Integrating First Nations and Metis Content and Perspective

Grade 1

Earth and Space Science- Daily and Seasonal Changes (DS)

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Rationale:
Why it is important to add Aboriginal Content/perspective/worldview

How will it enhance the whole learner....learning experience...

The goal of this unit is for students to gain a better understanding of the daily and seasonal changes and how these changes affect animals, plants and humans. The students will explore these changes through activities, stories, legends, discovery and sharing of ideas. The goal of this unit is also for the students to discover various ways that animals, plants and humans adapt to the environment during these cyclical changes. An underlying goal is to weave into each lesson the values of tipi teachings and the medicine wheel so that students will start to become aware of the interconnectedness and interdependence of nature and humanity.

Through sharing the aboriginal content in this unit, the hope is that this information will be shared with both aboriginal and non-aboriginal students. Respect will be formed for both aboriginal and scientific viewpoints in this subject area.

Many of the activities in the unit are taught using Aboriginal Ways of Knowing which incorporates experiential learning. It is important to use activities where students learn through discovery, interaction, involvement and observation. This experiential learning approach will result in a deeper and more meaningful understanding of seasonal and daily cycles.
**Medicine Wheel Philosophy**

**Spiritual**
Students will become aware of the cycles of day and night and seasons. Students will learn that there are different aspects to appreciate in each part of the cycles. Students will appreciate the wisdom of plants and animals as they adapt to the cycles of nature. Students will become more aware of the cyclical nature of time.

**Physical**
Students will be able to gather, record, and organize information about daily and seasonal changes.

**Emotional**
Students will appreciate the various seasons as well as the wisdom and power of nature.

**Mental**
Students will gain a better understanding for their environment and natures impact. They will learn to become mentally in tune with nature and the cycles that occur.
Still keeping tipi teachings/values.....and medicine wheel holistic learning in mind create big idea questions.  Limit these, these questions are for the entire unit, to implement when opportunity arises.

How can you show respect for the sun and the life it gives to all living things? You show respect by not disturbing nature’s daily life and natural habitat.

Why should you show respect for seasonal changes? Students should understand and respect that changes occur based on environmental impacts.

Students should look at more than man-made scientific predictors of weather by accepting and valuing that nature has its own way of predicting weather.

We show hope that each season brings renewal to the environment so it’s able to sustain us.

We must show respect for the power of nature by using it to guide us in making decisions about what to wear and when to plant.

We must accept that nature is greater than we are. “We are so small compared to the majestic expanse of Creation.” (Elder Mary Lee)
Unit Outcomes

DS1.1 Describe and represent the cycles of daily and seasonal changes.

DS1.2 Investigate how plants and animals, including humans, adapt to daily and seasonal changes.
Bibliography


Engaging Activities

- Students will be keeping track of the outside temperature in their weather logs. They will record the temperature in the morning and mid-afternoon.
- Read or tell the story “How Grandmother Stole the Sun”. Have the students act out the story and how it would be live without the sun.
- Students will keep an observational plant log. They will draw the growth of three plants in different environments.
- Investigate seasonal constellations. Have students create their own seasonal constellation chart.
- Classroom Calendar: have the students create a classroom calendar based on the Plains Cree Calendar concept.
- Watch nature and predict what the weather might be. Draw a picture to show their observation.
- Play Animal Jeopardy: have students decide what time of day fits for each question.
- Observe a Venus Fly Trap and its changes from day to night.
Outcome
DS1.1 Describe and represent the cycles of daily and seasonal changes.

- Aboriginal people respected the sun because it brought light and life to plants and animals. It taught them about the circular nature of time and life. The sun is seen as part of the universe and part of Mother Earth.
- Read the legends that explain the creation of the sun. Use legend to recognize the relationships between plants, animals and the sun.
  - Keepers of the Earth, page 49 “How Grandmother Spider Stole the Sun”
  - Keepers of the Earth, page 117 “How Fisher Went to the Skyland: The Origin of the Big Dipper”. Explains why we have warm weather for half of the year.
- Observe and document the changes made in temperature, constellations, weather, and seasonal changes.
- Aboriginal people predicted weather by observing nature. When aboriginal people observed nature they knew what weather to prepare for.
  - Keepers of the Earth, page 129 “Spring Defeats Winter”. Explains how winter and spring arrives.
  - How Coyote Stole the Summer, Stephen Krensky. Legend explains how Coyote got Old Woman to share summer.
  - Keepers of the Earth, “How Fisher Went to the Skyland: The Origin of the Big Dipper” page 116-120 (Appendix 2)
- There are many aboriginal legends that explain how a constellation came to be. Constellations were used to help with direction. Many Aboriginal people believe that the stars belong to the souls of the departed.
  - Keeper’s of the Earth, “How Fisher Went to the Skyland: The Origin of the Big Dipper” page 116-120 (Appendix 2)
  - Keepers of the Earth p. 121 names of the seasonal constellations
- The calendar is referred differently by Aboriginal people. Aboriginal groups base the calendar on the changes in the environment. Cree people refer to calendar in moons because the plants and animals go through changes during these times.
  - Ki-Ihkin, by Gail Bear (Appendix 3)
- **Medicine Wheel:** Spring is beginnings and renewal.
- Summer is fullness and nature’s generosity
- Fall is preparing for rest.
- Winter is regenerating.
The Medicine Wheel is made up of four quadrants that are a cycle for First Nations people. The seasons follow the Medicine Wheel cycle. (Appendix 4)

- The Sacred Tree by Phil Lane Jr., Judie and Michael Bopp, Lee Brown and elders. Understanding of the medicine wheel and the four worlds
Outcome

DS1.2: Investigate how plants and animals, including humans, adapt to daily and seasonal changes.

- Aboriginal people followed the daily cycle of animals and plants. They knew to hunt a deer during the morning. Plants that were picked for medicinal purposes were picked during the day.
  - *Little Water and the Gift of the Animals* by C.J. Taylor. Explains some plants that were used for medicine.
  - *Keepers of the Earth*, page 129 “Spring Defeats Winter”. Activities for how the seasons affect plants.
- Animals and plants follow a seasonal cycle that First Nations and Metis people would follow.
  - *Keepers of the Earth* p. 157-158. Read the legend “How Turtle Flew South for the Winter”
- Traditional Aboriginal people show respect for all things in nature. They believe that every part of nature has a spirit. Respecting nature is shown by taking what you need, and giving an offering of thanks. This offering could be a prayer. Sometimes the offering takes a different form, for example, before sweetgrass is picked a prayer is said and an offering of tobacco is placed from where the sweetgrass was pulled.
  - *Empowering the Spirit II The Sacred Medicine of Tobacco* pg. 123
  - *Empowering the Learner 2 Sweetgrass and its Teachings* pg. 117
  - *Nanabosho Dances* by Joe McLellan. Explains the importance of using tobacco as an offering.
- Plains Cree had camps for different times of the year. In the early years, Plains Cree had winter camps in areas that shielded them from the winter elements. In the summer, they were more nomadic and moved their
camps from place to place within a specific area. To stay in one place would deplete the resources.

- *Byron Through the Seasons*, by Children of La Loche and Friends (Appendix 4)
Appendices Table of Contents

1. The legend below has been accessed from:


- **Nêhiyaw Atayokewina [Cree Legends] Stories of Wîsakecâhk**  
  *Môstos, The Buffalo and Sihkos, The Weasel* (Predicting Weather) Stan Cuthand

- A story about Wîsakecâhk showing how the earth and animals can show people what the weather is going to be like

- It was a very hot summer day, and Wîsakecâhk was hungry, as usual, and was trying to find something to eat. It was the time of the year when the spear grass was very sharp and the buffalo were very fat. As Wîsakecâhk sat singing songs to himself, he saw a big fat Môstos (buffalo) grazing on the bank of a marsh. He was planning a way to kill the buffalo. As he sat, Sihkos, the Weasel came hopping merrily along. Wîsakecâhk asked Sihkos if he had any idea on a way to kill Môstos. “No, no, I don’t, and I’m not staying to have you play any tricks on me.” Wîsakecâhk promised he would never play tricks on the Weasel, for he was one of Wîsakecâhk’s best friends among the animals. Wîsakecâhk had a plan. They gathered a nice juicy clump of grass and Sihkos hid it. When the buffalo started chewing the grass the Weasel jumped down his throat to his heart and bit it off. The buffalo died immediately and Sihkos darted out, leaving his paw marks all along the animal’s throat. Because Sihkos left his tiny paw marks along the throat of Môstos, they will be along the throats of all animals from now on; every time men kill the animals in the fall, they will be able to foretell by the paw marks whether the winter will be a cold or mild one. Man will be forever grateful to Sihkos, the Weasel. This is the gift Wîsakecâhk gave to his little brother, Sihkos. Sihkos was very happy as he left Wîsakecâhk.

- **Story Reference:**
The importance of learning the signs in nature that indicate when weather is going to change, also contains an important lesson about helping out others. Instead of watching for weather change indicated by animals, Brave Bear watches the sun for a sign.

Wise men among the Dakota/Nakota/Lakota people often predicted winter by signs of nature. Brave Bear knew that an early winter was coming. All the signs pointed to it.

The wild geese and ducks were flying south. The leaves on the scrub oak had turned red and the golden aspens quaked in the wind. The squirrels were storing their nuts earlier than usual. All the animals had unusually heavy fur.

Then the last day of August, a circle appeared around the sun. Brave Bear knew that the circle around the sun meant snow.

The next morning, when Brave Bear awakened, the ground was covered with snow. The snow fell for five days. Many of the animals were unprepared for such a blizzard. The deer, who could always find food, were hungry. The snow was so deep that the rabbits had not eaten for days. The bear had not found his place to sleep until spring. Many birds, who had not yet left for the south, found themselves trapped and unable to find food.

Brave Bear had expected the storm. He had prepared for it. He cleared a spot in front of his tipi. He scattered seeds and nuts for his helpless, hungry friends.

All the animals in the area hurried through the snow to the tipi of Brave Bear. There they found a feast for everyone.

As wise men before him, Brave Bear knew that his people depended on nature to survive and he would always protect the animals in their time of need.

Story Reference:


First Nations Oral History – Predicting Weather

First Nations and Métis people have been translating weather for their entire existence. They have used the physical factors available to them, such as the moon, animals, and plants, to translate weather. The Cree and Anishinabek Nations identify thirteen moon phases that affect the seasons on Mother Earth. This teaching comes from the back of a turtle because it has thirteen spheres or circles on its shell. Saskatchewan has five different First Nations who each have a different perspective on the topic of weather. Knowledge about Aboriginal weather translations was the spoken contribution of advisor Anna-Leah King, and elders Stuart Prosper and Yvonne Chamakese, and advisor Ron Ray by interview in Saskatoon on March 16, 2007. Teachers may wish to consult elders from their community to see if these examples apply or if there are other indicators specific to their area.

Tools for Predicting Weather

Indicators of Early Spring

1. Animals:
   a) Fur – Animals have the ability to change colour to blend into their environments. For example, rabbits change their fur colour to brown before the snow begins to melt (Ron Ray).

   b) Birds – The returning of birds from the south will indicate that spring is about to arrive (for example, horned larks and crows). Redpoles begin to sing in the trees (Stuart Prosper).

   c) Skunks – Skunks are one of the first animals to return in the spring. One elder stated “you know spring is here when the skunks are out” (Yvonne Chamakese).

Indicators of the Length of Winter

1. Animals:
   a) Beehives – Wild beehives are built to a height so that they will not be covered by snowfall. A beehive built high above the ground will indicate above-normal snowfall and most likely slower melting in the spring and a longer spring (Stuart Prosper).

   b) Beaver food stash – Beavers will store large amounts of food for a long cold winter (Ron Ray).

   c) Muskrat lodge – Muskrats will build their lodges higher and fuller if they believe it will be a longer winter. A higher lodge will help with ice cover and storage (Stuart Prosper).
**Indicators of Storms**

1. **Trees & Birds:**
   
a) Leaves – The leaves on black poplar trees will turn upward to show their shiny side when rain is approaching (Ron Ray).

   b) Birds – Most birds will disappear when storms are approaching (Stuart Prosper). The common tern, a shore bird similar to a seagull, will make more calls when weather is changing or precipitation is approaching. Their call sounds like a “yeah” as if they are agreeing with something (Stuart Prosper).

   c) The grey squirrel – Found in coniferous forests, the grey squirrel makes a whistling call when weather is changing or precipitation is approaching. You can hear this rising, whistling call more often with a weather change (Stuart Prosper).

a) **Moon:**

a) Shape – The shape of the moon will predict a storm the next day:
   
   - Warning of storm – The moon will appear as a cup where the bottom is full and the top is curved.
   - Rain or snow – The moon will tilt to give the impression that the cup will spill its contents.
   - Storm – The moon will appear as an upside down cup. All the contents will appear to be pouring out of the cup.
   - Nice day – A half-moon shape will appear with no curvature present. It does not matter which half of the moon appears (Yvonne Chamakese).

**Indicators of Wind**

1. **Sunset and sunrise:**
   
a) Colour – There is an old saying that the colour of the sky will indicate the amount of wind present the next day: red sky at night – sailor’s delight; red sky at morning – sailors take warning. First Nations culture views the red sky in this same context (Yvonne Chamakese).

2. **Birds:**
   
a) Birds can help determine the direction of the wind. Birds will always face the wind so they are able to escape faster if they are in danger. They will get more lift from the wind if they face the same direction (Stuart Prosper).

3. **Direction:**
a) East – Winds from the east will be interpreted as a storm approaching (Stuart Prosper).
b) West – Winds from the west will suggest a change in the weather or sunny weather is approaching (Stuart Prosper).

4. Sundogs:
   a) A sundog will predict that the weather will be cold and windy. Sundogs also indicate that there is moisture in the air (Stuart Prosper).

Long-Term Weather
1. White Buffalo:
   a) Lakota, Dakota, and Cree people understand the white buffalo as a legend (Anna-Leah King). According to a version of the legend, a white buffalo, disguised as a woman wearing white hides, appeared to two men. One treated her with respect, and the other did not. She turned the disrespectful man into a pile of bones, and gave the respectful man a pipe and taught his people rituals and music. She transformed into a female white buffalo calf and promised to return again. http://www.crystalinks.com/prophecyanimals.html

   b) The white buffalo is understood to appear on the plains before a major change in the weather patterns of that region. Native American prophecies say that a white buffalo will reunite all races of man and restore balance to the world. http://www.crystalinks.com/prophecyanimals.html

   c) Another story tells of the white buffalo changing to the colours of the medicine wheel. The colours were white (north), red (south), blue (west), and yellow (east). Research suggests a white buffalo appeared in 1933 – this appearance was followed by the Depression. Other white buffalos were born in 2004, 2006, and 2007. Could this suggest that global warming is coming after the while buffalo? (Note: Climate change has affected the weather systems including animal behaviour.)
2. **Finding their way**

Taken from "People of the Trail: How the Northern Forest Indians Lived", by Robin and Jillian Ridington, page 32-37

“The Aboriginal people had to be able to find their way over hundreds of miles of dense bush. By paying careful attention to the sun’s position in its path across the sky each day, they could tell which direction to travel to return safely to camp. They also watched the sun’s passage to the north in the summer and to the south in the winter, for it marked changes in the life of the land brought on by the change of the season. Their stories told of the sun flying north and south like the geese and ducks; their dances circled around the fire, following the direction that the sun seems to follow in its path around the world. They believed that throughout their lives people circled around the world and came back to the place where their relatives were camped, just as the sun circles around the world and come back to the eastern sky... When they went hunting they followed the directions given to them in their dreams, using the sun’s position in the sky as their guide. Dreams were very important and very real. In dreams their minds brought together everything they knew about hunting and gave them a picture of the best place to hunt and the best path to follow. The people of the trail studied their dreams as we study maps when planning a trip. They trained themselves to dream intelligently, and before going to sleep they would think about what they knew about the game animals from their traditional stories, from their own experience and from the shared experiences of older hunters. They had trained themselves to remember everything they saw and everything that happened to them, so that in their dreams they could draw..."
upon the information stored in their minds, just as we draw information from books stored in libraries...In Labrador, the Naskapi Indians threw bones into the fire, believing that wise people could tell from the cracks in the bones which trails should be followed to find animals and food."

2. **The Cree Calendar**
   To view information about the Cree Calendar, please follow the link below:
   [http://www.calverley.ca/Part01-FirstNations/01-082.html](http://www.calverley.ca/Part01-FirstNations/01-082.html)

4. **The Medicine Wheel**
The First Nations peoples' common worldviews are formulated by interrelated components such as spirituality, values, knowledge, culture, oral traditions, language, technology, and the natural world. These influential components comprise social, economic, and belief systems.

   Treaty Essential Leanings We Are All Treaty People
   Office of the Treaty Commissioner, 2008

**Purpose:**
The four directions of the medicine wheel are gifts given by the Creator. It represents change, equality, unity and interconnectedness with all creation. The medicine wheel is a circle of hope and of healing. It contains many stories and many teachings. We will never see in our lifetime all the wisdom that comes from these doorways. Every entity is considered a life form as it is essential for survival and balance. Every life form has a spirit, from the tiniest insect to the largest rock. The medicine wheel helps people balance and heal themselves and use it to provide a sense of direction and guidance to their lives.
It helps people achieve a greater understanding of themselves in relation to all of creation.

**Shape:**
The spiral within the wheel represents change and moving toward another level of growth and development. The life force of all existence moves in a clockwise circular manner, representing wholeness and continuity. All of life forms within the circle will go through these cycles. The wheel is an important tool because of its constant movement. When the earth completes a full cycle of the four seasons, we also mature and grow as we complete a full circle. The circle is a sacred symbol used by most aboriginal people. There is no beginning and no end. When sitting in a circle all are equal; no one is greater than anyone else. We can see all who is in the circle and know what strengths the circle holds.

The circle shape also keeps us in mind of the many circles found within Creation. It remind us of the sun and the moon. Not only is their shape a circle, but so also is their journey. The natural cycles of life move in a circle. Think of the four seasons.

**Examples of Gifts from Creator within the Quadrants**
- Four Direction  
  east, south, west, north
- Four seasons  
  spring, summer, fall, winter
- Four original races  
  Caucasian, First Nations, African, Asian
- Four principles of life  
  love, honesty, unselfishness, purity
- Four stages of life  
  child, adolescent, adult, elder
- Four parts of self  
  physical, mental, emotional, spiritual
- Four medicines  
  sage, tobacco, sweetgrass, cedar
- Four types of animals  
  winged ones, two legged, four legged, flyers, swimmers
- Four elements  
  sun, water, air, earth

**Understanding the 4 Parts of Self** - Making personal connections within your medicine wheel?
Physical: What are you putting in your body that makes it weak?
Mental: What is causing stress in your life?
Emotional: Share a story that relates to your feelings.
Spiritual: When was the last time you participated in a ceremony?
Native beliefs stress that it is important to maintain a balance among all things in nature. The people believe that plants, animals, and minerals have spirits that must be respected. If people take too much from nature, they upset the balance of nature and disrespect the spirits. Once the balance is disrupted, people may experience sickness, hunger, or other types of suffering.

To maintain the balance, people must treat one another, plants, animals, and the land with respect. Native people show respect by offering thanks for the gifts that they receive from nature. People show thanks with prayers, songs, dances, and offerings.

Native North American Wisdom and Gifts (Kalman, 2006)

4. The reason First Nations people moved their camps were to follow the food (animals). They moved to well sheltered areas before winter arrived.