



Walking with the Earth - Pimohtiwin: Lessons to Support Science 10

by
Marcia Klein

2008

S106.24

Teaching Materials
from the
Stewart Resources
Centre



Government of
Saskatchewan



These lessons were developed by the following team of teachers, Elders, and cultural advisors: Yvonne Chamakese, David Hlady, Anna-Leah King, Duane Johnson, Marcia Klein, Lana Lorensen, Sally Milne, Joseph Naytowhow, Lamarr Oksasikewiyin, Stuart Prosper, Ron Ray, Ted View, John Wright, and Laura Wasacase. Support was provided by Dean Elliott from the Ministry of Education, and Margaret Pillay from the Saskatchewan Professional Development Unit.

All resources used in these lessons are available through the Stewart Resources Centre: http://www.stf.sk.ca/services/stewart_resources_centre/online_catalogue_unit_plans/index.html

Information regarding the protocol when inviting Elders into the classroom can be found in the document: *Elders in the Classroom* by Anna-Leah King (attached as Appendix D). Further information can be found in the Saskatchewan Learning document: *Aboriginal Elders and Community Workers in Schools*.

Table of Contents

| | |
|---|----|
| Overview | 4 |
| Foundational Objectives | 4 |
| Timeframe | 4 |
| Resources | 4 |
| Location..... | 4 |
| Walking with the Earth - Pimohtiwini | 5 |
| • Foundational Objectives | 5 |
| • Key Understandings | 5 |
| • Essential Questions | 5 |
| • Learning Objectives | 5 |
| • Assessment Evidence | 6 |
| • Portfolio Assessment | 6 |
| • Notes to the Teacher | 6 |
| • Hints for Using the Outdoor Classroom | 6 |
| • How to Lead a Guided Hike | 7 |
| • Learning with an Elder or Traditional Knowledge Keeper | 8 |
| Lesson Plan..... | 9 |
| • Building Awareness for the Teacher | 10 |
| • Building Awareness for Students | 11 |
| • Learning on Site..... | 13 |
| • Post-Visit – Making Sense of the Experience and Giving Back | 15 |
| Appendix A – Portfolio Assessment Rubric | 16 |
| Appendix B – Student Field Book..... | 17 |
| Appendix C – Flora and Fauna of Brightwater Area | 20 |
| Appendix D – Elders in the Classroom | 24 |
| Bibliography..... | 26 |

Overview

These lessons involve a walk in nature that could take place in any community, or could also be a field trip to an environmental centre. Hints for using the outdoor classroom are included. This activity includes a pre-site lesson, an on-site lesson, and a post-site lesson. The material here is based on experiences at Brightwater Science and Environment Centre with Saskatoon Public Schools, an outdoor education centre located near Saskatoon. In these visits, students are accompanied by an Elder or a traditional knowledge keeper.

These lessons incorporate objectives from the unit entitled Life Science: Sustainability of Ecosystems (SE) in the *Science 10 Curriculum Guide*.

Foundational Objectives

- SE1** Explore cultural perspectives on sustainability.
- SE2** Examine biodiversity within local ecosystems.

Source: This and other objectives are found in the following document:
Saskatchewan Learning. (2005). *Science 10 curriculum guide*.
Regina: Saskatchewan Learning.

Timeframe

6-8 hours.

Resources

Included in this package.

Location

Schoolyard, slough, river, lake, prairie, boreal forest, riparian area, Brightwater Science and Environment Centre (Saskatoon Public Schools), provincial/regional/national parks, or First Nations lands. Ideally, the learning place is somewhere that still has natural plants and animals living in the area.



Walking with the Earth - Pimohtiwin

Foundational Objectives

- SE1** Explore cultural perspectives on sustainability.
SE2 Examine biodiversity within local ecosystems.

Key Understandings

- Sustainability of the planet can be viewed from a number of perspectives connected to worldview.
- The biodiversity of an ecosystem contributes to its sustainability.
- Walking in nature with a guide can increase our awareness of the environment.

Essential Questions

1. What is sustainability? What are the essential issues?
2. What are my responsibilities to the environment?
3. What do I see and what don't I see when walking in nature?

Learning Objectives (LO)

Students will be able to:

- SE1** LO1 Examine how cultures view the relationships between living organisms and their ecosystems.
- SE1** LO3 Select and integrate information about various human, print, and electronic sources (government publications, community resources, and personally-collected data) with respect to sustainability and the environment.
- SE1** LO4 Communicate questions, ideas, and intentions, and receive, interpret, understand, support, and respond to the ideas of others with respect to sustainability and the environment.
- SE2** LO1 Observe and document a range of organisms to illustrate the biodiversity within a local ecosystem.
- SE2** LO4 Explain how the biodiversity of an ecosystem contributes to its sustainability.
- SE2** LO8 Describe and apply classification systems and identify key ecological terms used in environmental sciences.
- SE2** LO9 Demonstrate a personal and shared responsibility for maintaining a sustainable environment.

Assessment Evidence

- Portfolio:
 - Reflections from pre-visit work
 - Reflections on readings from books
 - Poster
 - Field guide
 - Personal perspective on sustainability
 - Final project (if desired)

Portfolio Assessment

Students will add any documentation or reflections relating to these lessons into their portfolios. Although entries could be assessed individually, a mark for the entire portfolio is the most authentic. Marks should be based on evidence of an understanding of the objectives covered, rather than on items such as neatness or grammar. A rubric is attached (see Appendix A).

Notes to the Teacher

First Nations people have a spiritual relationship with the land, Askiy, Mother Earth, and the sun, as well as the plants and animals. The respect and care that we give the earth is like the way we honour our mother. When taking students to learn in the 'outdoor classroom,' we proceed with respect. Before we walk, we need to offer gratitude and ask for guidance. By pausing to pray or to ask for good teaching, we are opening ourselves to learning. Our intent in the walk will greatly influence what we learn. We walk with intent and with mindfulness. (From a conversation with Joseph Naytowhow, March 14, 2007)

So often when youth arrive at Brightwater Centre, they are amazed to see deer by the creek, are happy to lie down in the prairies for a close look at a flower, or enjoy the chance to pucker at the taste of a chokecherry. We need a sense of place in the natural environment to be reminded that we are connected to the land, water, air, and all living organisms. Walking with an adult who cares about the place creates memories that might touch our students and inspire them to value and to care more for our homeplace. Learning with an Elder or traditional knowledge keeper through story and song touches a special place in the mind and heart of the students. That is why Joseph and I chose to record and share Pimohtiwini. (Thoughts from Marcia Klein, May 29, 2007)

These lessons are modeled on experiences at Brightwater Science and Environment Centre with Saskatoon Public Schools. Adapt the program for your own community to study the sustainability of ecosystems.

Hints for Using the Outdoor Classroom

First time out - Scout the site beforehand for teaching opportunities and challenges. Plan for teaching stops. Refer to plans included that consider a variety of presentation

strategies, then add and adapt as appropriate for you and your group. Check out the facilities and any accessibility issues.

Naming - Experiencing solely a naming hike does not necessarily help students to know the flora and fauna of the area; close observation and study are far preferred. If the name of the organism is important to discover (and the Elder or a guide or book is not available), jot down a clear description, make a sketch, and take a photo to find out back at school.

Small group - Teacher leader and other adults in small groups with a 1:10 ratio is ideal for supervision and facilitation, but is not always feasible. Large groups on a guided hike can be successful if the presenter gathers the group each time something is being shared and supervision is adequate during the biodiversity survey.

Preparation - Assemble data collection equipment in a backpack - cameras, field guides, sketching pencils. Request that students wear appropriate clothes. Notify administration of the intended use of the schoolyard or field trip to a natural habitat. Fill in all forms for the office and ensure that you have the contact information for the students. Be aware of medical issues for students (allergies, etc.). Take attendance.

Respect for self - Stay warm/cool, be ready to learn, and have fun. Explain assignment accountability.

Respect for others - Listen, respect others' property, learn as much as you can, no put-downs, ask lots of questions, show gratitude. Be where you need to be, ready to participate. You might need to remind students to 'be here' rather than on the cell phone.

Respect for our environment - Use resources wisely (food, water, lighting, heat), leave plants in their place. Stay on main trails. Observe earth, water, plants, and animals with respect. Reduce garbage. Compost/recycle.

How to Lead a Guided Hike

Scouting the hike before leading with a group cannot be underestimated. Use the web in the PowerPoint presentation (attached) as an organizer: Belonging / Mastery / Independence / Generosity - or use the terms below.

Welcome - Introduce the theme of the hike. Possible themes could be: Diversity is the Spice of Life, Without Diversity There is No Spice, All Things are Connected, These Plants Have So Much to Teach, or Sharing a Sense of Wonder. Whatever the theme, return to it often by presenting examples, stories, demonstrations, and taking advantage of teachable moments so that students have many opportunities to catch the concept.

Experience - Guided hikes often look like a bumpy caterpillar - walk, stop, talk, and walk some more. What causes the stop is a plant, animal, or landform that catches the attention of the Elder, the students, or the teacher. Visual, tactile, and kinesthetic experiences that lend themselves to provoking not only the head but also the emotions and spirit - a sense of wonder - are ideal. These experiences endure in memories. Storytelling is preferred to lecturing unless the youth are truly engaged by the lecture. Talk

about what is there in front of you, conduct a demonstration, or show a photo or map to illustrate the topic and to assist in visual connections.

Make it yours - Engage students in actions that help students feel, see, know, and think the theme. Then provide some solo time for reflections. This is when real connections can be created. Engaging in art also helps create firing synapses.

Show it off - Close the hike by returning to the theme and asking students to share some of their impressions, questions, concerns, suggestions, and artwork. Thank them for their enthusiasm for learning, great observations, and respect for the land, for its inhabitants, and for each other. Then head back to the urban world and make meaning back in the classroom.

Learning with an Elder or Traditional Knowledge Keeper

When an Elder or traditional knowledge keeper is invited to speak with your students, the teacher must make an offering of tobacco and ask a specific question to be answered by the Elder (see Appendix D - Elders in the Classroom). The question phrasing could come from the students, but some possible examples are:

- How should we take care of the environment?
- What is a First Nations worldview?
- How did First Nations people take care of the land?
- How did First Nations people live off the land?

The teachings that will be shared by the Elder will vary depending on the person sharing. Some Elders might focus on values and respect. Others might tell stories about the land, plants, and animals. Others might share stories of the trap line. The sharing might last for a few minutes or for an hour. It will all depend on the Elder. The topic is not dictated by the teacher; the Elder might want to know the area of study students are exploring. What is shared by the Elder will be guided by the spiritual connection provided by the offering of tobacco that you or your student presented in a good way. Students will have questions. These can be asked respectfully. Time taken to review protocols when learning with an Elder will encourage more sharing through respectful listening. The teachings from an Elder will endure long after the hike ends. We are fortunate to have the opportunity to live in a time when we can learn from our First Nations Elders and traditional knowledge keepers. More information about working with an Elder can be found in the document *Aboriginal Elders and Community Workers in Schools* (Saskatchewan Learning, 2001. Regina, SK: Author.), which can be found on the Ministry of Education website under First Nations and Métis Branch.

If an Elder is not available for the hike, it is still valuable to head outside to learn. A walking tour guide is being developed for Brightwater and will be available in Fall 2007. Walking tour pamphlets for provincial and national parks might also assist in your hike.

Lesson Plan

1. Pre-Visit - Building Awareness

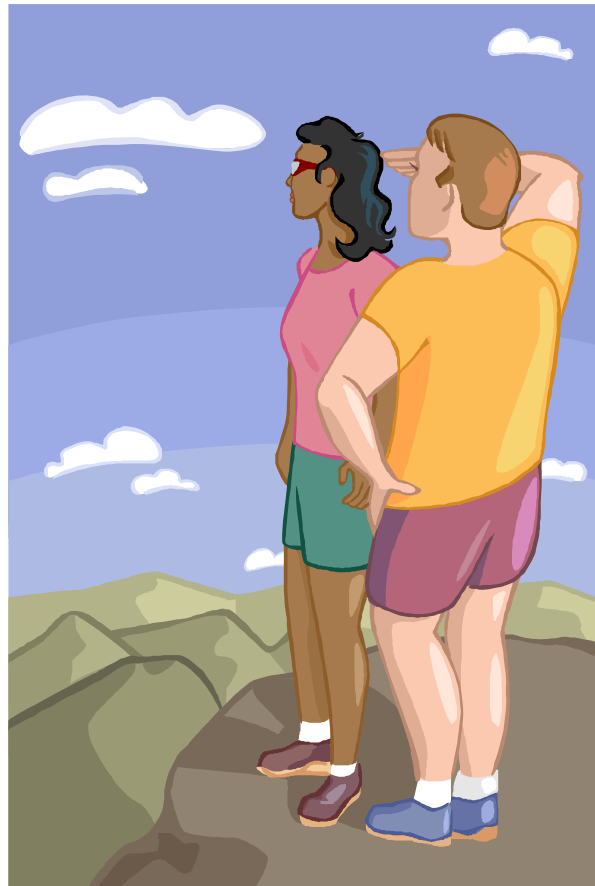
- Suggestions are included for teacher background knowledge, and a variety of activities are included, from which the teacher can choose.

2. Learning On Site

- The instructions included here relate to the Brightwater program, but the teacher may choose to develop alternate activities based on the information included in the section *Hints for Using the Outdoor Classroom*. This program has been in ongoing development at Brightwater Science and Environment Centre with Science 10 teachers as a pilot in consultation with Joseph Naytowhow and Marcia Klein for the last few years. Started through an IMED grant in 2000, Brightwater has benefited from First Nations people who have shared their understanding related to the environment. This program is an attempt to provide support to teachers and to share some of the unique experiences possible.

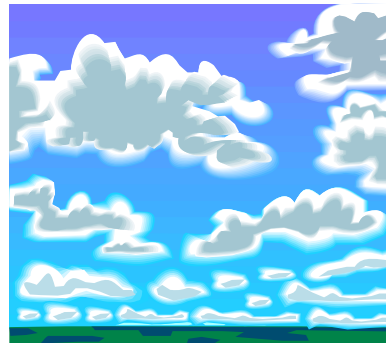
3. Post-Visit - Making Sense of the Experience of Giving Back

- This section suggests a variety of culminating activities and extension activities.



Building Awareness for the Teacher

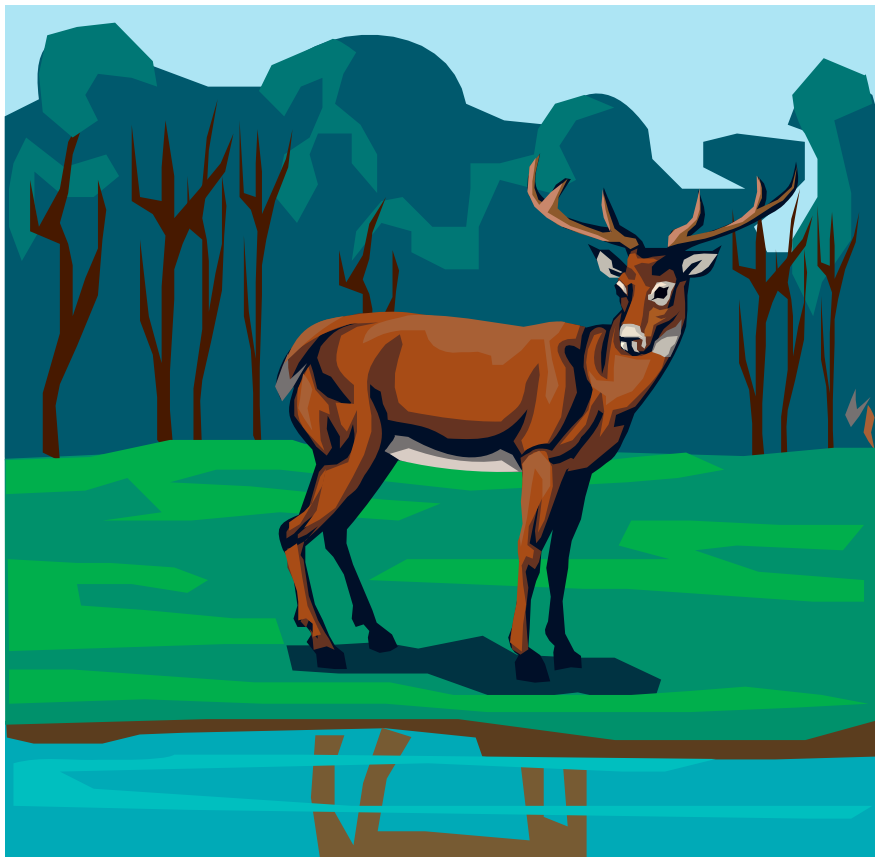
- Read the book *Brother Eagle, Sister Sky* - message by Chief Seattle with paintings by Susan Jeffers. Provides a First Nations worldview. Powerful words and images that speak of sustainability and responsibility while challenging our current way of living off the land.
- Read the book *The Other Way to Listen* by Byrd Baylor to consider ways of gathering information about a place. Nature sounds tell a story.
- Read the book *The Elders are Watching* by David Bouchard and illustrated by Roy Henry Vickers. Stunning prints illustrate the poetic story about responsibility for the land and people. Students taking visual arts might create artwork inspired by Roy Henry Vickers.
- Read the book *The Bulrush Helps the Pond* by Ken Carriere. Written in Swampy Cree with English translation, the diversity and fragility of the prairie wetland are shared.
- Read the book *The Sacred Tree: Reflections on Native American Spirituality* produced collaboratively by Judie Bopp, Michael Bopp, Lee Brown, Phil Lake, Jr. and the Elders. Values and teaching for First Nations people are shared through the medicine wheel. Teaching intended for personal growth will also provide increased understanding and may help the teacher prepare for outdoor learning.
- Read the book *Shared Spirits: Wildlife and Native Americans* by Dennis Olson. A beautiful book about the teachings and stories of 12 animals, including the bear, the eagle, the bison, and the spider, presented with respect and wisdom. (This book is out-of-print, but might be available through Amazon or second-hand bookstores.)
- Check website www.usask.ca/cuisr/docs/pub_doc/cuisr_mandate/KynochFINAL.pdf for information about the Brightwater site and for further information regarding an Aboriginal worldview.



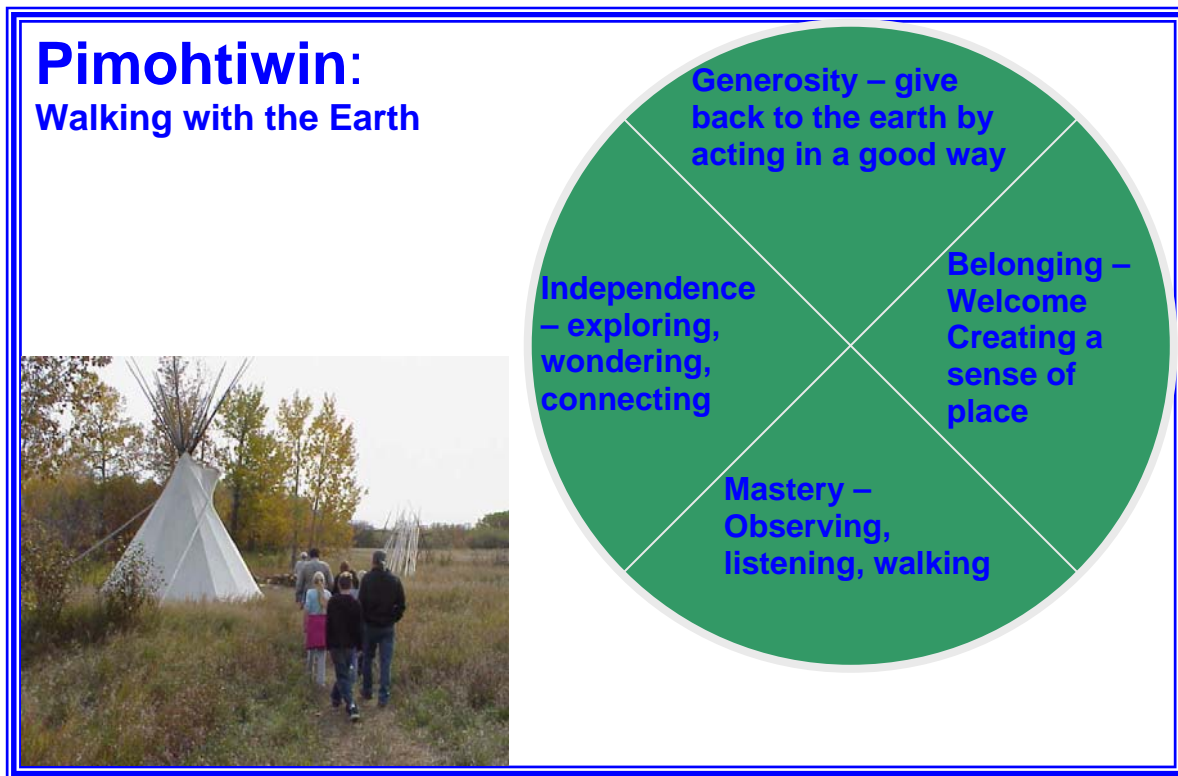
Building Awareness for Students

- Introduce the essential questions and key understandings. Outline the portfolio and explain assessment.
- Examine the concept of sustainability to create a working personal or collective definition before the hike. Elaborate on the concept after the hike. What is sustainability? What are some examples of successful sustainability? What are some examples of actions that compromise sustainability? What do you do to reduce your impact on the earth or to reduce your ecological footprint? What could you do? Ask students to develop their own definition and to write a reflection on ways in which they can reduce their ecological footprints for their portfolios.
- Create a word wall with all the vocabulary or terms that could apply to the topic of sustainability of ecosystems. In small groups, students will write on 5" X 7" cards one word that applies to the unit. These are posted on the wall.
- Read one of the books listed in the *Building Awareness for the Teacher* section to students and ask them to reflect on what they have learned. The reflection will be added to their portfolio.
- Show students the PowerPoint presentation (print version attached) *Pimohitiwin - Walking with the Earth* to consider worldview, plant uses, and ways of learning outdoors. The intent of this PowerPoint presentation is to provide an overview or introduction for the walk outside. The plant use information might inspire an assignment that the students could complete, adding more collective knowledge and photos for the future.
- Consider First Nations worldview. Use the charts from Judy Bear or Joseph Naytowhow (included in the PowerPoint and also in handout format in this document) to consider these perspectives. What does this system communicate about values and how understanding is organized? How does this worldview affect actions toward the environment?
- Use the *Flora and Fauna List* (Appendix C) for research which lists organisms in English, Cree, and Latin. Please note that this document is a work in progress and is not yet complete. Students will choose a plant, bird, and animal to research and will create a poster with information and illustrations. Include illustrations, connections, interrelationships, cycles, seasonal concerns, and fascinating stories. Display the posters so students learn about other organisms before the field trip. Include the completed posters in the portfolios.

- Conduct a short walkabout in the schoolyard to practice documenting diversity by completing a visual/auditory survey. Compare the flora and fauna in this urban environment with the natural setting you will be visiting. Document plants and animals seen for the portfolio. Students may photograph plants and animals, draw them, or list them if their names are known. If plants or animals are unknown, use field guides, or ask staff members or community individuals who might know.
- Prepare students for their field experience. Discuss guidelines for talking and/or walking with an Elder. Discuss guidelines for how to treat the environment. Provide students with their field guide and review the tasks. Ask them to complete the first section - *Flora and Fauna I Might See*.
- Organize digital cameras, sketching pencils, or other tools intended for use during the on-site experience to document diversity.



Learning On Site



The following learnings on site are based on the medicine wheel as illustrated above. For further information about the medicine wheel, visit www.virtualsk.com/current_issue/angered_stones.html

Belonging - Greet the Elder and welcome him or her with gratitude. Present tobacco as an offering of gratitude for the information that will be shared (see introductory information and/or Appendix D - Elders in the Classroom). The Elder might wish to open with a song or a prayer. Invite students to pause for a moment (one minute or more), standing or sitting with the land, to set the tone for the transition from a city to a country way of learning. Suggest that students listen, be present in the moment, be aware, share observations, and be mindful.

Mastery - Invite the Elder to speak with the students. This talk will be as long as the Elder desires, so it is suggested to be on Earth time. Teachings about worldview, sustainability, experiences with family, and cultural teachings might be the content. Joseph Naytowhow asks students to choose a name of something that would be found at Brightwater for the walk, which he translates into Cree; this becomes a password that he reviews often (and students remember for a long while). After the talk, take a walk around the site, stopping to chat about plants or animals along the way. The Elder might provide the expertise and information (this should be pre-arranged). Students will take jot notes in their field notebook as part of their survey of the site to learn how biodiversity contributes to sustainability.

Lunch - Zero garbage lunch, followed by a game of double ball, triangular tug-of-war, or leg wrestling to teach about strength and endurance as survival skills. Aboriginal games can be found at www.mts.net/~c54s55/aboriginalgames.html

Independence - Allow for small group or solo time to add reflections about the Elder's teachings, to make sketches, to take photographs of plants, or to record journal notes about the topic of sustainability of ecosystems to add to the field book.

Generosity - Show gratitude by engaging in an action project that benefits the site the class explores (arrange with the landowner). Some actions might include tree planting, garbage pick up, or site restoration. If the Elder is still present, he or she may wish to close with a song or a prayer. Students can also be invited to share a story, song, poem, wish, etc. Close the day with a talking circle. Pass a stone to the left in the circle. Each person may share a word or comment to reflect on the experience. The option to pass without speaking exists. Only the person with the stone speaks and others listen with respect. See www.saskschools.ca/curr_content/aboriginal_res/ for more information.



Post-Visit - Making Sense of the Experience and Giving Back

- Complete the field book, adding details/questions about the teachings from the Elder and insights about sustainability.
- Add more words to the word wall to build more ecological terms/teachings.
- Review flora and fauna survey to include more information or details, if any were left out. Use field guides for more research.
- Invite a person who continues to live with and from the land to speak with the students (in class or in the field) about his or her understandings about biodiversity and sustainability. There are many people in the north who can tell these stories. They are not 'in the past tense,' but are happening now and will continue.
- Reflect on the teachings from the Elder as to their significance in your study of sustainability of ecosystems in your field book. What are the teachings you can embrace in your personal life and how might this affect your beliefs and actions? What spark is ignited in you?
- What actions can you take that will improve the diversity of ecosystems and the sustainability of ecosystems in your area? (Suggestions might include: garbage pick-up, promoting zero garbage lunch so there is no garbage in the first place, tree planting, site restoration, habitat garden, creating a compost bin, starting a school recycling program, reducing your eco-footprint, reducing food waste, improving the schoolyard garden or courtyard.) Seek out organizations that have shown global leadership in sustainability, action projects, and environmental education.
- Create a song, poem, or visual that communicates biodiversity and sustainability from a personal perspective.
- Listen to the song by Remy Rodden entitled "Three Simple Rules" to reconsider our role in biodiversity of ecosystems and sustainability of the land (see the bibliography for more information about the CD or listen to the song at <http://cdbaby.com/cd/rodden>). If you do not have access to the song, the life rules mentioned are:
 - Respect all life.
 - Take only what you need.
 - Use all that you take.



APPENDIX A

Portfolio Assessment Rubric

| | Level 4 | Level 3 | Level 2 | Level 1 |
|---|---|--|--|---|
| Key Understandings | The student demonstrates complete understanding of the cultural concepts of sustainability, and of human impact on ecosystems. | The student demonstrates understanding of the cultural concepts of sustainability, and of human impact on ecosystems. | The student demonstrates some understanding of the cultural concepts of sustainability, and of human impact on ecosystems. | The student demonstrates little understanding of the cultural concepts of sustainability, and of human impact on ecosystems. |
| Personal Actions and Reflections | The student has thought about his/her responsibility to the environment, and is committed to taking action. Steps for taking action are outlined. | The student has thought about his/her responsibility to the environment, and is proposing to take action. Some possible steps for action are outlined. | The student has thought about his/her responsibility to the environment, and is considering taking action. Possible steps for action may not be present, or are not realistic. | The student may have thought about his or her responsibility to the environment. |
| Product | The product is neat, tidy, and in the correct format. All of the tasks for the assignment are completed correctly. | The product is neat, tidy, and in the correct format. One of the tasks for the assignment is missing or incomplete. | The product may be neat, tidy, and in the correct format. At least two of the tasks for the assignment are missing or incomplete. | The product is not neat, tidy, or in the correct format. Three or more of the tasks for the assignment are missing or incomplete. |



APPENDIX B

Student Field Book

Pimohtiwini - Walking with the Earth Science 10 Sustainability of Ecosystems

NAME _____ DATE _____

Flora and Fauna I might see (pre-visit):

Describe the place you are exploring.

Survey the site during your walk. (Note plants, animals, weather, the land or other interesting features.)

Explain how the biodiversity of an ecosystem contributes to its sustainability.



What actions need to be taken to help the sustainability of the ecosystem you explored?
What did you do?

Note some examples of biodiversity during your hike.

How did this outdoor experience contribute to your learning about sustainability of ecosystems?

What teachings did the Elder share with you?

What are the teachings you can embrace in your personal life? What responses or actions might you take?



APPENDIX C

Flora and Fauna of Brightwater Area

Flora (Plants)

| English | Cree/Nehiyowewin-pikiskwewin | Latin (scientific name) |
|------------------------------------|-----------------------------------|---|
| Paper Birch | waskwa-atik (was-kway-attic) | <i>Betula papyrifera</i> |
| Trembling Aspen | metos (me-toosh) | <i>Populus tremuloides</i> |
| Balsam Poplar | Metos (me-toosh) | <i>Populus balsamifera</i> |
| Willow | nipsi (neep-see) | <i>Salix</i> |
| White Spruce | Miniahk (mini-ache) | <i>Picea glauca</i> |
| Saskatoon, Juneberry, Serviceberry | Saskatominatik | <i>Amelanchier alnifolia</i> |
| Chokecherry | Takwayminanatik | <i>Prunus virginiana</i> |
| High Bush Cranberry, Pembina | | <i>Viburnum opulus</i> |
| Red Osier Dogwood | | <i>Cornus stolonifera</i> |
| Northern Gooseberry | | <i>Ribes oxycanthoides</i> |
| Wild Raspberry | Ayoskana | <i>Rubus idaeus</i> |
| Prairie Rose | Kamnakasi (kam-nuk-a-see) | <i>Rosa acicularis</i> |
| Western Snowberry/Buckbrush | | <i>Symphoricarpos occidentalis</i> |
| Bearberry, Kinnikinnick | Cakasipakwa (cha-ka-sip-akwuh) | <i>Arctostaphylos uva-ursi</i> |
| Hawthorn | | |
| Buffaloberry | | |
| Wild Black Currant | | <i>Ribes americanum</i> |
| Wild Strawberry | | <i>Fragaria virginiana</i> |
| Wolf Willow, Silverberry | | <i>Elaeagnus commutate</i> |
| Pin Cherry | Wesakimina (weesuck-ee-min-ah) | <i>Prunus pensylvanica</i> |
| Wild Red Currant | | <i>Ribes triste</i> |
| Twinning Honeysuckle | | <i>Lonicera dioica var. glaucescens</i> |
| Common Juniper, Ground Juniper | amisko wekusk (amiss koo weekusk) | <i>Juniperus communis</i> |
| Creeping Juniper | Asiniwakop (a-sin-new-a-coop) | <i>Juniperus horizontalis</i> |
| Manitoba Maple, Box Elder | | <i>Acer negundo</i> |
| Water Birch, River Birch | | <i>Betula occidentalis</i> |

Flora and Fauna of Brightwater Area



Flora (Plants)

| English | Cree | Latin (scientific name) |
|----------------------------------|-----------------------------|--|
| Prairie Crocus | | <i>Anemone patens</i> |
| Cut-Leaved Anemone | | <i>Anemone multifida</i> |
| Cattail | | <i>Typha latifolia</i> |
| Wild Mint | | <i>Mentha arvensis</i> |
| Canada Anemone | | <i>Anemone Canadensis</i> |
| Smooth Fleabane | | <i>Erigeron glabellus</i> |
| Leafy Arnica | | <i>Arnica chamissonis</i> |
| Wild Sarsaparilla | | <i>Aralia nudicaulis</i> |
| Spreading Dogbane | | <i>Apocynum androsaemifolium</i> |
| Tall Lungwort | | <i>Mertensia paniculata</i> |
| Northern Bedstraw | | <i>Galium boreale</i> |
| Common Harebell | | <i>Campanula rotundifolia</i> |
| Common Scouring Rush | | <i>Equisetum hyemale</i> |
| Giant Hyssop | | <i>Agastache foeniculum</i> |
| Wild Mint | asay | <i>Mentha arvensis</i> |
| Common Blue-eyed Grass | Maskosiya (mus-koo-see-yuh) | <i>Sisyrinchium montanum</i> |
| Stinging Nettle | | <i>Urtica dioica</i> |
| Poison Ivy | | |
| Dandelion | | <i>Taraxacum officinale</i> |
| Yellow Evening Primrose | | <i>Denothera biennis</i> |
| Bunchberry | | <i>Cornus Canadensis</i> |
| Wild Licorice | | |
| Common Horsetail | | <i>Equiseum arvense</i> |
| Needle and Thread Grass | | |
| Blue Grama Grass | | |
| Western Red Lily | | <i>Lilium philadelphicum var andivum</i> |
| Pink Wintogreen | | |
| Indian Beadroot (Prairie Turnip) | | |
| Yarrow | | <i>Achillea millefolium</i> |
| Prickly Cactus | | |
| Early Blue Violet | | <i>Viola adunca</i> |
| Western Canada violet | | <i>Viola Canadensis</i> |

Flora and Fauna of Brightwater Area

Fauna (Animals)

| English | Cree | Latin (Scientific name) |
|----------------------------------|---------------------------|----------------------------------|
| Deer Mouse | apakosis (ah-puck-o-sees) | <i>Peromyscus maniculatus</i> |
| Prairie Shrew | | <i>Sorex haydeni</i> |
| Little Brown Bat (O. Chiroptera) | pahkwacis (pah-kwa-chees) | <i>Myotis lucifugus</i> |
| Least Chipmunk | sasakawapiskos | <i>Tamias minimus</i> |
| Richardson Ground Squirrel | anakwacas | <i>Spermophilus richardsonii</i> |
| Northern Pocket Gopher | Paskwaw anakwacas | <i>Thomomys talpoides</i> |
| Muskrat | Wacask (wahjusk) | <i>Ondatra zibethicus</i> |
| Beaver | | <i>Castor Canadensis</i> |
| Porcupine | | |
| Lease Weasel | Sikosis | |
| Mink | Sakwiso | |
| Fox | Mahkisis | |
| Coyote | Miscacakanis | |
| Mule Deer | Apscimosis | |
| White-tailed Deer | | |
| Snowshoe Hare (Lagomorpha) | Wapus | <i>Lepus americanus</i> |
| Skunk | | |
| Raccoon | | |
| Badger | | |



Flora and Fauna of Brightwater Area

Fauna (Animals)

| English | Cree | Latin (specific name) |
|------------------------|-----------------------------------|-----------------------|
| Cowbird | | |
| Crow | Ahasiw (ah-ha-soo) | |
| Great Horned Owl | Oho (oo-hoo) | |
| Red-tailed Hawk | Sakwatamo (sah-kwuh-ta-moo) | |
| Swainson's Hawk | | |
| Great Blue Heron | Mohkawso (mooh-cow-i-soo) | |
| Sandhill Crane | | |
| Canada Goose | Niska (niss-kuh) | |
| Mallard Duck | Sisip (see-seep) | |
| Robin | Peepico-pipeco (peepeechoo) | |
| Yellow Warbler | | |
| Downy Woodpecker | | |
| Hairy Woodpecker | | |
| Northern Flicker | | |
| Black-capped Chickadee | | |
| Ruffed Grouse | Pihew (pih-hue) | |
| Sharp-tailed Grouse | | |
| Mourning Dove | Wapan kehisis (wah-pun-kihthesis) | |
| Killdeer | Kiyask (key-yask) | |



APPENDIX D

Elders in the Classroom

by
Anna-Leah King

It is the Elders' responsibility to guard sacred knowledge and to maintain the ceremonial oral tradition of knowledge transmission. In Saskatchewan, the territory is home to four First Nations, namely Cree, Saulteaux, Dene, and Ojibwa - Dakota/Nakoda/Lakota.

Source: Office of the Treaty Commissioner. (2002). *Teaching treaties in the classroom: Participants manual*. Saskatoon, SK: Office of the Treaty Commissioner.

All of these First Nations have a home here and it is entirely appropriate to represent any or all of these First Nations when approaching curriculum content. The Elders bring with them traditional knowledge and perspective passed down from generation to generation through the oral tradition. The reference to Elders' wisdom has lately been termed "Indigenous knowledge" or "traditional knowledge." Their traditional knowledge and wisdom will give insight to teachers willing to reshape curriculum and validating First Nations content and perspective.

Inviting the Elders

Protocol

The Elders would expect to be approached in the traditional way, respecting traditional protocol. They are given a small offering of tobacco in exchange for their commitment to invest their time and energy into the work at hand. They can be asked to lead the gatherings with prayer and ceremony. First Nations gatherings always begin with prayer and ceremony. It is entirely appropriate to ask this of them. It may not be what you are familiar with, but you will soon realize the benefits of respecting First Nations protocol and ceremonial practice. The Elders may want to begin with a smudge on the first gathering and offer prayer for the task at hand and the team that has been brought together. The Elders are well aware that any given group put together is there to learn from one another and so blessings towards this endeavour are prayed for. Sometimes, depending on the size of the project, a pipe ceremony may be requested. Each Elder may have a slightly different approach to opening and closing ceremony. Some may speak for a while. Others will ask you to share so they can become more familiar with everyone. Simply inviting them with an offering of tobacco and asking that they open and close the gatherings is enough. The Elder will take it from there.

Elder Expectation

When you invite Elders, it is important that you are clear on what you expect from them. If you are asking them to contribute with their knowledge, wisdom, and guidance, then say so. They may not all be familiar with education and what teachers and curriculum writers are trying to do, so explaining what curricula is and what is needed of them is essential to a good working relationship. You want them to contribute First Nations and Métis content and perspective. The Elders need to feel confident that they will be of assistance. Let them know that you see their role as wisdom keepers and they need to draw upon their personal experience, cultural knowledge, and teachings to contribute to the process. The Elders will share what is acceptable and give caution for what they view as sacred knowledge that is only to be shared in the context of ceremony.

Elders need time to think before they answer. Do not be impatient and feel they are not answering soon enough, as they will answer your questions in time. Some Elders are reflective, philosophical thinkers. They will review holistically what you have asked of them. A concept that you think is simple and straightforward has many different dimensions to a First Nations speaker, and they must put the concept into the context of the whole and analyze the dimension of its interrelatedness. Sometimes they translate what you are saying to themselves in their language. They think things out in their mother tongue first and then find the words of closest approximation in English. Not all words and concepts are readily translatable. That is why letting the Elder know what is expected of them beforehand is important because it gives them time to think it over and to find some area of common ground.

Elder Care

Elders do not expect anything but it would be nice to assign one person to see to their needs. Offer them a comfortable seat and debrief them on the expectations for the gathering. Introduce them to everyone and generally make them feel welcome. See to it that they have water, juice, coffee, or tea. It is good to have a snack for them at coffee break. Invite them to pray over the food before you eat. Allow them to be first in line for lunch or let them know you will serve them. This is an example of First Nations protocol. These are small things, but kind gestures go a long way with Elders. They appreciate when younger people make efforts to lighten their load. These gestures make the Elder feel welcome and cared for in a respectful way.

Gifts

It is appropriate to have a small gift for the Elders. If they are paid for their time, this would be considered the gift. Some give a small gift in addition to the honorarium, such as a basket of teas or jams.

- Further information can be found in the document: *Aboriginal Elders and Community Workers in the Classroom*, available from the First Nations and Métis Branch of the Ministry of Education.

Bibliography

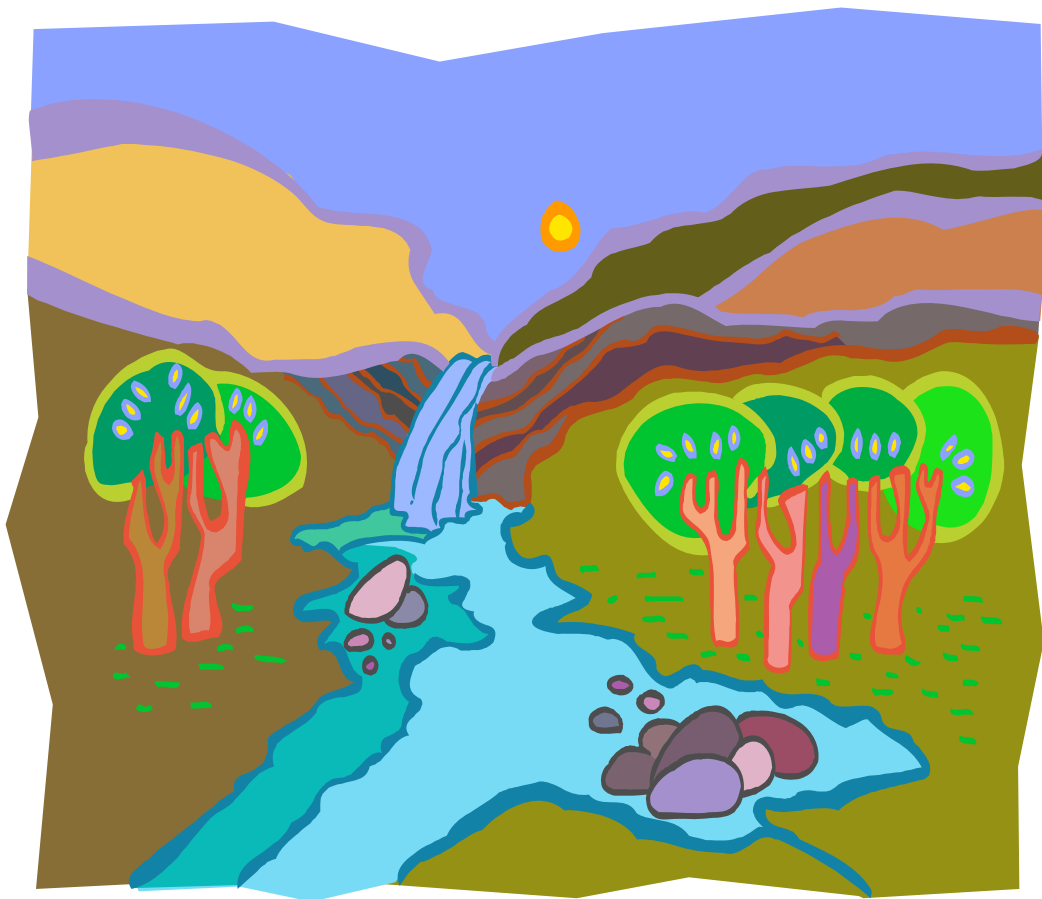
- Aikenhead, G. (2000). *Rekindling traditions* [CD-ROM]: *Cross-cultural science and technology units*. Saskatoon, SK: College of Education, University of Saskatchewan. A resource to support science created by teachers in the Northern Lights School Division with topics including: Wild Rice, Nature's Hidden Gifts (plant use), Snowshoes, Trapping, the Night Sky, and Survival in Our Land. The CD is also available from the Northern Lights School Division and can be borrowed by teachers in that Division.
- Baylor, B., & Parnall, P. (1997). *The other way to listen*. New York: Aladdin.
- Bopp, J., Bopp, M., Brown, L., Lane, P., & the Elders. (1989). *The sacred tree: Reflections on Native American spirituality*. Wilmot, WI: Lotus Light.
- Bouchard, D., & Vickers, R. H. (Illus.). (2003). *The elders are watching*. Vancouver, BC: Raincoast Books.
- Carriere, K. (2002). *The bulrush helps the pond*. Saskatoon, SK: Gabriel Dumont Institute.
- Fiddler, T., Tourangeau, N., Male, J., & Marlor, E. (2000). *The Elders: Keeping the circle strong*. Saskatoon, SK: Saskatoon Public School Board. This document provides more insight into learning with Elders. Though targeted at a primary level, there is good background information for teachers who are learning about First Nations traditions and protocols.
- Indian and Métis Curriculum Advisory Committee, Regina Public School Division. (n.d.). *Supplemental resources*. Retrieved December 18, 2007, from www.saskschools.ca/curr_content/aboriginal_res/
- Leslie, C. W., & Roth, C. E. (2000). *Keeping a nature journal: Discover a whole new way of seeing the world around you*. North Adams, MA: Storey Publishing. This book is the ultimate motivator for introducing the field book to students and the possibilities of recording information through a variety of media.
- Olson, D. (1999). *Shared spirits: wildlife and Native Americans*. New York: Northword Press.
- Robinson, S. (2002). *Aboriginal games and activities*. Retrieved December 18, 2007, from www.mts.net/~c54s55/aboriginalgames.html
- Rodden, R. (1997). *Think about the planet* [CD]. Whitehorse, YT: Thinkabout Productions.

Saskatchewan Indian Cultural Centre. (1993). *Practising the law of circular interaction: First Nations environment and conservation principles*. Saskatoon, SK: Author. This book and video series targeted at elementary students will meet the students where they are – especially the videos. The locally-developed guide will provide some background, lessons, and activities that would enhance the Sustainability of Ecosystems unit. Available for borrowing from the Stewart Resources Centre.

Savage, C. (2004). *Prairie: A natural history*. Vancouver, BC: Greystone Books. This book provides an excellent overview of the prairies for anyone who feels they need a few stories to share.

Seattle, Chief, & Jeffers, S. (Illus.). (2001). *Brother eagle, sister sky: A message from Chief Seattle*. New York: Puffin.

Yanko, D. (n.d.). *Endangered stones*. Virtual Saskatchewan. Retrieved December 18, 2007, from www.virtualsk.com/current_issue/endangered_stones.html



Pimohtiwin – Walking with the Earth

Sustainability of
Ecosystems – Science 10



Protocols

- ◆ Present tobacco to the Elder as an offering to create the relationship for learning and sharing of teachings. Pose a specific question to the Elder.
- ◆ Learning with an Elder asks that you listen with mindfulness and a desire to learn.
- ◆ Listen with respect and with your heart.



Intent of Pimohtiwin

- ◆ Listen and walk with an Elder
- ◆ Walk to experience connections of Earth, Air, Water and Fire
- ◆ Observe the standing ones, swimming ones, winged ones, and four leggeds to consider interrelationships
- ◆ Show gratitude



Pimohtiwin:

Walking with the Earth



Medicine wheel adapted from Dr. Martin Brokenleg





From a conversation with Joseph Naytowhow, March 14, 2007

- ◆ People have a spiritual relationship with the land, Askiy, Mother Earth and the sun as well as the plants and animals. The respect and care we give the earth is the way we honour our mother.
- ◆ Before we walk, we need to offer gratitude and ask for guidance. By pausing to pray or ask for good teaching, we are opening ourselves to learning. Our intent in the walk will greatly influence what we learn. We walk with intent and mindfulness.



Pimohtiwin:

Walking with the Earth with Joseph Naytowhow – teachings from his Elders



Iskotew - Fire

- for mankind
- Women are fire keepers
- Woman's heart
- Has a spirit and is not blown on
- Embers represent flourishing culture fanned by an eagle feather.

Nipi - Water

- Represents our blood
- Cleanses the earth and our body
- Is our nourishment and represents mother's milk

Askiy - Earth

- We must treat the earth the way we treat our mother
- Livelihood
- Travel
- When we walk on the earth, we are walking on our mother's breast.

Yotin - Air

- Breath of life
- Cleanses and energizes

Notes from conversation with Joseph Naytowhow,
May 3, 2007

Iskotew (fire)



Askiy (earth)



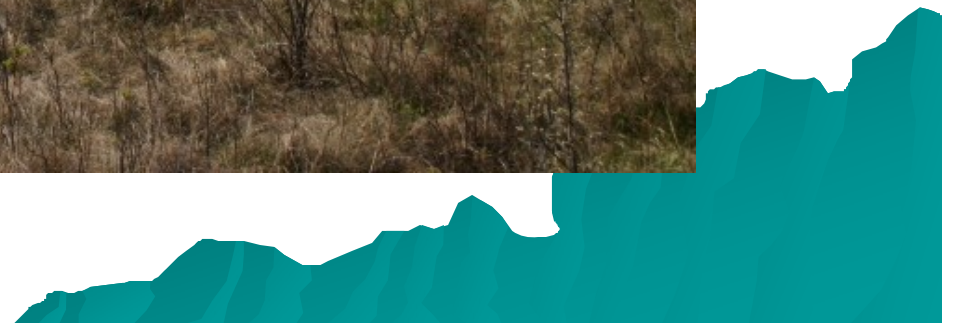
Yotin (wind/air)



Nipi (water)



Walking with the Earth



Standing Ones

- ◆ Elder Yvonne Chamakese and Elder Laura Wasacase walk the trail with wisdom of the plants. Some knowledge of plants can be shared. Other knowledge is earned through learning and teaching with an Elder, at his or her discretion.



mostos otsi

Crocus wears a coat of fine hair for protection from early spring snowfall.

The fine hairs are a skin irritant.

Mostos otsi means bison belly button which is what the early buds resemble.



kamnakasi



- ◆ Prairie rose fruit or hips contain lots of vitamin C but if you swallow the seeds you will have an itchy gut! (Anna Leighton, 1985)
- ◆ Roses grow in the prairies and forest.
- ◆ Birds, deer and small rodents nibble rose hips.



saskatominatik



- ◆ Saskatoon or Serviceberry is eaten raw, dried for soups and added to powdered meat and lard to make pemmican (Marles, 2000, p228).
- ◆ Have you ever considered why there are so many Saskatoon berry bushes at the beginning of portages along the voyageur routes on the Churchill river system?



mihkwapimakwa



- ◆ Red Willow/ Red Osier Dogwood is made into baskets
- ◆ Red Willow grows in moist areas
- ◆ Red Willow is used as kinnickinnick by adding it to the tobacco. (Elder Stewart Prosper, 2007)



takwahiminana



- ◆ Chokecherry is the 'berry we crush' so the cyanide escapes. Or we crush them between two rocks and dry them to add to soup in the winter. Or we add lard to the berries as a special meal for a feast. (Tyrone Tootosis, 2002)
- ◆ We use the stems to make bows and tipi pegs because the wood is so hard and strong. (Joseph Naytowhow, 2006)



Maskikopakwa

Labrador tea or muskeg tea
We make tea from the leaves. If you drink it right away, it is fresh and soothing. If you drink it the next day, it cleanses your system.

Labrador tea grows in the boreal forest near spruce trees.

(from Elder Yvonne Chamakese, May 2007)



Winged Ones



Swimming Ones



Four Leggeds



Leaving a Legacy

Consider what you can do to make the place that you visit a more sustainable space.

- ◆ Zero garbage lunch/ composting
- ◆ Weeding, planting trees, reducing erosion, wildlife enhancement project
- ◆ Watershed clean-up
- ◆ Your ideas...



Reflections from Joseph Naytowhow, June 15, 2007

- ◆ Treat Mother Earth with sensitivity. Not something to be controlled or exploited. Treat Mother Earth with respect and honour as we would our parents.
- ◆ We need to recognize that everything has a living entity and we are connected.
- ◆ Be open to learn the law of living in balance with the Earth. There are consequences to living out of balance. Just like an eagle, one wing has to balance the other wing.



Closing - Generosity

- ◆ Intend to leave with a reminder of continuing to walk with the Earth – Pimohtiwin.
- ◆ Gather to re-visit the teachings before re-entering the urban world.
- ◆ Sit in the forest, by the water or in the prairie to look/ listen, Close with a talking circle, prayer, gratitude, song, poem or story.



Thank you to our Elders for sharing their wisdom



Created by Marcia Klein and Joseph Naytowhow
May 2007

Brightwater Science and Environment Centre in partnership

