rosemary Gaskiniban of Bawating always advised, "Think good thoughts."

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Viizhing 2

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#### Miigiweng: There is gifting. (Service learning options)

Our native plant relatives need our help! There are a wide variety of "invasive species" taking over the homes of native species. This affects other relatives who survive on native species such as birds and insects. One example of an invasive species is Spotted Knapweed. It does not directly kill our native blueberry and strawberry relatives. Its roots emit a toxin into the soil that numbs and prevents their growth. The native plant relatives need our help! Some resort to spraying glyphosate or other chemicals to kill invasive species since they are aggressively plentiful and it takes a lot of time and energy to hand pull them from their roots. From an Anishinaabe scientific perspective, this approach is unacceptable. We look ahead to the time of indaanikoobijiganag and see that putting chemicals into Mother Earth does more than kill the one species. We look at the interconnected picture of what other relatives chemicals affect. It affects every relative in the region as well as the water and eventually what becomes of their bodies becomes of ours. Anishinaabe science also involves a shift in value of time and space. It is irrelevant how much time and energy it takes to pull by hand because it is nonsensical to poison the earth and other relatives.

Contact Bay Mills Conservation Department or a local Tribal Natural Resources Department to arrange a field trip experience rescuing Native berry plants from Spotted Knapweed.

#### Waa-izhichigeyang (What we will do)

Read Our First Family. A draft resolution written by Amy McCoy for consideration by her Tribal government council of the Sault Sainte Marie Tribe of Chippewa Indians currently under workshop to become Tribal code (law). This is an example of Anishinaabe scientific thinking in action. What does this document say about Anishinaabe relationships with more than human relatives? Bring the class outside with clipboards, paper and pencil and ask them to draw a picture based upon what we read in the document intended to protect our first family. How is food mentioned?

https://docs.google.com/document/d/1gUbYEUbKiONuYh70-yexLnUhJKFdWeSv9gPIFWCzLOs/e dit?usp=sharing

### DRAFT "RESOLUTION ESTABLISHING PROTECTION OF OUR FIRST FAMILY "DRAFT FOR EDUCATIONAL PURPOSES BY AAMOOKWE AMY MCCOY"

WHEREAS, ANISHINAABE IZHITWAAWIN, WAYS OF THINKING AND BEING, INCLUDES A DE-CENTRALIZED VIEW OF HUMAN BEINGS WHO ARE NOT ON TOP OF AN EVOLUTIONARY HIERARCHY, BUT RATHER DEPENDENT UPON THE OLDER WISER MORE THAN HUMAN RELATIVES THAT OUR FIRST ANCESTRAL FAMILY CREATED BEFORE THE HUMAN BEINGS; AND

WHEREAS, THE REST OF CREATION PRECEDES ANISHINAABEG AND HAVE STOOD UP FOR ANISHINAABEG ENSURING OUR SURVIVAL
THROUGH THEIR GIFTS AS THE YOUNGEST SIBLINGS IN A LARGE FAMILY OF RELATIONAL EXISTENCE, ANISHINAABE IZHITWAAWIN; AND

WHEREAS, RIGHTS OF MORE THAN HUMAN RELATIVES ARE BASED UPON THEIR OWN INHERENT VALUE BEYOND FUNCTION OF THEIR ECOLOGICAL SERVICES TO HUMAN BEINGS; AND

WHEREAS, THE 7TH GENERATIONS OF MORE THAN HUMAN RELATIVES NEED BE TAKEN INTO CONSIDERATION WHEN DECISIONS ARE MADE THAT AFFECT THEIR HABITAT, AND

WHEREAS, ALL MORE THAN HUMAN RELATIVES ARE CONSIDERED BY THE ANISHINAABE PEOPLE TO BE GIFTS FROM THE CREATOR OR GREAT SPIRIT AND CONTINUE TO PROVIDE ECOLOGICAL SERVICES TO SUSTAIN ACCORDING TO NATURAL LAW, AND

VALEREAS, WE ENGAGE RECIPROCITY AS A FOUNDATIONAL TENET OF ANISHINAABE IZHITWAAWIN AND GIVE BACK THROUGH OUR INHERENT ROLE OF STEWARDSHIP FOR OUR MORE THAN HUMAN RELATIVES AS THE INDIGENOUS PEOPLES; AND

WHEREAS, MORE THAN HUMAN RELATIVES CONTINUE TO PROVIDE IMPORTANT STAPLE NUTRITION IN THE DIETS OF NATIVE PEOPLES. MORE THAN HUMAN RELATIVE'S FOOD RELATIONSHIPS ARE A CENTRAL ELEMENT OF THE CULTURE, HERITAGE, AND HISTORY OF THE ANISHINAABE PEOPLE. AND ARE AN INTEGRAL PART OF THE ECOSYSTEMS AND NATURAL COMMUNITIES OF OUR INHERENT LANDS; AND

WHEREAS, WE HAVE A TREATY RESPONSIBILITY OF STEWARDSHIP TO ENSURE MORE THAN HUMAN RELATIVES CAN CONTINUE THE ECOLOGICAL SERVICES THEY PROVIDE TO THEIR MORE THAN HUMAN COMMUNITY RELATIONS AS WELL AS THOSE ECOLOGICAL SERVICES THEY GIFT TO THE HUMAN BEINGS; AND

WHEREAS, THE SAULT STE. MARIE TRIBE OF CHIPPEWA INDIANS HOLDS INHERENT STEWARDSHIP OVER OUR INHERENT LANDS AND WATERS; AND

WHEREAS, THE STATE OF MICHIGAN HAS NO FEDERAL TRUST RESPONSIBILITY OR LEGAL AUTHORITY TO REGULATE TRIBAL CITIZENS' HARVEST RIGHTS UNDER FEDERAL TREATIES OR THE CONGRESSIONAL ACT GRANTING LIMITED CIVIL OR CRIMINAL JURISDICTION UNDER PUBLIC LAW 83-280 (18 U.S.C. § 1162, 28 U.S.C. § 1360); AND

WHEREAS, THE SAULT STE. MARIE TRIBE OF CHIPPEWA INDIANS REGULATES HARVEST OF OUR TERRITORIES AND RETAINS JURISDICTIONAL SOVEREIGNTY AS STEWARD TO OUR INHERENT LANDS, MINERALS AND WATERS; AND

WHEREAS, MORE THAN HUMAN RELATIVES AND THE HABITATS WITHIN WHICH THEY THRIVE ARE THREATENED BY VARIOUS PRACTICES, AND WE RECOGNIZE THAT TO PROTECT OUR MORE THAN HUMAN RELATIVES AND OUR PEOPLE, WE MUST SECURE HIGHEST PROTECTION THROUGH THE RECOGNITION OF LEGAL RIGHTS, AND CALL UPON THE BANDS OF THE ANISHINAABEG NATION, AND OTHER RELEVANT FEDERATIONS, COMMISSIONS, AND GOVERNMENT ENTITIES, TO SECURE AND PROTECT THE LEGAL RIGHTS OF MORE THAN HUMAN RELATIVES AND OUR PEOPLES; AND

NOW THEREFORE BE IT RESOLVED, THAT SAULT STE. MARIE TRIBE OF CHIPPEWA INDIANS NOW ESTABLISHES THE RIGHTS OF MORE THAN HUMAN RELATIVES INCLUDING WINGED, SWIMMERS, INSECTS, PLANTS, 4-LEGGED, FRESH WATER, MINERAL AND LAND AS PART OF OUR TREATY FOODS AND FOUNDATIONAL RELATIONSHIPS FOR FUTURE GENERATIONS OF ANISHINAABEG.