

Life Science – Needs and Characteristics of Living Things (LT)

Students at this level are interested in a wide variety of living things, including those found in their local environments and ones from afar. A study of living things provides an opportunity for students to discover the many different forms life takes. Students can observe similarities and differences and develop an understanding of the general characteristics of living things. Through this study, students also become aware that all living things including themselves have needs. They discover that the needs of organisms are often similar, but that the particular needs of individual organisms may be unique.

All of the outcomes in this unit contribute to the development of all K-12 science goals.

<p>Outcomes <i>By the end of the grade, students will be able to:</i></p>	<p>Indicators <i>Students who have achieved this outcome should be able to:</i></p>
<p>LT1.1 Classify living things according to common observable characteristics.</p>	<ul style="list-style-type: none"> a) Identify differences between living and non-living things in the local environment, including the classroom. b) Observe living things through direct experience and visual media and identify similarities and differences in their needs for food, water, and particular habitats. c) identify and use a variety of sources of science information and ideas (e.g., use picture books, models, and observations of animals and plants in the local area) d) compare their own needs to those of other animals e) Identify and describe common characteristics of humans and other animals. f) Ask questions about the shape and number of legs animals have and how they move g) Using pictures, predict how certain animals will move to live in their environment. h) Share a story about favourite plant or animal and its characteristics. i) Identify variations that make each person, plant, and animal unique (e.g., describe ways in which young animals are similar to and different from their parents).
<p>LT1.2 Describe different ways that plants and animals, including humans, meet their needs.</p>	<ul style="list-style-type: none"> a) Describe and represent different ways that humans and other living things move to meet their needs(e.g., describe how birds use their wings to fly in order to catch insects; describe ways that people adapt to physical challenges through learning, use of technology, and support of the community). b) Identify needs of plants and animals. c) Describe ways that different animals adapt to changes in temperature. d) Describe homes and habitats of some local plants and animals. e) Identify similarities and differences in the ways different animals get their food and protect themselves from danger.

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Outcomes

By the end of the grade, students will be able to:

Indicators

Students who have achieved this outcome should be able to:

- f) Pose questions about the needs of plants, such as “How long does it take a seed to germinate?, How does the growth of a plant change if the seed is planted in soil, sand, or rocks?, and “How tall will a bean seed grow?”
- g) Explore how people care for domestic plants and animals to ensure their needs are met.
- h) Compare how domestic and wild plants and animals meet their needs.
- i) Describe ways that humans use their knowledge of living things in meeting their own needs and the needs of plants and animals (e.g., describe methods, materials, and tools used in caring for plants and animals; identify local animals and plants that are normally raised by humans and those that are not)
- j) Recognize that humans and other living things depend on their environment, and identify personal actions that can contribute to a healthy environment (e.g., describe how the environment - both indoor and outdoor - is important to their well-being; describe ways that humans might help or harm other living things).

Life Science – Needs and Characteristics of Living Things (LT)

Name of Teacher: Brandy White
Name of School: Stobart Elementary Community School
School Division: Prairie School Division No. 246
Address of School: 616 Front Street Duck Lake SK. S0K 1J0

Subject Area: Science
Topic: Needs and Characteristics of Living Things (LT)
Grade Level: One

Incorporating Medicine Wheel Philosophy

Spiritual: The students will learn to value Living Things. Students will begin to understand the deep connection that human beings and Living Things have with Mother Earth and the Creator.

Physical: The students will observe and experience a variety of Living Things in their local environment.

Emotional: Students will learn to appreciate Living Things. Students will develop an understanding of the importance of Living Things in relation to Mother Earth, the Medicine Wheel and the Tipi Teachings. Students will learn to show respect for all Living Things.

Mental: The students will be able to describe the characteristics and needs of Living Things. Students will learn both the scientific and Aboriginal approach to categorizing Living Things. Students will gain knowledge of Living Things primarily through Aboriginal Ways of Knowing and Experiential Learning. Students will use this knowledge to take care, show respect and show appreciation of and for Living Things.

Aboriginal Philosophy and Worldview

This section will be exactly the same in each unit. It will explain the following:

- Tipi Teachings – will include a separate page that gives details about each pole
 - how to incorporate into lessons
 - why it is important to incorporate
- Medicine Wheel Philosophy
 - Relate it to the circle of life
 - The interdependence of all areas
 - The four quadrants and their significance
- Aboriginal Ways of Knowing
 - Ways of learning, understanding and knowing
 - Hands on approach
 - Observing
 - Teaching methods that support Aboriginal Ways of Knowing

There will be separate pages to explaining protocol:
Ensuring it is easy to read and quick reading.

- Gathering from nature
- Storytelling
- Winter time
- Drums
- Living vs. Non-Living
- Inviting Elders

Rationale

The goal of this unit is for students to gain a sound understanding of what a Living Thing is. Students should be able to describe the characteristics of Living Things, categorize Living Things and describe the needs of Living Things. The goal of this unit is to teach knowledge of Living Things through experiential learning and by using the values of the Tipi Teachings. Students will begin to explore their feelings and attitudes toward Living Things through a deep understanding of the Tipi Teachings. Students will take the information learned from this unit and internalize it through Tipi Teaching discussions. The Tipi Teachings will provide students an opportunity to make personal connections and to develop a sense of responsibility for the care of Living Things.

Many of the activities in this unit are taught using Aboriginal Ways of Knowing and Experiential Learning. The activities in this unit are hands on, where students experience Living Things first hand, rather than looking at pictures in textbooks. Many activities occur outdoors in the local environment so that students can become familiar with the Living Things in their local environment. It is important to use activities where students learn through observation and interaction. This will result in a deeper and more meaningful understanding of themselves and Living Things.

We have incorporated many resources with Aboriginal content. It is important to use resources with Aboriginal content when available so Aboriginal students can feel connected to their culture and so Non-Aboriginal students can be exposed to a different culture.

Background Information

Keepers of the Earth, (Bruchac & Caduto, 1988), page 3

“Every shining pine needles, every sandy shore, every mist in the dark woods, every clearing and humming insect is holy in the memory and experience of my people. Teach your children what we have taught our children, that the Earth is our mother. The rivers are our brothers, they quench our thirst and feed our children. The air is precious to the red man, for all things share the same breath – the beast, the tree, the man, they all share the same breath. And what is man without the beasts? If all the beasts were gone, men would die from a great loneliness of spirit.

This we know. The Earth does not belong to man; man belongs to the Earth. Man did not weave the web of life, he is merely a strand in it. Whatever he does to the web, he does to himself. All things are connected like the blood which unites one family. All things are connected.”

The Sacred Tree (Bopp, Bopp, Brown, & Lane Jr, 1989)

- All of Creation is the universe (the sun, moon, stars) and Mother Earth. Mother Earth encompasses the physical embodiment of earth or the land and all it entails. (Trees, plants, rivers, animals and Man)
- All elements of Mother Earth and all Life forms are believed to have a spirit similar to that of Man.
- All life forms depend on the provisions of the Creator; the sun, wind, water and food are derived from nature.
- All life forms are interrelated.
- There is a purpose for every Life form in existence.
- If you alter the Life form of one, you alter the Life form of all.
- Aboriginal people have never altered their environment to suit their needs. They adjusted to their environment.
- Aboriginal people believe in unseen life forms.
- Man and all Life forms depend on Mother Earth for survival.
- Mother Earth is composed of many things including food, water, shelter, space, etc. and these are all arranged to accommodate everything.
- The existence of man and all Life forms depends on the quality of Mother Earth.
- Any change in Mother Earth affects all Life forms.
- Nature was the Aboriginal people's greatest teacher. It taught them the meanings of the Circle, Sacred Animals, Birds, the sacred number 4, etc.
- Aboriginal people accepted their position in the hierarchy. (The Creator, Mother Earth, Plants, Animals, man)
- All Life forms, no matter how small, were considered important and significant.
- Aboriginal people knew how to “read” animal and plant life to know the state of their environment.
- Aboriginal people studied and knew the interactions that took place within Nature. They merged into these interactions with as little disturbance as possible. They knew the impact man's activities had on Nature.

- Aboriginal people studied the behaviour of animal life, the seasonal changes of plant life to give them insight into the cycle of Nature. They, then, adapted accordingly.
 - The environment was shaped and created by the Creator and modified by natural forces. It is not man's place to modify anything.
 - All Life Forms were created to be able to adapt to natural changes.
 - Any alteration of the environment or Life form is inconceivable.
 - Every Life form is considered a significant and contributing factor of and to the environment.
 - The Aboriginal people understood the delicate balance of the food chain of which they were a part. They acknowledged the Forces of Nature that were the ultimate source of this food chain. (Mother Earth, Sun, Rain, Wind, etc.)
 - Aboriginal people were able to foresee the cyclic patterns of Animal and Plant populations and prepared accordingly.
 - Aboriginal people lived by Nature's Law of Circular Interaction.
 - Any change in the environment has an effect on all Life Forms.
 - Due to changes in the environment, the numbers of Animal and Plant life are always changing.
 - The changes in Mother Earth determined the changes that takes place within Life Forms over generations.
 - Animals and Plant life adapt to Mother Earth's changes to maintain their respective numbers.
 - All Life forms are vulnerable toe environmental change. There are no isolated ecosystems.
 - Aboriginal peoples' conservation practice with plants and animals was based on "take only what you need and be thankful."
 - To Aboriginal people, Animal, Plants, Water, Wind and the Sun were not seen as natural resources. They were seen as Life-giving and were considered sacred. Minerals were considered a part of mother Earth's being.
 - Respect is the key to the survival of Animal and Plant life.
 - Aboriginal People internalized form a very early age that without Animal and Plant Life, they would not exist. They did very little to change the habitat of these things.
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The Sacred Tree (Bopp, Bopp, Brown, & Lane Jr, 1989)

The Medicine Wheel – This is an ancient symbol used by almost all the Native people of North and South America. There are many different ways that this ymbol is used: the four grandfathers, the four winds, the four directions, the four stages of life and many other things that can be talked about in sets of four. Just like a mirror can be used to see things nor normally seen (like behind us or around a corner), the medicine wheel can be used to help us see or understand things we can't quite see or understand because they are ideas and not physical objects.

The Human Race – We can think of the human family as having four symbolic races: red, yellow, white and black. The medicine wheel teaches us that the four symbolic

races are all part of the same human family. All are brothers and sisters living on the same Mother Earth.

The Elements – The medicine wheel teaches us that the four elements, earth, air, fire and water all part of the same physical world. All must be respected equally for their gift of life.

Human Nature – The medicine wheel teaches us that human beings have four aspects to their natures: The physical, the mental, the emotional and the spiritual. Each of these areas must be developed equally in a healthy, well-balanced person through the use of our will power.

Potential – A seed has the potential to grow into a tree. The four aspects of our nature (the physical, the mental, the emotional and the spiritual) are like seeds. Each aspect has the potential to grow into powerful gifts.

Growth and Change – All human beings have the capacity to grow and change. All of our hidden gifts can be developed when we have a vision of what is possible, and when we use our volition (will) to change our actions and our way of thinking. Little by little we can grow to our vision of a happy, healthy human being.

For information on 'The Circle' follow the link below and scroll half way down the page:
http://www.shannonthunderbird.com/medicine_wheel_teachings.htm

Lesson 1 – Living and Non-living Things

Outcomes and Indicators

LT 1.1 a) Identify differences between living and non-living things in the local environment, including the classroom.

LT 1.1 b) Observe living things through direct experience and visual media and identify similarities and differences in their needs for food, water, and particular habitats.

LT 1.1 c) Identify and use a variety of sources of science information and ideas (e.g., use picture books, models, and observations of animals and plants in the local area)

Materials

Story highlighting differences between living and non-living things, Venn Diagrams, string

Background Information

Science has classified living things as:

- Living things are made of cells.
- Living things obtain and use energy.
- Living things grow and develop.
- Living things reproduce.
- Living things respond to their environment.
- Living things adapt to their environment.

Aboriginal people believe many things are living that westernized science does not. All things within the Medicine Wheel have a spirit and are interdependent on one another for life to continue.

- Wind, Fire, Rock, Water: A rock is a living thing. It has a spirit and a purpose in the world and is such a living thing. A rock gives it life in a sweat for humans to gain strength.
- Stars, Sun, Earth, Moon:
- Harmony, Control, Order, Balance:
- Purity, Love, Honesty, Unselfishness:

“To Aboriginal people, Animals, Plants, water, Wind and the Sun were not seen as natural resources. They were seen as Life-giving and were considered sacred. Minerals were considered a part of Mother Earth’s being.” The Sacred Tree (Bopp, Bopp, Brown, & Lane Jr, 1989)

Procedures

Setting – This lesson should occur outdoors if possible.

Activate Prior Knowledge – Read a storybook that highlights differences between living and non-living things such as “What’s Alive” by Kathleen Weidner Zoehfeld (Zoehfeld, 1995). As a class brainstorm objects that are living and non-living. Record the

information gathered from the discussion on chart paper for the class. Record the information using a Venn diagram. Where there is a discrepancy between living and non-living record in the middle portion of the diagram.

Activity – Provide each student or each pair of students with a Venn diagram and a long piece of string (about 3-4m long). Tell students that we are going to study the living and non-living things in our schoolyard. Instruct each student or pair of students to find their own special area that they want to investigate. Have students mark off their area, using their string. Remind students to simply place their string on the ground to mark their area, and to not disrupt nature. For the next 20 minutes or so have students carefully observe their area. Record any living, non-living or unsure things on their Venn diagram with words or pictures.

Come back to class and have students share what they found in their area.

Identify common characteristics of living and non-living things. Make a class list and have the students record information in Science notebook.

Tipi Teachings Discussions

Respect – We must respect all living things. All living things have a purpose in the Circle of Life. Can you think of a time when you were disrespectful to a living thing? What should we do when we are disrespectful to something? How can we show respect for living things?

Thankfulness – We are thankful to all living things. All living things are interdependent on one another within the Medicine Wheel. We would not be able to survive and live a well balanced life without all components of the Medicine Wheel. How can we show thanks to living things? Have you given thanks to living things?

Humility – We are all a part of the Medicine Wheel. We are certainly not the center of the Medicine Wheel. Humans depend on many things within the Medicine Wheel, not many things depend on us. What are some of the things that the living things within the Medicine Wheel do for you? Do you appreciate what living things provide for you?

Evaluation

Evaluate student participation in the activity. There are many classroom participation rubrics available. The rubric provided was taken from:

http://www.teach-nology.com/web_tools/rubrics/participate/

See Lesson 1 for rubric.

Classroom Participation Rubric

Level Of Engagement In Class	Student proactively contributes to class by offering ideas and asking questions more than once per class.	Student proactively contributes to class by offering ideas and asking questions once per class.	Student rarely contributes to class by offering ideas and asking questions.	Student never contributes to class by offering ideas and asking questions.	—
Listening Skills	Student listens when others talk, both in groups and in class. Student incorporates or builds off of the ideas of others.	Student listens when others talk, both in groups and in class.	Student does not listen when others talk, both in groups and in class.	Student does not listen when others talk, both in groups and in class. Student often interrupts when others speak.	—
Behavior	Student almost never displays disruptive behavior during class.	Student rarely displays disruptive behavior during class.	Student occasionally displays disruptive behavior during class.	Student almost always displays disruptive behavior during class.	—

Lesson – Aboriginal Perspective on Living things and the Medicine Wheel

Outcomes and Indicators

Materials

Background Information

Procedures

Tipi Teachings Discussions

Evaluation

Lesson – The Local Environment Scavenger Hunt

Outcomes and Indicators

LT 1.1 b) Observe living things through direct experience and visual media and identify similarities and differences in their needs for food, water, and particular habitats.

LT 1.1 i) Identify variations that make each person, plant, and animal unique

LT 1.2 b) Describe homes and habitats of some local plants and animals.

Materials

Scavenger hunt cards and checklist, cameras (optional)

Background Information

The purpose of this lesson is to become familiar and aware of plants and animals within the local environment. There are plants and animals that are in only certain areas and as such each scavenger hunt may be different. Prior to the lesson become aware of some of the local plants and animals and their uses within Aboriginal culture.

Procedures

Setting – This lesson will occur outdoors. Prior to the lesson, the teacher will need to select the area that the scavenger hunt will occur and prepare a scavenger hunt form. A sample has been provided.

Prior to the lesson, discuss respecting the environment. Information is provided below.

Activate Prior Knowledge – Review with students the topic of living and non-living things. As a class prepare a list of living things found within the community/area. Record the information for the students.

Activity – Scavenger Hunt, adapted from page 51/52, Keepers of the Earth (Bruchac & Caduto, 1988).

In this activity students will work in groups of 2-3 and participate in an animal and plant scavenger hunt. Ensure students are aware of boundaries and ensure proper adult supervision. Have students explore area and find as many of the plants and animals as they can. Once the group has found an item on the list, have the group record any information they notice and draw a picture of the plant/animal in its environment.

Come together as a group and share the information gathered.

*Optional – have groups use cameras to document their findings and make a class collage of the pictures taken.

Tipi Teachings Discussions

Respect – Humans have a large impact on the environment. When going out into another animal's habitat we need to be extremely careful not to disturb it. We can only look and learn with our eyes. If we damage the environment, what impact would it have on animal life? Can you think of a time when animal or plant life was affected by something a human has done? What can we do to make sure that animal and plant life is protected?

Humility – We must understand that we are only a small part of the environment. There are many other interesting and important things within our environment that we can learn from.

Medicine Wheel – All living things are interdependent upon one another. If we affect one thing in the environment, we are actually affecting many things. It may seem small to pluck a leaf from a tree, but if everyone plucked leaves from the tree, that tree would struggle to survive, may not produce enough new seeds to grow new trees or the animals that live within the tree may not be able to keep warm. What would happen if we pulled the grass from the ground, if we stepped on the ant hills or if we took a bird's nest from a tree?

Evaluation

Evaluate student participation in the activity. There are many classroom participation rubrics available. The rubric provided was taken from:

http://www.teach-nology.com/web_tools/rubrics/participate/

See Lesson 1 for rubric.

Evaluate Scavenger Hunt forms based on quality of responses.

Scavenger Hunt

Grasshopper	
Student's Notes	Student's picture
Quack Grass	
Student's Notes	Student's picture
Deer	
Student's Notes	Student's picture

Lesson – Brother Soil, Sister Tree

Outcomes and Indicators

LT 1.1 b) Observe living things through direct experience and visual media and identify similarities and differences in their needs for food, water, and particular habitats.

LT 1.2 b) Identify needs of plants and animals.

LT 1.2 d) Describe homes and habitats of some local plants and animals.

Materials

Outdoor area with trees, Tree Journal, Brother Soil, Sister Tree, page 35, Keepers of the Earth (Bruchac & Caduto, 1988)

Background Information

Trees are an important component of the Medicine Wheel. Trees come from the North in the Medicine Wheel. Trees grow for a long time and represent old age and wisdom.

Procedures

Setting – This lesson will take place outdoors.

Activity – Brother Soil, Sister Tree, page 35, Keepers of the Earth.

In this activity you will discuss the importance of trees, how we can take care of them and if possible plant a tree.

Have students record information gathered into a Tree Journal.

Tipi Teachings Discussions

Respect – We must respect all living things. All living things have a purpose in the Circle of Life. What would happen to other living things if there were no trees? What can we do to show respect for trees?

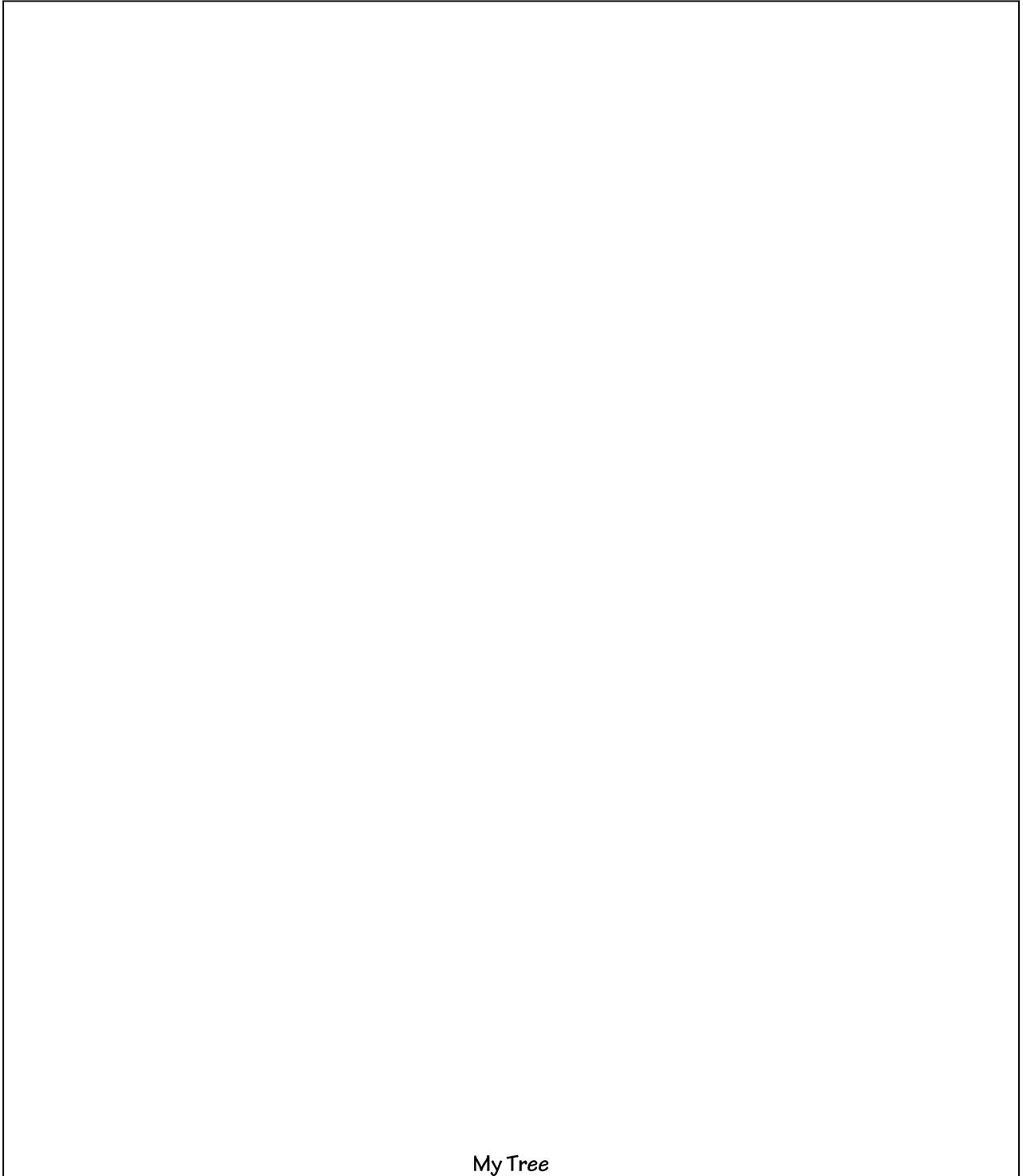
Thankfulness – Trees provide many things for humans. What items can you think of that come from trees? How can we give thanks to trees for providing for us?

Evaluation

Journal Evaluation – Evaluate each student's journal. There are many journal rubrics available. The one provided has been adapted from:

http://www.saskschools.ca/curr_content/aboriginal_res/evaluation/jrnlrub.htm

My Tree Journal



My Tree

Name: _____

Bark Rubbing

My thoughts...

My leaves

My thoughts...

My tree needs these to survive

My thoughts...

Animals that need my tree

My thoughts...

Tree Journal – Rubric

1=Weak 2=Somewhat Weak 3=Average 4= Strong 5=Very Strong

1. The topic of the journal entry meets the goal of the visit.

1 2 3 4 5

2. The entries provide descriptive explanation of that person's tree.

1 2 3 4 5

3. The journal entry is completed neatly and with care.

1 2 3 4 5

4. The effort put forth has demonstrated the full potential of the student's capability.

1 2 3 4 5

Additional Comments:

Total Points: _____

Lesson – Plant investigation

Outcomes and Indicators

LT 1.2 b) Identify needs of plants.

LT 1.2 f) Pose questions about the needs of plants, such as “How long does it take a seed to germinate?”, “How does the growth of a plant change if the seed is planted in soil, sand, or rocks?”, and “How tall will a bean seed grow?”

LT 1.2 g) Explore how people care for domestic plants and animals to ensure their needs are met.

Materials

Story, small potting pots, bean seeds (any fast growing seed could be used), potting soil, water and watering can, cardboard box, clear plastic bag, alternative to potting soil

Background Information

Aboriginal people have always learned through observation and nature. Plants are a part of the Medicine Wheel. For survival a plant's Medicine Wheel needs to be balanced – it needs water, sun, air and soil.

“Aboriginal people knew how to “read” animal and plant life to know the state of the environment.” The Sacred Tree, (Bopp, Bopp, Brown, & Lane Jr, 1989)

Aboriginal people studied the behaviour of animal life, the seasonal changes of plant life to give them insight into the cycle of Nature. They, then, adapted accordingly.” The Sacred Tree (Bopp, Bopp, Brown, & Lane Jr, 1989)

“Potential – A seed has the potential to grow into a tree. The four aspects of our nature (the physical, the mental, the emotional and the spiritual) are like seeds. Each aspect has the potential to grow into powerful gifts.” The Sacred Tree (Bopp, Bopp, Brown, & Lane Jr, 1989)

Procedures

Activate Prior Knowledge – Read a story that shows the idea of plant needs such as, “A Seed Grows”, by Pamela Hickman and Heather Collins or “The Tiny Seed” by Eric Carle. Discuss with students what a plant needs to survive. Make a class chart of the ideas discussed.

Activity – In this class students will begin their investigation into the needs of plants. As a class plant the first seed together. This will be the plant that gets it all – water, sun, air, soil. Split the class into small groups of 2-4 students depending on class size. Each group should be responsible for 1 investigation. Four possible investigations have been provided. It can be adapted for each class depending on their questions.

Investigation	Description
Do plants need water?	This plant will get sun, air and soil. Do not feed this plant any water.
Do plants need sun?	This plant will get water, air and soil. Put this plant under a cardboard box so that it does not get any sun.
Do plants need air?	This plant will get water, sun and soil. Put this plant inside a plastic bag, closed tightly, so that it does not get any air.
Do plants need soil?	This plant will get water, sun and air. Put this plant in a different base (sand, rock, water, etc.). The group can decide what they want to put their plant in.

Have students fill out the first page of their Plant Journal after planting their seed. Each day student will need to fill out their Plant Journal to record any changes they see.

Continue with this experiment until all bean sprouts have grown or not grown (due to living conditions).

Post Activity – Once the experiment has been completed have each group share their findings. Groups can organize information into a poster, collage, story, oral presentation, etc.

Once the class is completely done with the plants, transplant the plants back into nature.

Tipi Teachings Discussions

Medicine Wheel – Plants are a part of the Medicine Wheel. For survival a plant's Medicine Wheel needs to be balanced – it needs water, sun, air and soil. What would happen if the plant's Medicine Wheel was out of balance? In the wild how do plants balance their own Medicine Wheel?

Thankfulness – We learn many things by observing plants. What is the plant doing for us as it grows? What things are we thankful for? How can we show thanks to plants for providing many things for us?

Respect – We show plants respect by making sure they are getting their basic needs. Have you ever taken care of a house plant? What did you do to make sure it's Medicine Wheel was balanced? What do we need to do to take care of wild plant's?

Evaluation

Evaluate student participation in the activity. There are many classroom participation rubrics available. The rubric provided was taken from:

http://www.teach-nology.com/web_tools/rubrics/participate/

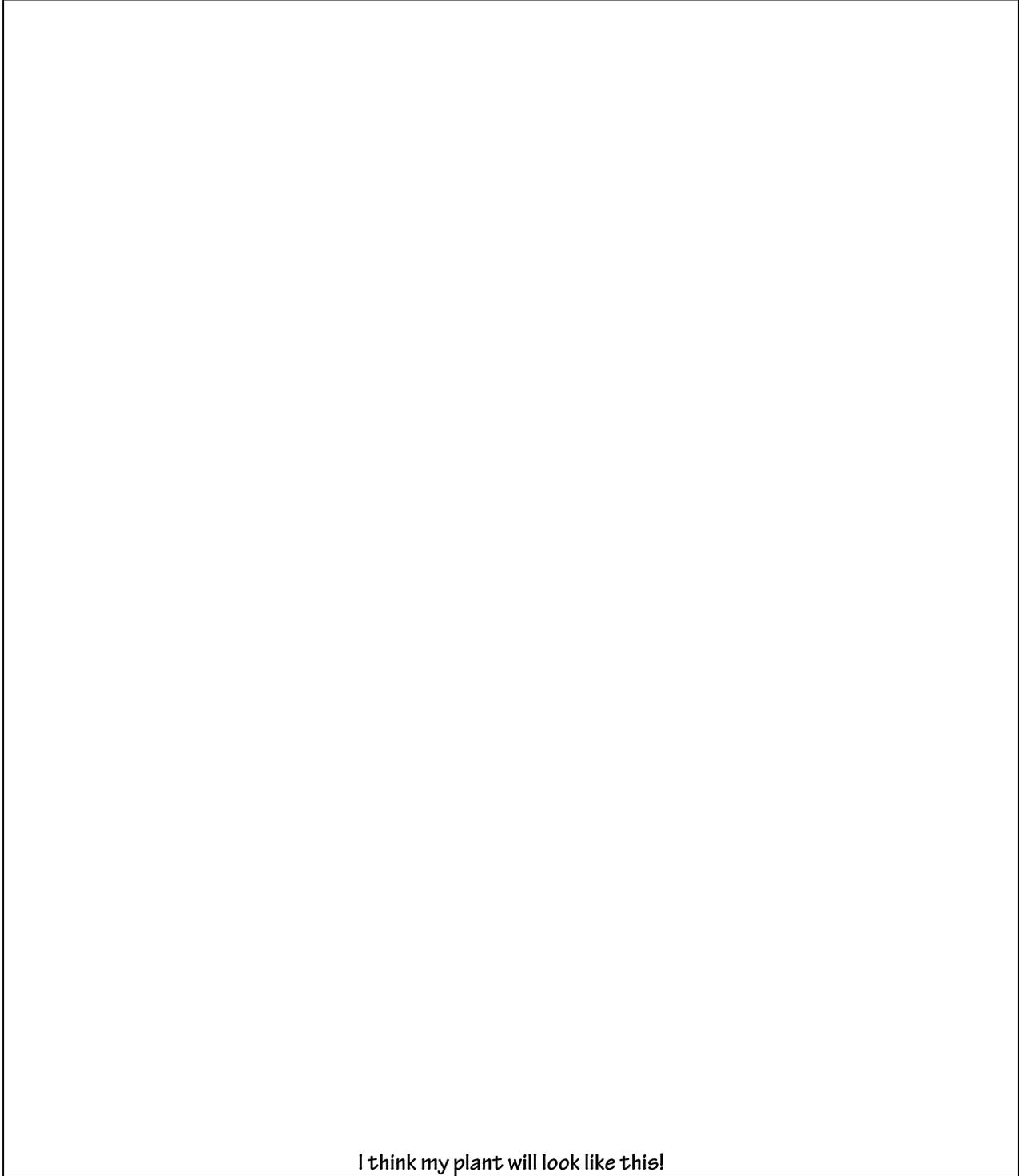
See Lesson 1 for rubric.

Journal Evaluation – Evaluate each student's journal. There are many journal rubrics available. The one provided has been adapted from:

http://www.saskschools.ca/curr_content/aboriginal_res/evaluation/jrnlrub.htm

Group Presentation – Evaluate the group's final project. Rubric will depend on mode of presentation.

My Plant Journal



I think my plant will look like this!

Name: _____

Date:

Class Plant

Our Group Plant

Drawing

Drawing

Description

Description

Plant Journal – Rubric

1=Weak 2=Somewhat Weak 3=Average 4= Strong 5=Very Strong

1. The topic of the journal entry meets the goal of the investigation.

1 2 3 4 5

2. The entries provide descriptive explanation of that person's plant.

1 2 3 4 5

3. The journal entry is completed neatly and with care.

1 2 3 4 5

4. The effort put forth has demonstrated the full potential of the student's capability.

1 2 3 4 5

Additional Comments:

Total Points: _____

Lesson –Adaptation of Plants to meet their needs

Outcomes and Indicators

LT 1.1 b) Observe living things through direct experience and visual media and identify similarities and differences in their needs for food, water, and particular habitats.

LT 1.1 c) Identify and use a variety of sources of science information and ideas (e.g., use picture books, models, and observations of animals and plants in the local area)

LT 1.1 i) Identify variations that make each person, plant, and animal unique (e.g., describe ways in which young animals are similar to and different from their parents).

LT 1.2 a) Describe and represent different ways that humans and other living things move to meet their needs(e.g., describe how birds use their wings to fly in order to catch insects; describe ways that people adapt to physical challenges through learning, use of technology, and support of the community).

LT 1.2 b) Identify needs of plants and animals.

LT 1.2 h) Compare how domestic and wild plants and animals meet their needs.

LT 1.2 i) Describe ways that humans use their knowledge of living things in meeting their own needs and the needs of plants and animals (e.g., describe methods, materials, and tools used in caring for plants and animals; identify local animals and plants that are normally raised by humans and those that are not)

Materials

"An Arctic Day", page 195, *Keepers of Life*, (Caduto & Bruchac, 2007) variety of plants (options included below), paper for Super Hero Plant pictures

Background Information

"All Life Forms were created to be able to adapt to natural changes." *The Sacred Tree* (Bopp, Bopp, Brown, & Lane Jr, 1989)

"All life forms depend on the provisions of the Creator; the sun, wind, water and food are derived from nature." *The Sacred Tree* (Bopp, Bopp, Brown, & Lane Jr, 1989)

"If you alter the Life form for one, you alter the Life form of all." *The Sacred Tree* (Bopp, Bopp, Brown, & Lane Jr, 1989)

"Man and all Life forms depend on Mother Earth for survival." *The Sacred Tree* (Bopp, Bopp, Brown, & Lane Jr, 1989)

"Mother Earth is composed of many things including food, water, shelter, space, etc. and these are all arranged to accommodate everything." *The Sacred Tree* (Bopp, Bopp, Brown, & Lane Jr, 1989)

"Aboriginal people studied and knew the interactions that took place within Nature. They merged into these interactions with as little disturbance as possible. They knew the impact man's activities had on Nature." *The Sacred Tree* (Bopp, Bopp, Brown, & Lane Jr, 1989)

“Aboriginal people studied the behaviour of animal life, the seasonal changes of plant life to give them insight into the cycle of nature. They, then, adapted accordingly.”
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“The changes in Mother Earth determined the changes that take place within Life Forms over generations.” The Sacred Tree (Bopp, Bopp, Brown, & Lane Jr, 1989)

Procedures

Setting – If possible a portion of this lesson should occur outside. If the available landscape is unable to provide a variety of plants adaptations, the teacher could bring a variety of plants into the classroom. Try to use real plants as apposed to pictures of plants.

Activate Prior Knowledge – “An Arctic Day”, page 195, Keeper of Life (Caduto & Bruchac, 2007)

– In this activity students will “take a fantasy journey as a plant growing in the cold Arctic tundra.” (Keepers of Life, page 195). Have an open discussion with the class about the experience and how plants adapt to many different conditions. Discussion questions are provided on page 196 of Keepers of Life.

Activity – Nature Walk – As a class go on a nature walk to observe as many plants as possible. Discuss possible plant adaptations for each plant found. Below are a list of easily found plants and their adaptations.

- Flowering plant – smells nice to attract bees for pollination
- Ferns – need little sunlight
- Pine trees – small needles stay on the trees easier, don't get caught in the wind
- Stinging Nettle or Poison Ivy – if someone touches these plants they will become very itchy, keeps animals and people from picking or eating them.

Unique Plant Adaptations – Bring into the classroom a variety of unique plant adaptations. Have students observe and discuss the plant adaptations. Below is a list of unique plant adaptations. Most of these plants can be found at any well stocked greenhouse.

- Cactus – needs little water, prickles to prevent animals from eating them
- Stone plant – needs little water, looks like a rock so that animals won't eat it
- Venus Fly Trap – opens and closes to attract small bugs for it's food
- Carrion flowers or Stinking flowers – attract flies and beetles to help pollination

As a class make a list of the adaptations discussed throughout the lesson.

Super Hero Plants – Using the information observed and discussed in the lesson have students draw a Super Hero Plant. Encourage students to use as many plant adaptations as they can while making their plant. Have students share their Super Hero drawings.

Tipi Teachings Discussions

Respect – It is important to show respect for plants. They are able to survive and adapt to many different types of environments. How can we make sure that plants have everything that they need? What can we do in our local environment to show respect to plants?

Thankfulness – It is important to be thankful for plants. Plants provide humans many things for humans. What plants are you thankful for in our local environment? What type of plant adaptations are you thankful for?

Humility – We need to understand how important plants are to our survival. Plants are capable of many complex things and without them humans would not be able to survive. In the Medicine Wheel plants are closer to the creator. How are plants important to you? How do you use plants during your day? What would happen if plants did not exist?

Evaluation

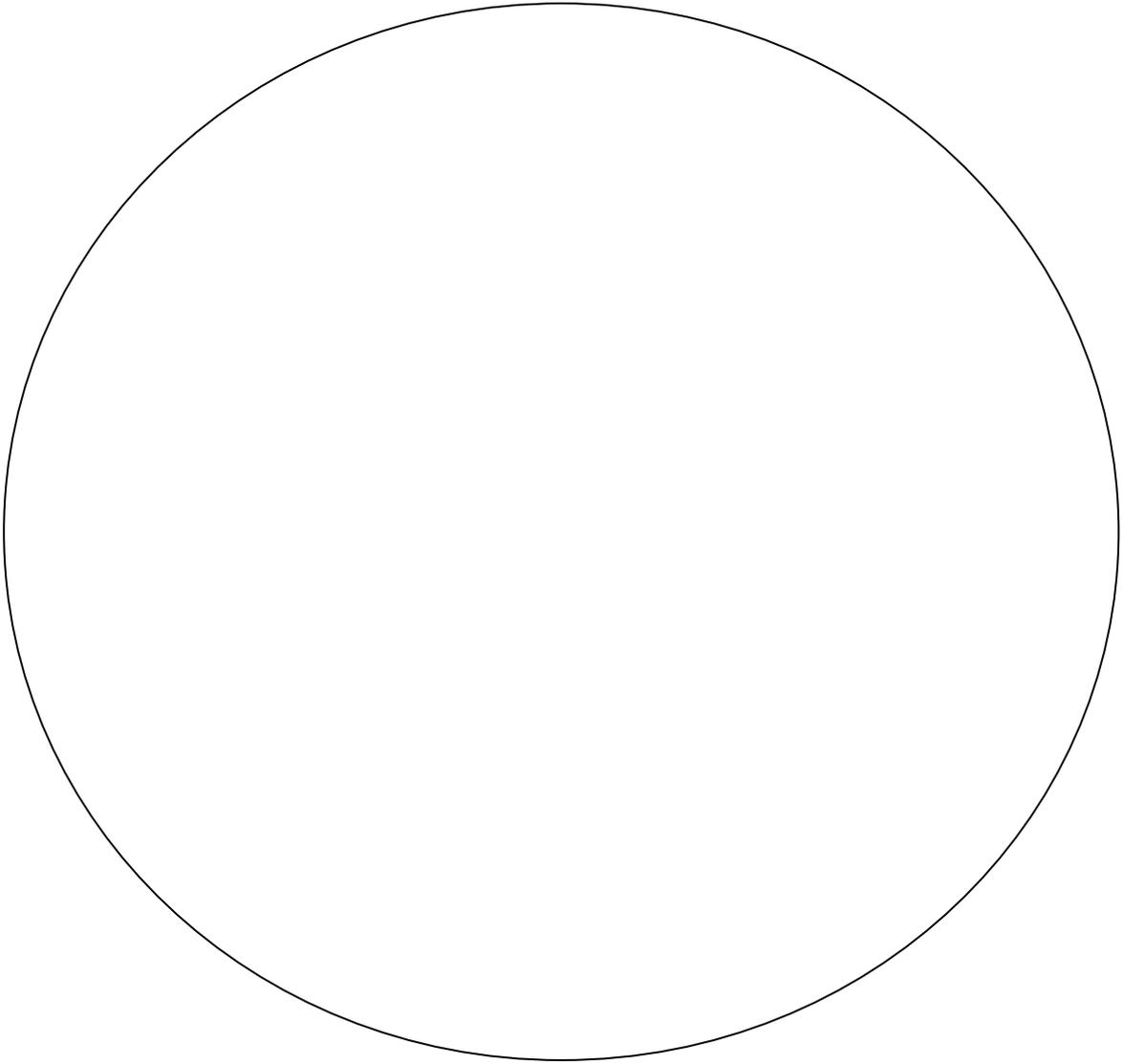
Evaluate student participation in the activity. There are many classroom participation rubrics available. The rubric provided was taken from:

http://www.teach-nology.com/web_tools/rubrics/participate/

See Lesson 1 for rubric.

Evaluate Super Hero Plant pictures. Evaluate based on quality of picture or number of adaptations included in picture.

My Superhero Plant



Four sets of horizontal writing lines, each consisting of a solid top line, a dashed middle line, and a solid bottom line, providing space for writing.

Lesson – Favourite Plant and what makes it Unique

Outcomes and Indicators

LT 1.1 b) Observe living things through direct experience and visual media and identify similarities and differences in their needs for food, water, and particular habitats.

LT 1.1 c) Identify and use a variety of sources of science information and ideas (e.g., use picture books, models, and observations of animals and plants in the local area)

LT 1.1 h) Share a story about favourite plant or animal and its characteristics.

LT 1.1 i) Identify variations that make each person, plant, and animal unique.

Materials

Legend "The Sky Tree" from Keepers of Life (Caduto & Bruchac, 2007), large Medicine Wheel, plant magazines/calendars for collage, individual Medicine Wheel handouts

Background Information

There are 4 categories of plants within the Medicine Wheel: trees, flowers, grasses and vegetables (fruits are generally included under vegetables). All plant life will fit under these categories. Plant life depends on the Stars, Sun, Earth, Moon, Wind, Fire, Rock, Water and the Creator. Many things come after plant life and are dependant upon plant life.

"Aboriginal people accepted their position in the hierarchy. (The Creator, Mother Earth, Plants, Animals, man)." The Sacred Tree (Bopp, Bopp, Brown, & Lane Jr, 1989)

"Aboriginal peoples' conservation practice with plants and animals was based on 'take only what you need and be thankful.'" The Sacred Tree (Bopp, Bopp, Brown, & Lane Jr, 1989)

"To Aboriginal people, Animal, Plants, Water, Wind and the Sun were not seen as natural resources. They were seen as Life-giving and were considered sacred. Minerals were considered a part of mother Earth's being." The Sacred Tree (Bopp, Bopp, Brown, & Lane Jr, 1989)

"Respect is the key to the survival of Animal and Plant life." The Sacred Tree (Bopp, Bopp, Brown, & Lane Jr, 1989)

"Aboriginal People internalized from a very early age that without Animal and Plant Life, they would not exist. They did very little to change the habitat of these things." The Sacred Tree (Bopp, Bopp, Brown, & Lane Jr, 1989)

Procedures

Setting – A portion of this lesson will occur outdoors in an area with a variety of plant life.

Motivational Activity – Read students the legend "The Sky Tree" from the Keepers of Life (Caduto & Bruchac, 2007) This legend discusses the importance of plants and how all life depends on plants. Make a poster size copy of a large circle that has been divided

into four equal groups. Show it to the class. Explain that this is the Aboriginal symbol of The Circle of Life or a Medicine Wheel

Activity – Ask your class how many parts there are to the Circle of Life? Explain to them that the number four is a sacred number to most Aboriginal Nations. Many Aboriginal people see things in the world as being created in fours. Show your class examples of things being created in fours: 4 directions, 4 things above the earth, 4 seasons, 4 parts of everything that grows on the ground. (@Saskatoon Tribal Council)

Guided Discovery – Hand out an envelope to students. Ask them to sort the plants into 4 groups. As a class come up with names for the 4 groups – students should be able to suggest: (1) grasses (2) trees, (3) flowering plants, (4) vegetables (can include fruits in this category).

Have students either draw or cut from magazines different Plants and place them onto the poster from the Motivational Activity.

Nature Walk - Give each student a copy of a smaller version of the Circle of Life (broken into the 4 areas) and as a class label each area (grasses, trees, flowering plants, vegetables). Go outside as a class into an area with a variety of plant growth. As a class observe different types of plants from all 4 areas. Discuss characteristics of each plant, things that make the plant unique. Give each student a handout of the Animal World and have students sketch a picture of their favourite plant for each category and provide a description of the plant making sure to include anything that makes that plant unique from other plants.

Gather class together and have students share the plants that they found. Results could be posted on a Bulletin Board “Plants in our Schoolyard” or pasted into Science notebook.

Tipi Teachings Discussions

Respect – We must show respect for all plant life and for the Medicine Wheel. Now that we are aware of the different types of plant life, how can we act more respectful towards each category? Do all plants need the same things? What can we do at school to show respect for plants?

Thankfulness – We must be thankful for all the things that plants provide for human beings. What types of plants do you need during the day? What have plants done for you? How can we show thanks to plants?

Humility – Many things within the Medicine Wheel depend on plants. Humans come after plants within the Medicine Wheel. Within the heirachy of the Medicine Wheel are below plants and need to realize that plants would continue to live without us, but we could not survive without plants. What plant could you not live without? How can you make sure to take care of that plant?

Evaluation

Evaluate student participation in the activity. There are many classroom participation rubrics available. The rubric provided was taken from:

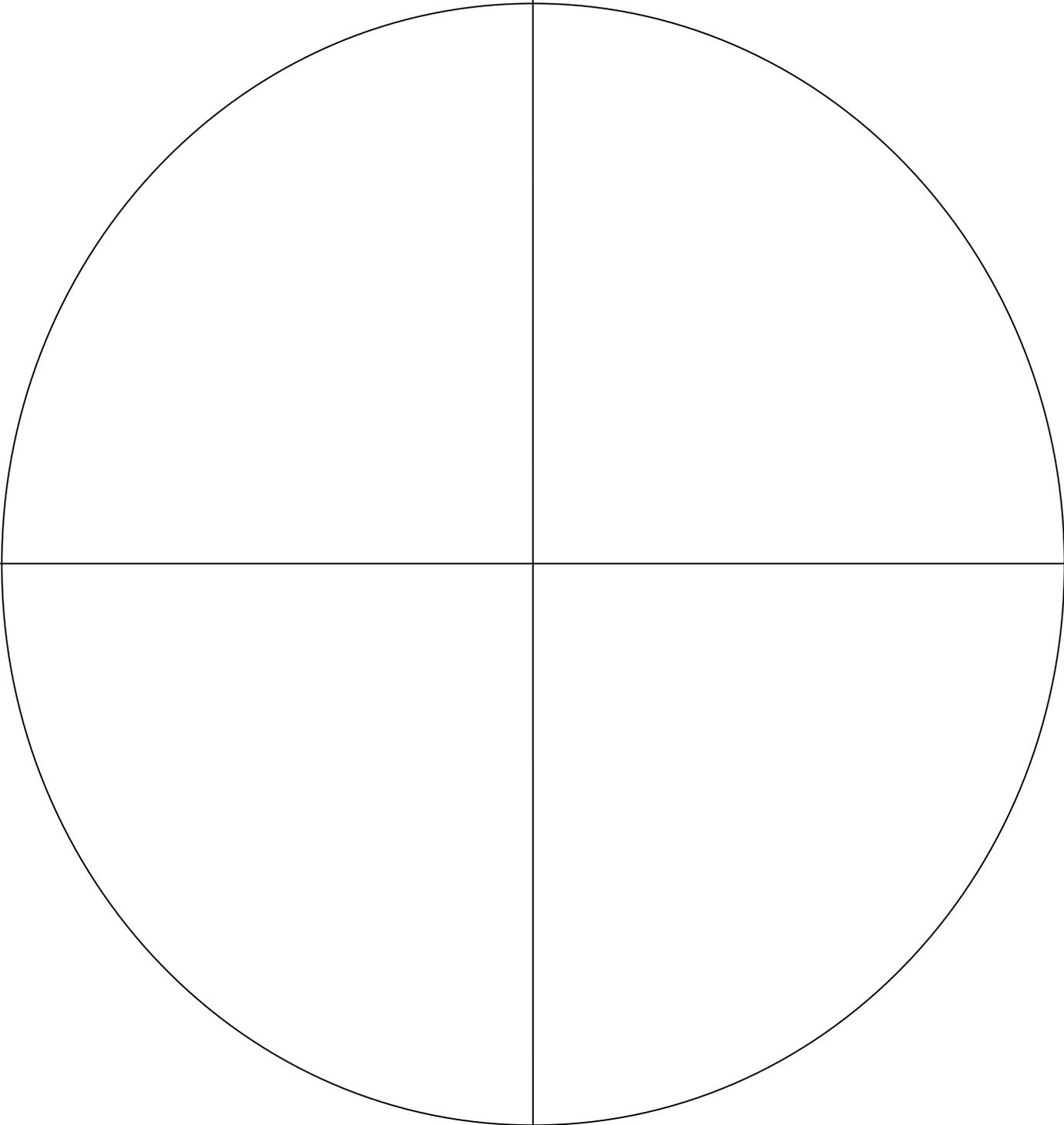
http://www.teach-nology.com/web_tools/rubrics/participate/

See Lesson 1 for rubric.

Student Checklist – The Plant World – Was each student able to draw and describe an example for the 4 parts of the plant world?

- Complete the checklist.
- Take note of any students having difficulty.
- Record any extra observations.

The Plant World



Lesson – The Animal World

Outcomes and Indicators

LT 1.1 c) Identify and use a variety of sources of science information and ideas (e.g., use picture books, models, and observations of animals and plants in the local area)

LT 1.1 e) Identify and describe common characteristics of humans and other animals.

LT 1.1 f) Ask questions about the shape and number of legs animals have and how they move

Materials

Circle of Life Poster, Animal Pictures, Magazines, Story that represents animals of the 4 categories such as “Just a Walk”

Background Information

There are 4 categories of animals within the Medicine Wheel: four legged, two legged, winged ones and swimmers. All animal life will fit under these categories. Animal life depends on the plants, Stars, Sun, Earth, Moon, Wind, Fire, Rock, Water and the Creator. Humans are dependent upon animal life.

“The Aboriginal people understood the delicate balance of the food chain of which they were a part. They acknowledged the Forces of Nature that were the ultimate source of this food chain (Mother Earth, Sun, Rain, Wind, etc).” The Sacred Tree (Bopp, Bopp, Brown, & Lane Jr, 1989)

“Any change in the environment has an effect on all Life Forms.” The Sacred Tree (Bopp, Bopp, Brown, & Lane Jr, 1989)

“Due to changes in the environment, the numbers of Animal and Plant life are always changing.” The Sacred Tree (Bopp, Bopp, Brown, & Lane Jr, 1989)

“Aboriginal peoples’ conservation practice with plants and animals was based on ‘take only what you need and be thankful.’” The Sacred Tree (Bopp, Bopp, Brown, & Lane Jr, 1989)

“To Aboriginal people, Animal, Plants, Water, Wind and the Sun were not seen as natural resources. They were seen as Life-giving and were considered sacred. Minerals were considered a part of mother Earth's being.” The Sacred Tree (Bopp, Bopp, Brown, & Lane Jr, 1989)

“Respect is the key to the survival of Animal and Plant life.” The Sacred Tree (Bopp, Bopp, Brown, & Lane Jr, 1989)

“Aboriginal People internalized from a very early age that without Animal and Plant Life, they would not exist. They did very little to change the habitat of these things.” The Sacred Tree (Bopp, Bopp, Brown, & Lane Jr, 1989)

Procedures

Motivational Activity – Make a poster size copy of a large circle that has been divided into four equal groups. Show it to the class. Explain that this is the Aboriginal symbol of The Circle of Life or a Medicine Wheel

Activity – Ask your class how many parts there are to the Circle of Life? Explain to them that the number four is a sacred number to most Aboriginal Nations. Many Aboriginal people see things in the world as being created in fours. Show your class examples of things being created in fours: 4 directions, 4 things above the earth, 4 seasons, 4 parts of everything that grows on the ground. (@Saskatoon Tribal Council)

Guided Discovery – Hand out an envelope to students. Ask them to sort the animals into 4 groups. As a class come up with names for the 4 groups – students should be able to suggest: (1) four-legged, (2) two-legged, (3) swimmers, (4) winged ones.

Read the story “Just a Walk” and instruct students to listen and watch for examples of the 4 groups of The Animal World.

Have students either draw or cut from magazines different animals and place them onto the poster from the Motivational Activity.

Give each student a copy of a smaller version of the Circle of Life (broken into the 4 areas) and as a class label each area (four-legged, two-legged, swimmers, winged ones). Have students pick 1 animal from each category, draw and label or cut from a magazine onto their own Medicine Wheel for their Science notebook.

Tipi Teachings Discussions

Respect – We must show respect for all animal life and for the Medicine Wheel. Now that we are aware of the different types of animals, how can we act more respectful towards them? Do all animals need the same things? What can we do to show respect for animals? How do you show respect to your pets? How do you show respect to wild animals?

Thankfulness – We must be thankful to animals. Animals provide many things for humans. What do animals do for us? What animals are you thankful for? How can we give thanks to animals?

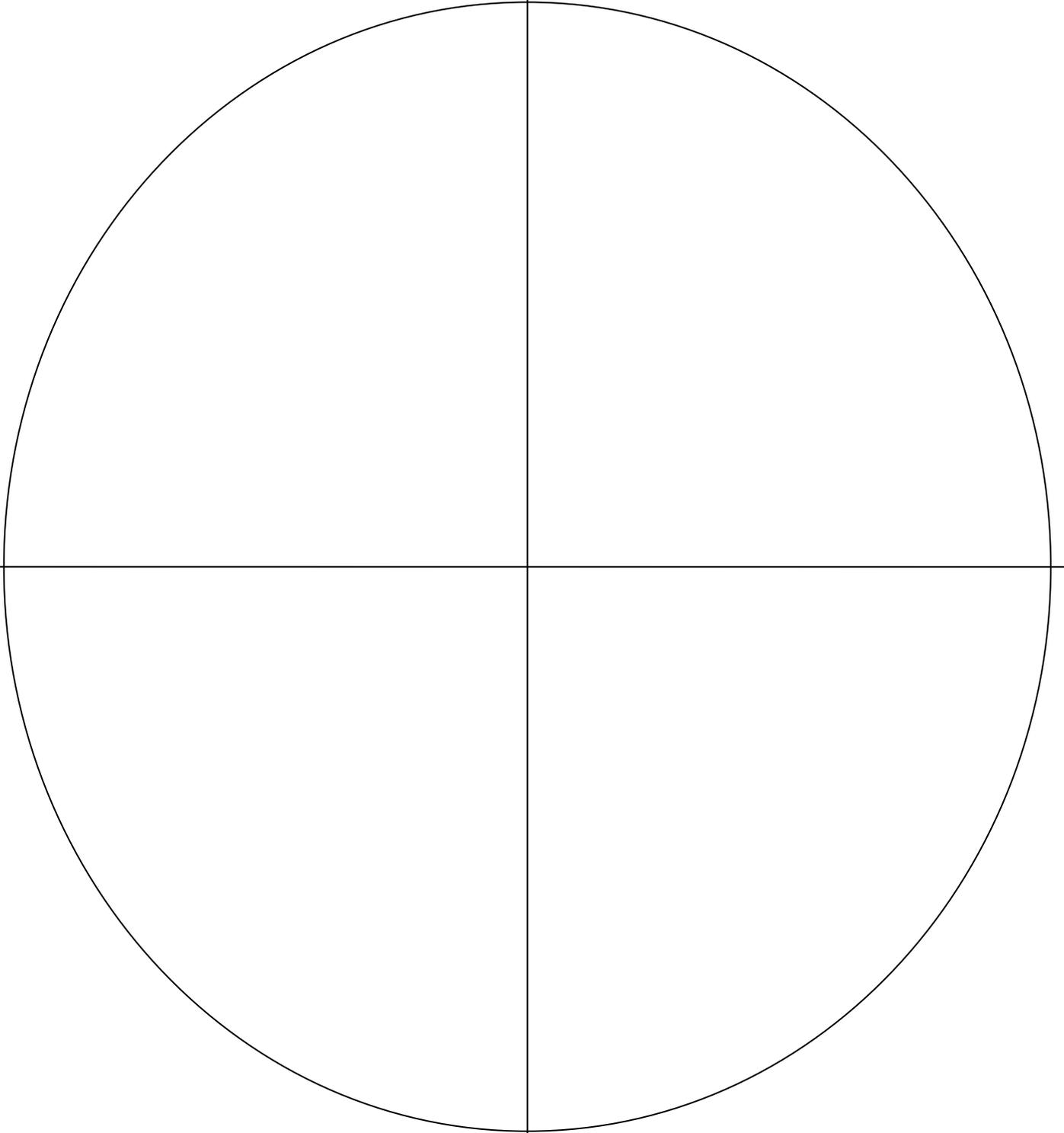
Humility – Many things within the Medicine Wheel depend on animals. Humans come after animals within the Medicine Wheel. What animal could you not live without? How can you make sure to take care of all animals?

Evaluation

Student Checklist – The Animal World – Was each student able to name and draw an example for the 4 parts of the animal world?

- Complete the checklist.
- Take note of any students having difficulty.
- Record any extra observations.

The Animal World



Lesson – Animal Basic Needs

Outcomes and Indicators

LT 1.1 b) Observe living things through direct experience and visual media and identify similarities and differences in their needs for food, water, and particular habitats.

LT 1.2 a) Describe and represent different ways that humans and other living things move to meet their needs(e.g., describe how birds use their wings to fly in order to catch insects; describe ways that people adapt to physical challenges through learning, use of technology, and support of the community).

LT 1.2 b) Identify needs of plants and animals.

Materials

habitat map, habitat task cards, basic needs cards, Medicine Wheel graphic organizer

Background Information

“All life forms depend on the provisions of the Creator; the wind, wind, water and food are derived from nature.” The Sacred Tree (Bopp, Bopp, Brown, & Lane Jr, 1989)

“If you alter the Life form of one, you alter the Life form of all.” The Sacred Tree (Bopp, Bopp, Brown, & Lane Jr, 1989)

“Aboriginal people have never altered their environment to suit their needs. They adjusted to their environment.” The Sacred Tree (Bopp, Bopp, Brown, & Lane Jr, 1989)

“Man and all Life forms depend on Mother Earth for survival.” The Sacred Tree (Bopp, Bopp, Brown, & Lane Jr, 1989)

“Mother Earth is composed of many things including food, water, shelter, space, etc. and these are all arranged to accommodate everything.” The Sacred Tree (Bopp, Bopp, Brown, & Lane Jr, 1989)

“The existence of man and all Life forms depends on the quality of Mother Earth.” The Sacred Tree (Bopp, Bopp, Brown, & Lane Jr, 1989)

“Any change in Mother Earth affects all Life forms.” The Sacred Tree (Bopp, Bopp, Brown, & Lane Jr, 1989)

“All Life forms, no matter how small, were considered important and significant.” The Sacred Tree (Bopp, Bopp, Brown, & Lane Jr, 1989)

“Aboriginal people knew how to “read” animal and plant life to know the state of their environment.” The Sacred Tree (Bopp, Bopp, Brown, & Lane Jr, 1989)

“Aboriginal people studied and knew the interactions that took place within Nature. They merged into these interactions with as little disturbance as possible. They knew the impact man’s activities had on Nature.” The Sacred Tree (Bopp, Bopp, Brown, & Lane Jr, 1989)

“Aboriginal people studied the behaviour of animal life, the seasonal changes of plant life to give them insight into the cycle of Nature. They, then, adapted accordingly.” The Sacred Tree (Bopp, Bopp, Brown, & Lane Jr, 1989)

“The environment was shaped and created by the Creator and modified by natural forces. It is not man’s place to modify anything.” The Sacred Tree (Bopp, Bopp, Brown, & Lane Jr, 1989)

“All Life Forms were created to be able to adapt to natural changes.” The Sacred Tree (Bopp, Bopp, Brown, & Lane Jr, 1989)

“Any alteration of the environment or Life form is inconceivable.” The Sacred Tree (Bopp, Bopp, Brown, & Lane Jr, 1989)

“Aboriginal peoples’ conservation practice with plants and animals was based on ‘take only what you need and be thankful.’” The Sacred Tree (Bopp, Bopp, Brown, & Lane Jr, 1989)

“To Aboriginal people, Animal, Plants, Water, Wind and the Sun were not seen as natural resources. They were seen as Life-giving and were considered sacred. Minerals were considered a part of mother Earth’s being.” The Sacred Tree (Bopp, Bopp, Brown, & Lane Jr, 1989)

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“Aboriginal People internalized from a very early age that without Animal and Plant Life, they would not exist. They did very little to change the habitat of these things.” The Sacred Tree (Bopp, Bopp, Brown, & Lane Jr, 1989)

Procedures

Setting - In this lesson the teacher will need to prepare ahead of time a map of the school yard showing where they can find their habitat components. The teacher will need to prepare the area prior to the lesson.

As a safety precaution, the lesson should occur in a supervised area with adequate adult supervision.

Activate Prior Knowledge – As a class brainstorm what an animal needs to survive. Record the information shared on chart paper

Activity – Habitracks, page 32 , Project Wild Activity Guide, (Western Regional Environmental Education Council, 1992)– In this activity, students will be separated into groups and be assigned an animal. Each animal group will receive a habitat map and a task card (a card that lists what their animal needs to survive). In their groups students will use their task card and the habitat map to find their basic needs for survival.

When you have given the students enough time to search for their basic needs bring all the groups back together. Have each group share what they found and their ideas about the experience. Students could put their information into a Medicine Wheel graphic organizer. Bring the students attention to the fact that all animals have the same basic needs: food, water, shelter, space. Discuss some differences in the different types of food, shelter, etc. for the different animals.

Habitat Lap Sit, page 28, Project Wild Activity Guide (Western Regional Environmental Education Council, 1992)– In this activity students will begin to realize how animals depend on their basic needs for survival by making a

Tipi Teachings Discussions

Respect – We must show respect for each animal's habitat. An animal's habitat is necessary for survival. How can we show respect to a wild animal's habitat? How can we show respect to a pet's habitat? Has there been a time when you did not show respect from an animal's habitat? What did you learn from that? What would happen to the animals if we did not show respect for their habitat and basic needs?

Humility – All living things have the same basic needs. In the hierarchy of the medicine wheel, animals come before humans. It is important that we make sure that the basic needs of animals are met before ours. What can you do to make sure that the basic needs of animals are met? What can you do to help the habitat and basic needs of animals?

Sharing – Within the medicine, Living Things share many needs. Animals are affected by the actions of human beings. If we learn to share Mother Earth and nature, all Living Things will survive. How can you share what you have with animals? What do animals share with you? How can you show thanks for what the animals share with you?

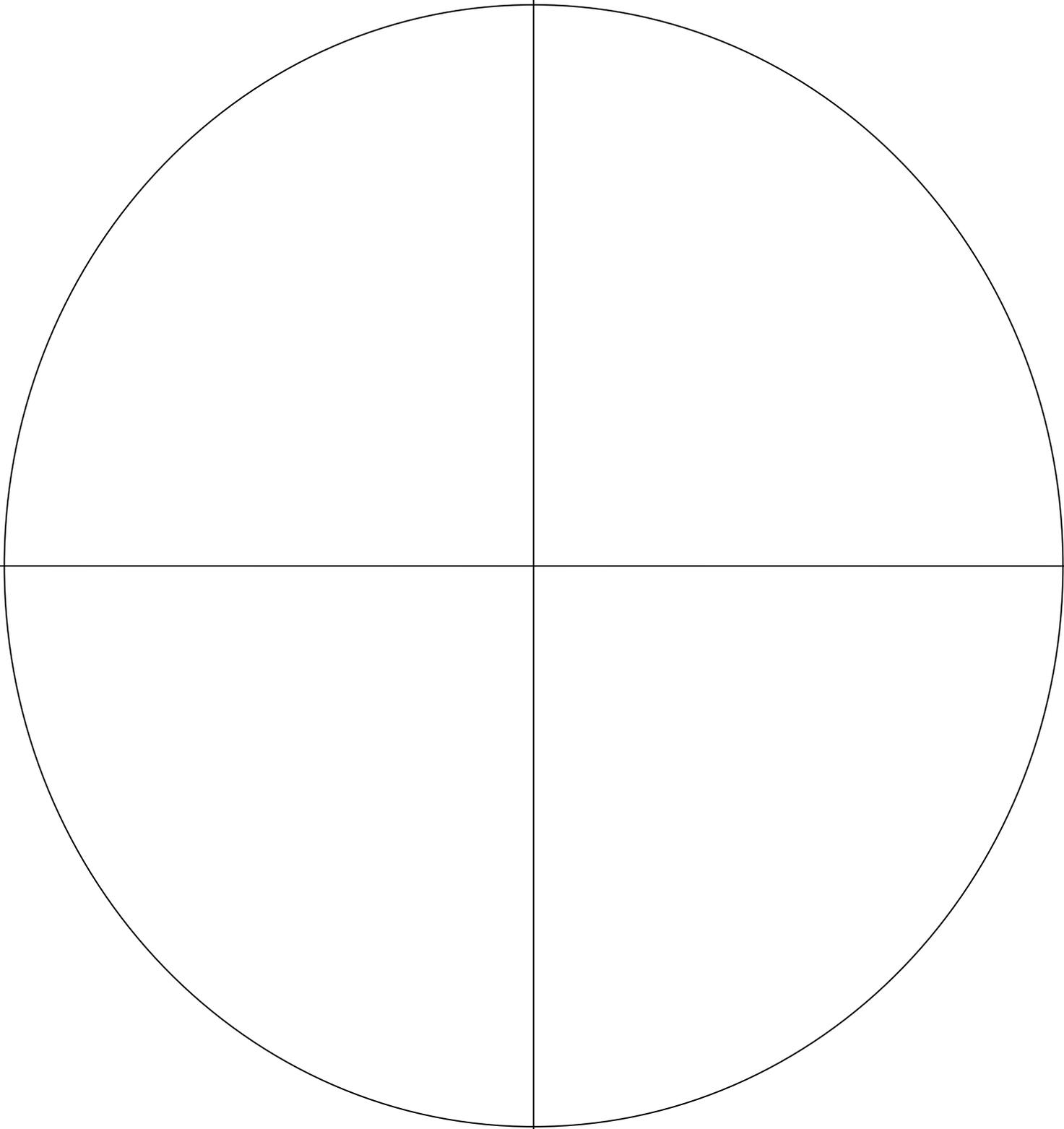
Evaluation

Evaluate student participation in the activity. There are many classroom participation rubrics available. The rubric provided was taken from:

http://www.teach-nology.com/web_tools/rubrics/participate/

See Lesson 1 for rubric.

Basic Needs



Lesson – Animal adaptations – Winter is Coming

Outcomes and Indicators

LT1.2 c) Describe ways that different animals adapt to changes in temperature.

Materials

Legend about animal adaptations such as "How the Turtle Flew South for the Winter," page 157, Keepers of the Earth (Bruchac & Caduto, 1988), grade level appropriate books on Hibernation, migration, adaptation, magazines for collage

Background Information

"Aboriginal people knew how to "read" animal and plant life to know the state of their environment." The Sacred Tree (Bopp, Bopp, Brown, & Lane Jr, 1989)

"Aboriginal people studied the behaviour of animal life, the seasonal changes of plant life to give them insight into the cycle of Nature. They, then, adapted accordingly." The Sacred Tree (Bopp, Bopp, Brown, & Lane Jr, 1989)

"All Life Forms were created to be able to adapt to natural changes." The Sacred Tree (Bopp, Bopp, Brown, & Lane Jr, 1989)

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"The changes in Mother Earth determined the changes that take place within Life Forms over generations." The Sacred Tree (Bopp, Bopp, Brown, & Lane Jr, 1989)

"Animals and Plant life adapt to Mother Earth's changes to maintain their respective numbers." The Sacred Tree (Bopp, Bopp, Brown, & Lane Jr, 1989)

Procedures

Activate prior Knowledge – As a class come up with a list of things that the students do to prepare for winter. Prompt class with questions such as: What do you start to wear as it gets colder outside? Do you need more blankets on your bed? Do you need to chop extra wood for the fireplace? Do you still like to BBQ in the fall or winter? Etc.

Activity – Read students the legend "How Turtle Flew South for the Winter," page 157, Keepers of the Earth (Bruchac & Caduto, 1988). In this legend students hear about birds flying south for the winter, a turtle wants to join them on their journey but instead hibernates.

Have an open discussion of the legend using page 158-159 of Keepers of the Earth as a guide.

Winter is Coming – page 160, Keepers of the Earth (Bruchac & Caduto, 1988). In this activity students image that they are an animal and that winter is coming.

Divide the class into 3 groups: Hibernation, migration, adaptation. Each group should have a book about their topic and animal/nature pictures from magazines or calendars. Have each group prepare a poster on their topic. Posters can include, types of animals, locations, animal needs, animal characteristics

Have groups present their information to the class.

Tipi Teachings Discussions

Respect and Humility – Winter can be a hard time for animals but with a lot of strength and adaptations, animals survive. We need to show respect for an animal's ability to adapt. What do you do to adapt for winter? What does an animal need to do to adapt for winter? Animals can prepare for winter without the help of humans. Humans need animals for winter. Humans need fur for warmth, food for survival, etc. How do you depend on animals in the winter?

Sharing – Just as humans, animals prepare themselves for winter. What types of things do you do to prepare for winter? How can you share some of the things you have with the animals to make winter a little bit easier for them?

Strength – During the winter time it can be hard on animals. There is less food and warmth. Animals have very strong characters to withstand the cold winters here in Saskatchewan. What have you done that has been hard? How did you get through that hard time? What can you do to help out animals?

Strength – Typically strength refers to mental strength. Animals also show a great deal of physical strength in the winter time. It is hard on their bodies to go on little food and little warmth. Has there been a time when you had to do something really hard? How did you get through it?

Evaluation

Evaluate student participation in the activity. There are many classroom participation rubrics available. The rubric provided was taken from:

http://www.teach-nology.com/web_tools/rubrics/participate/

See Lesson 1 for rubric.

Lesson – Animal Adaptations

Outcomes and Indicators

LT1.2 c) Describe ways that different animals adapt to changes in temperature.

Materials

Story about animal adaptations such as "Sleep, Black bear, Sleep" (Yolen & Stemple, 2007), prepared animal adaptation cards

Background Information

"Aboriginal people knew how to "read" animal and plant life to know the state of their environment." The Sacred Tree (Bopp, Bopp, Brown, & Lane Jr, 1989)

"Aboriginal people studied the behaviour of animal life, the seasonal changes of plant life to give them insight into the cycle of Nature. They, then, adapted accordingly." The Sacred Tree (Bopp, Bopp, Brown, & Lane Jr, 1989)

"All Life Forms were created to be able to adapt to natural changes." The Sacred Tree (Bopp, Bopp, Brown, & Lane Jr, 1989)

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"Animals and Plant life adapt to Mother Earth's changes to maintain their respective numbers." The Sacred Tree (Bopp, Bopp, Brown, & Lane Jr, 1989)

Procedures

Activate Prior Knowledge –

Read students the a story about an animal adapting to the weather such as "Sleep, Black Bear, Sleep" (Yolen & Stemple, 2007)

Ask students "What happens to the robins in the winter time?" "Where do you think they go when it starts to get cold outside" "What do the other animals do that can't fly?"

Discuss with students that many animals adapt to their environment in many different ways. Migration is flying to a warmer place. Hibernation is falling asleep during the winter. Other adaptations are to grow thicker fur, find warmer spots to live and store food or eat different types of food.

Activity –

Animal Charades - Split class into groups of 2-3. Assign each group an animal. Each group must act out what their animal does when the weather starts to change. The rest of the class tries to guess what animal they are and if they are migrating, hibernating or adapting.

Organize the student's information into a graphic organizer to keep in notebook.

Tipi Teachings Discussions

Respect and Humility – Winter can be a hard time for animals but with a lot of strength and adaptations, animals survive. We need to show respect for an animal's ability to adapt. What do you do to adapt for winter? What does an animal need to do to adapt for winter? Animals can prepare for winter without the help of humans. Humans need animals for winter. Humans need fur for warmth, food for survival, etc. How do you depend on animals in the winter?

Sharing – Just as humans, animals prepare themselves for winter. What types of things do you do to prepare for winter? How can you share some of the things you have with the animals to make winter a little bit easier for them?

Strength – During the winter time it can be hard on animals. There is less food and warmth. Animals have very strong characters to withstand the cold winters here in Saskatchewan. What have you done that has been hard? How did you get through that hard time? What can you do to help out animals?

Strength – Typically strength refers to mental strength. Animals also show a great deal of physical strength in the winter time. It is hard on their bodies to go on little food and little warmth. Has there been a time when you had to do something really hard? How did you get through it?

Evaluation

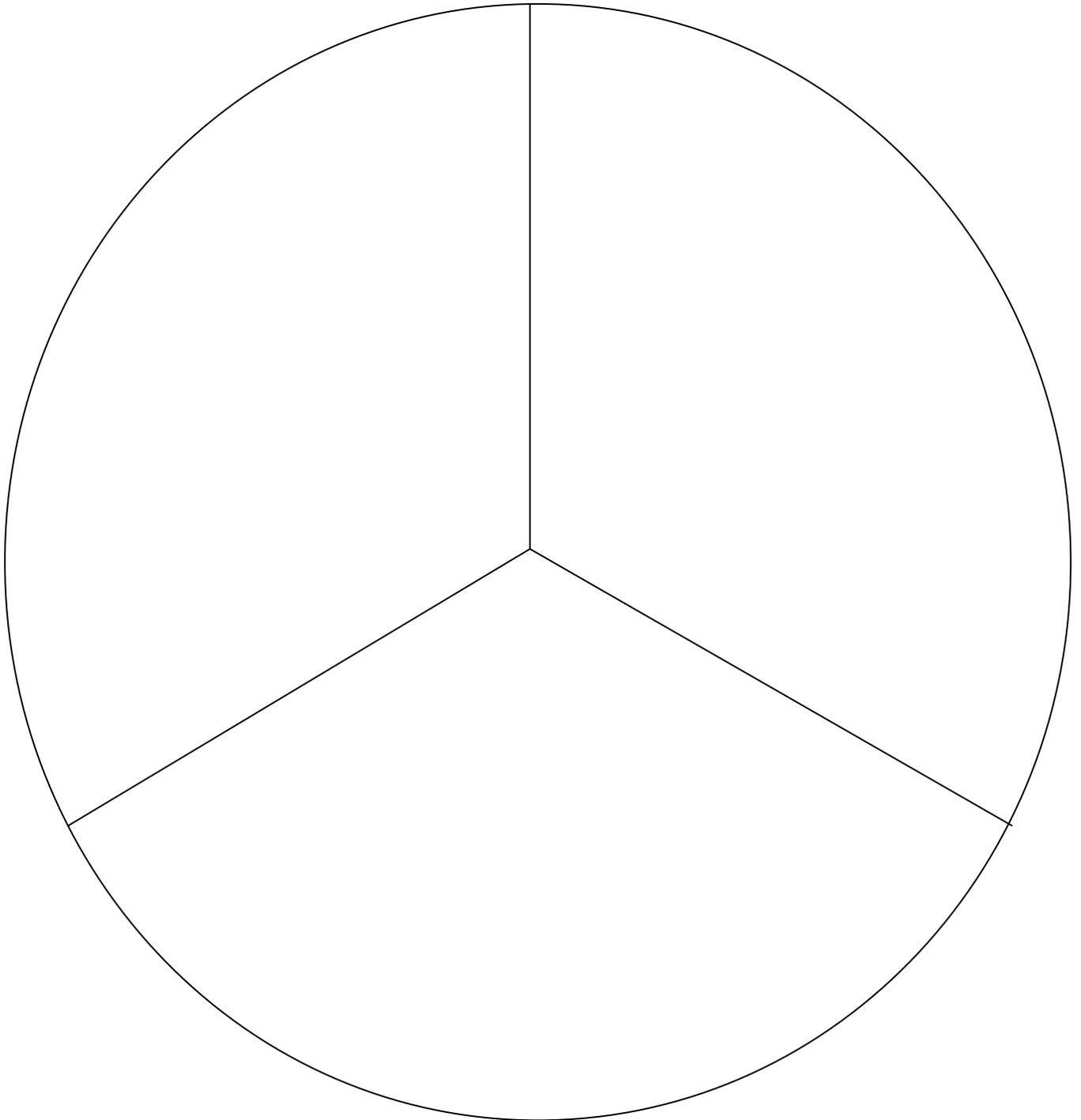
Evaluate student participation in the activity. There are many classroom participation rubrics available. The rubric provided was taken from:

http://www.teach-nology.com/web_tools/rubrics/participate/

See Lesson 1 for rubric.

Migrate

Hibernate



Adapt

Lesson – Nature Walk: Bird's Nest

Outcomes and Indicators

LT1.1 b) Observe living things through direct experience and visual media and identify similarities and differences in their needs for food, water and particular habitats.

LT1.1 d) Compare their own needs to those of other animals.

LT1.2 d) Describe homes and habitats of some local plants and animals.

Materials

Story or legend about birds such as "The First Flute" from the Keepers of the Animals (Bruchac & Caduto, 1991), example of a bird's nest (if available), graphic organizer for characteristics of a bird's nest

Background Information

In the Medicine Wheel the Winged Ones or birds are in the South. The Winged Ones represent childhood and vision.

Eagles are an important and powerful symbol to many Aboriginal people.

"The Teachings of the Eagle – The Great Eagle is the bird of Tirawa, our Creator. This bird carries many of the lessons which Tirawa has given to the people. Look at Eagle and you will see his teachings. Eagle has two wings and those wings are balanced in strength when it flies. In the same way, a man and a woman are balanced in strength and are tow. The right wing is the man and the left wing is the woman and together they are in balance and will continue life on Earth. Eagle also always lays two eggs, reminding us again that things come in pairs. There is the sun and the moon, the day and the night, the body and the spirit, all of them part of Eagle's teachings.

Look upon Great Eagle's feathers. You will see that half of the feather is dark and half of it is white. Just so, we have day and night, winter and summer, sunshine and clouds. Eagle reminds us of this with these sacred feathers, which are special gifts of Tirawa, our Creator.

As Eagle flies, its eyes look in two directions. Just so, we human beings may look in two directions. We may look in the direction of good or we may look in the direction of that which is bad. We may see happiness and we may see sorrow.

So it is that Eagle teaches us and so it is that we wear Eagle's feathers to remind us of these teachings, the teachings Eagle carries as a gift from Tirawa, our Creator."

Keepers of the Animals, page 54, (Bruchac & Caduto, 1991)

"Aboriginal people studied the behaviour of animal life, the seasonal changes of plant life to give them insight into the cycle of Nature. They, then, adapted accordingly." The Sacred Tree (Bopp, Bopp, Brown, & Lane Jr, 1989)

"The environment was shaped and created by the Creator and modified by natural forces. It is not man's place to modify anything." The Sacred Tree (Bopp, Bopp, Brown, & Lane Jr, 1989)

Procedures

Activate Prior Knowledge –

Have each student draw a picture of their home. Have students share their pictures with the class. During the sharing, record common characteristics between each drawing.

Read students a legend or story about birds such as “The First Flute” from the Keepers of the Animals (Bruchac & Caduto, 1991). Activate prior knowledge of birds by asking questions such: What do you know about birds? What do they look like? How many legs do they have? Where do they live? How are they born?

Activity –

List animal home requirements on chart paper (safety, shelter, food storage, where a family lives)

Create a second list listing home requirements for a person and compare how both are very alike.

Conclude that both provide safety, shelter, food storage and a place for family to live.

Nature Walk – Take class outside to observe a birds nest. Discuss – location of nest, what the nest is made of, where the birds eat, etc.

Come back into class and show students example of a bird nest (if available). Discuss the importance of leaving nature as it is and that this nest fell from the tree and abandoned so it's okay to bring it in to observe but we would never take a nest out of its spot.

Using a graphic organizer – have students print the characteristics of a bird nest - safe, warm, dry, spacious, room to sleep and eat.

Draw a picture of a bird's home – make sure to keep in mind the characteristics already discussed.

Tipi Teachings Discussions

Respect – It is important to respect animal homes. Just like people animals need a home to provide their basic needs. How can we show respect towards the homes of animals? What would happen if you did not show respect towards animal homes? Can you think of a way to ensure that animal's homes are taken care of? Has there been a time in your life that you have been disrespectful to an animal's home? How can you fix it?

Humility – Humans depend on animals for many things. If animals do not have a home to provide its basic needs, we will suffer. We need to realize the importance of animals for humans. What kinds of things can you do to take care of animal's homes?

Love – For us to live in harmony we need animals. We need to show animals love, which means taking care of their homes. What animal do you love? How can you show your love for this animal? How can you make sure that each animal's home is taken care of?

Evaluation

Evaluate student participation in the activity. There are many classroom participation rubrics available. The rubric provided was taken from:

http://www.teach-nology.com/web_tools/rubrics/participate/

See Lesson 1 for rubric.

Evaluate Bird Nest drawing. Did the drawing show the characteristics discussed as a class?

Lesson – Compare animal needs to human needs

Outcomes and Indicators

LT 1.1 d) Compare their own needs to those of other animals

LT 1.1 e) Identify and describe common characteristics of humans and other animals.

Materials

Stormy Weather, page 22, Project Wild Activity Guide (Western Regional Environmental Education Council, 1992), graphic organizer to compare needs of living things, graphic organizer to compare human to wild animal

Background Information

“All elements of Mother Earth and all Life forms are believed to have a spirit similar to that of Man.” The Sacred Tree (Bopp, Bopp, Brown, & Lane Jr, 1989)

“All life forms depend on the provisions of the Creator; the wind, wind, water and food are derived from nature.” The Sacred Tree (Bopp, Bopp, Brown, & Lane Jr, 1989)

“All life forms are interrelated.” The Sacred Tree (Bopp, Bopp, Brown, & Lane Jr, 1989)

Procedures

Activate Prior Knowledge – As a class brainstorm the basic needs for people, pets, wildlife and plants. Display information on chart paper using an empty medicine wheel organizer. Bring students attention to the similarities in each quadrant. Have students record information and put in science notebook.

Activity – Stormy Weather, page 22 , Project Wild Activity Guide, (Western Regional Environmental Education Council, 1992)– In this activity, students will experience a guided imagery of an animal during a storm. After the guided imagery, have student share their experiences. Have students compare their animal experience to what they would do as a human. Have students draw a side-by-side comparison of a human and an animal of their choice. Have students share their experience with the class.

Tipi Teachings Discussions

Respect – We must show respect for an animals needs. What does an animal need to survive? What does a human need to survive? How can we show respect for an animal's basic needs? What would happen if we did not show respect for an animal's basic needs? Can you think of a time when you did not show respect for an animal's basic needs? What did you do to fix it?

Humility – We depend on animals, animals do not depend on us. We need to realize our place within the Medicine Wheel and accept it. What animals do you depend on? What animals depend on you? What would happen if there weren't any animals left? How can we ensure that an animal's basic needs are met?

Sharing – It can be hard at times for animals to meet their basic needs due to human interference. How can we share some of our basic needs with animals? What gifts do animals share with us? How can we return the favour?

Evaluation

Evaluate student participation in the activity. There are many classroom participation rubrics available. The rubric provided was taken from:

http://www.teach-nology.com/web_tools/rubrics/participate/

See Lesson 1 for rubric.

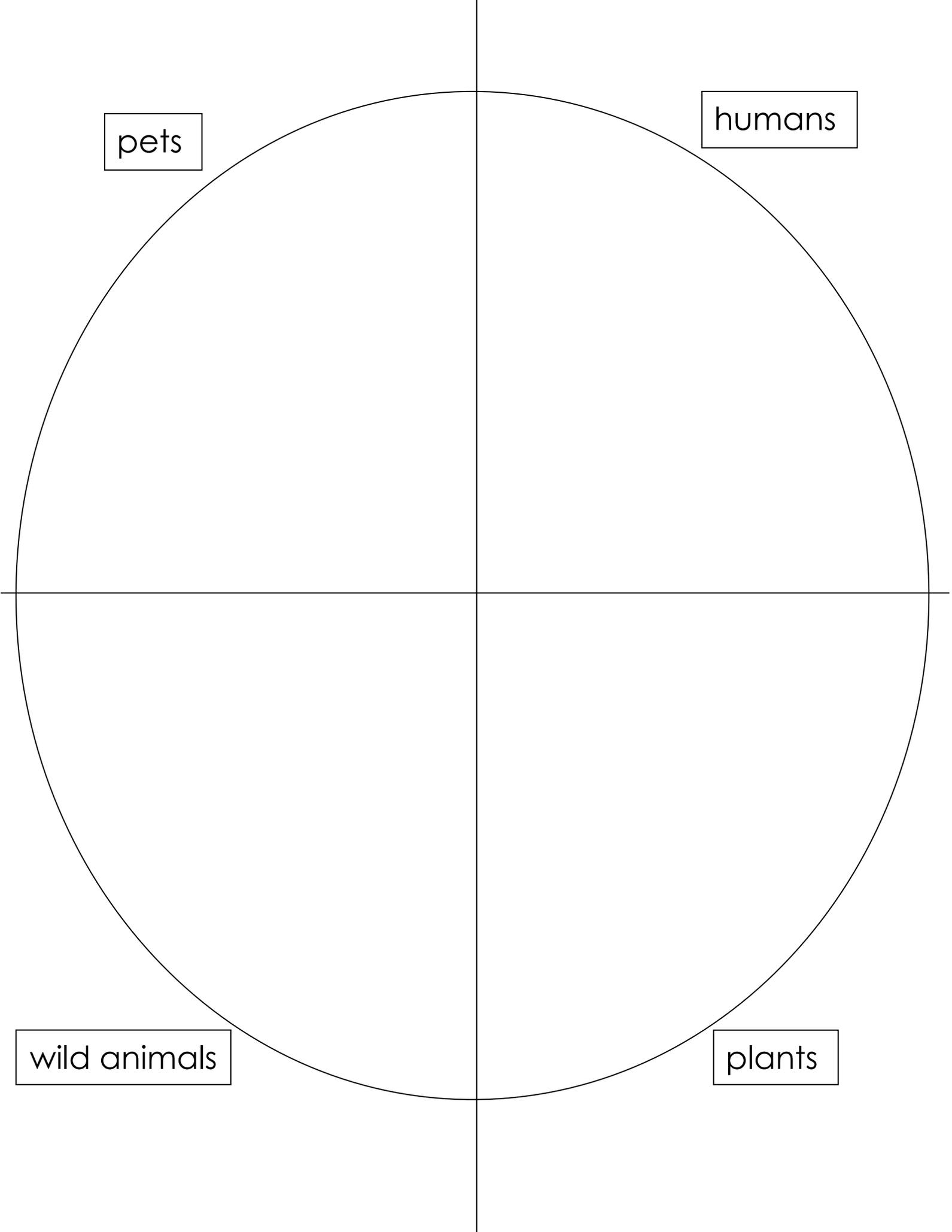
Evaluate side-by-side comparison. Was the student able to make a connection between human needs and wild animal needs?

pets

humans

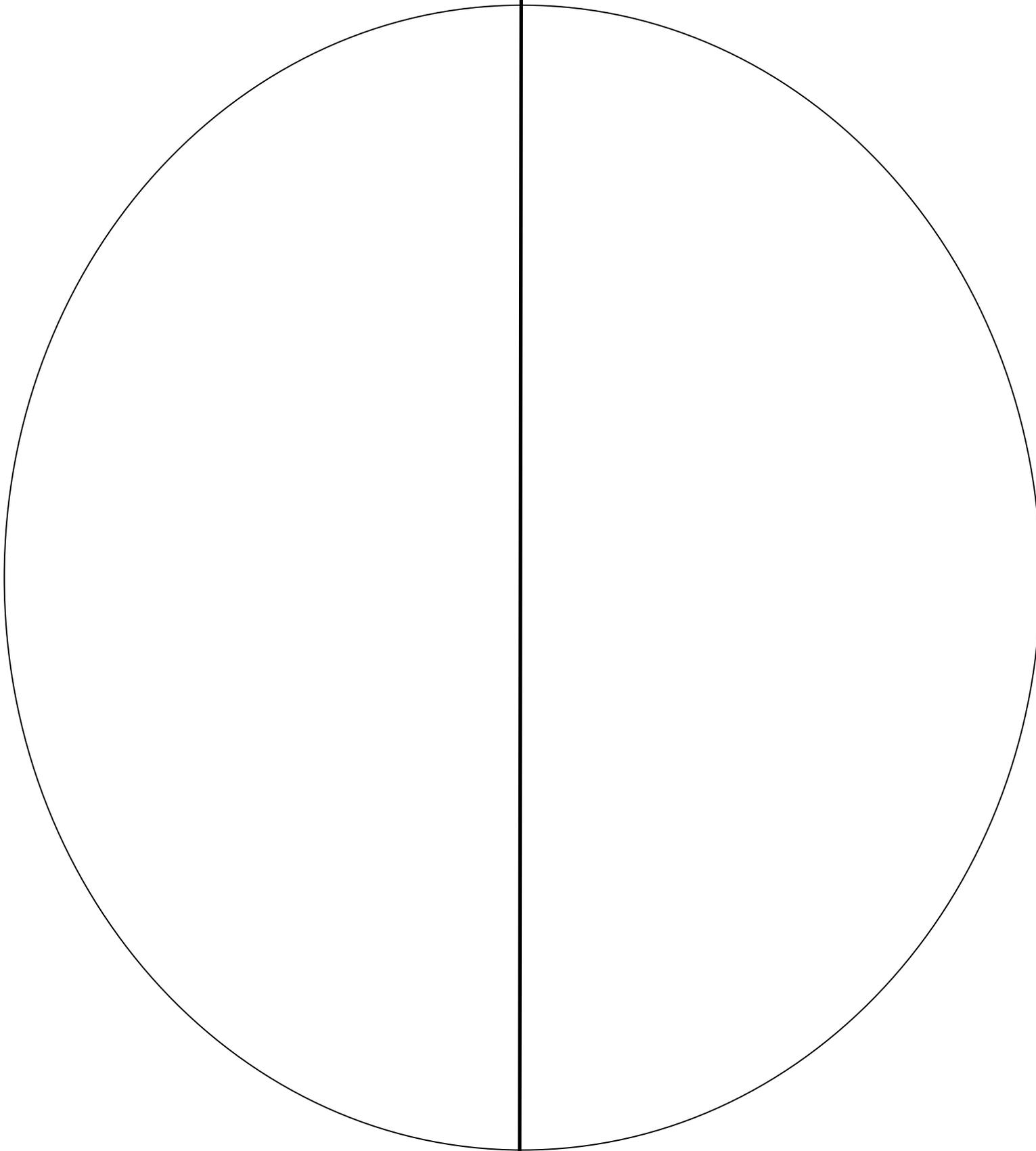
wild animals

plants



human

wild animal



Lesson – Caring for Living Things

Outcomes and Indicators

LT 1.2 j) Describe ways that humans use their knowledge of living things in meeting their own needs and the needs of plants and animals (e.g., describe methods, materials, and tools used in caring for plants and animals; identify local animals and plants that are normally raised by humans and those that are not)

LT 1.2 i) Recognize that humans and other living things depend on their environment, and identify personal actions that can contribute to a healthy environment (e.g., describe how the environment - both indoor and outdoor - is important to their well-being; describe ways that humans might help or harm other living things).

Materials

Story or legend showing animal or plant gifts, material for class project (a bird feeder, wildlife plantings, bird nesting boxes or brush piles).

Background Information

“All life forms depend on the provisions of the Creator; the sun, wind, water and food are derived from nature.” The Sacred Tree (Bopp, Bopp, Brown, & Lane Jr, 1989)

“Aboriginal people accepted their position in the hierarchy. (The Creator, Mother Earth, Plants, Animals, man).” The Sacred Tree (Bopp, Bopp, Brown, & Lane Jr, 1989)

“All Life forms, no matter how small, were considered important and significant.” The Sacred Tree (Bopp, Bopp, Brown, & Lane Jr, 1989)

“Any alteration of the environment or Life form is inconceivable.” The Sacred Tree (Bopp, Bopp, Brown, & Lane Jr, 1989)

“Aboriginal peoples' conservation practice with plants and animals was based on ‘take only what you need and be thankful.’” The Sacred Tree (Bopp, Bopp, Brown, & Lane Jr, 1989)

“To Aboriginal people, Animal, Plants, Water, Wind and the Sun were not seen as natural resources. They were seen as Life-giving and were considered sacred. Minerals were considered a part of mother Earth's being.” The Sacred Tree (Bopp, Bopp, Brown, & Lane Jr, 1989)

“Respect is the key to the survival of Animal and Plant life.” The Sacred Tree (Bopp, Bopp, Brown, & Lane Jr, 1989)

“Aboriginal People internalized from a very early age that without Animal and Plant Life, they would not exist. They did very little to change the habitat of these things.” The Sacred Tree (Bopp, Bopp, Brown, & Lane Jr, 1989)

Procedures

Activate Prior Knowledge – Read the students a story demonstrating the gifts of animals such as, “Little water and the gift of the animals” by C.J. Taylor (Taylor, 1992). As a class come up with a list of gifts that animals and plants give us. Record this information on chart paper.

Activity – Read the class a story or a legend that shows the many gifts we receive from plants and animals such as “Awi Usdi, The Little Deer”, page 173, Keepers of the Earth (Bruchac & Caduto, 1988).

Lead the students into a discussion about respecting the animal populations and the environment for animals.

Explain to students that we are going to make an item to show our thanks for all that the animals and plants do for us.

Caring for Animals: Inside and Outside, Procedure B, page 177, Keepers of the Earth (Bruchac & Caduto, 1988). In this activity students will prepare something to help care for wild animals such as a bird feeder, wildlife plantings, bird nesting boxes or brush piles.

Tipi Teachings Discussions

Respect – We need to show respect for animals. How can you show respect for animals? Has there been a time when you were disrespectful to animals? How can you fix it?

Sharing – Animals share many things with humans. What gifts has an animal shared with you? What gifts can you share with animals? What would happen if the animals did not share their gifts with you?

Thankfulness – We need to be thankful for everything that animals provide for us. How can we show our thanks to animals for everything they do for us?

Love – What animal do you love? How can you show your love to protect this animal?

Evaluation

Evaluate student product. Rubric will depend on type of product.

Good Resources

- Keepers of Life
- Keepers of the Earth
- Keepers of the Animals
- Project Wild Activity Guide
- Useful Wild Plants of Saskatchewan Book 1 & 2
- Trees, Plants, and Their Uses, The Ojibway and Cree Cultural Center

Children's Books

- A Seed Grows, Pamela Hickman and Heather Collins
- The Tiny Seed, Eric Carle
- Have You Seen Trees?, Joanne Oppenheim
- The Magic School Bus – Plants Seeds: A Book About How Living Things Grow, Scholastic
- Wild Edibles: Nature Stories for Children
- Mighty Tree, Dick Gackenbach
- A Grand Old Tree, Mary Newell DePalma
- The Giving Tree, Shel Silverstein
- What Plants Give us: The Gift of Life, Janet Riehecky
- How the Birch Tree Got Its Stripes, translated and edited by Freda Ahenakew
- Animal Disguises, Aileen Fisher
- The Loon's Necklace, retold by William Toye
- Little Water and the Gift of the Animals, C.J. Taylor
- How the Mouse Got Brown Teeth, translated and edited by Freda Ahenakew
- The Enchanted Caribou, Elizabeth Cleaver
- The Beavers' Big House, J.D. Panas & Olive Whitford
- The Great Race of the birds and animals, Paul Goble
- How the Robin got its Red Breast, illustrated by Charlie Craigan

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