



GETTING READY FOR WINTER

Grades K-1
1.5 Hours

Thank you for booking our 'Getting Ready for Winter' program at FortWhyte Alive. This Program is designed to help your students learn about the different ways local plants and animals get ready for winter. Students will have the opportunity to make observations in our interpretive centre, participate in hands-on games and activities, and explore local habitats on the trail.

Appropriate Dress for Your Field Trip

To ensure that students get the most out of their FortWhyte experience, we ask that they be appropriately dressed for a 1.5 hour outdoor excursion. All of our programs include time outdoors, regardless of weather. Comfort and safety are key in making this an enjoyable and memorable experience.

Suggestions for Outdoor Dress

Layering of clothing is very important in maintaining body temperature and in remaining dry. Four thin garments may offer the same degree of warmth as one thick overcoat, but the four layers allow much greater flexibility. Layers can be shed or added as temperature, wind, exertion, or other variables dictate.

Waterproof outer layers are also important. Rain may get us wet but so will dew on grass, melting snow on pants and puddles in the spring. Boots in the winter are always important to keep moisture out and heat in.

***Please share this information with other teachers that are coming to FWA with your group.**



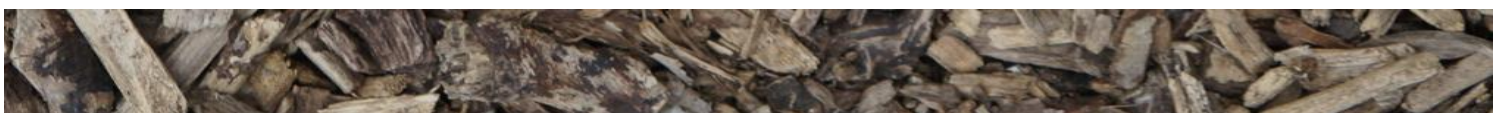
GOAL

To provide students with an understanding of how different organisms prepare for winter.

OBJECTIVES

Students will:

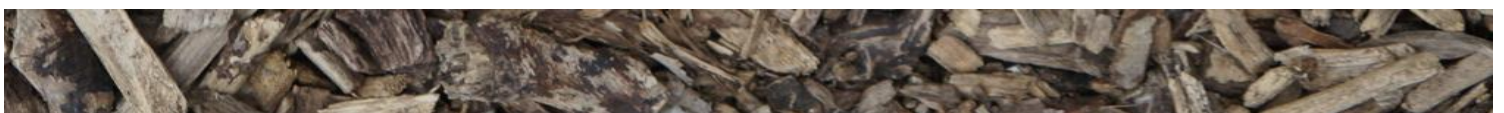
1. Describe differences between winter and summer.
2. Explain some ways that plants cope with changing seasons.
3. Explain some ways that animals cope with changing seasons.





VOCABULARY


- Active:** When animals neither change their body temperature nor metabolism, or “hole up” in a burrow or den for the duration of the winter. e.g. deer, lynx, jackrabbit.
- Hibernation:** When an animal enters a dormant or resting state, lowering body temperature and metabolism to conserve energy. E.g. turtles, thirteen-lined ground squirrels
- Leaf-droppers:** Deciduous trees that lose their leaves in winter to conserve moisture.
- Leaf-keepers:** Evergreen trees that keep their leaves in winter. These trees have leaves that are needle shaped and that have a waxy coating, special adaptations that prevent moisture loss
- Migration:** When animals live in one geographical area in the summer and another in the winter. The scale of migration varies enormously: olive-sided flycatchers may migrate from Canada to Ecuador, whereas some soil invertebrates merely move below the frost line. e.g. geese, ducks, winter robins.
- Supernap:** A winter-resting state, but without the lowered metabolism of true hibernation. Supernappers live off extensive stored fat reserves, and may wake and become mobile if the temperature increases. e.g. black bears, most other mammals that appear to “hibernate.”

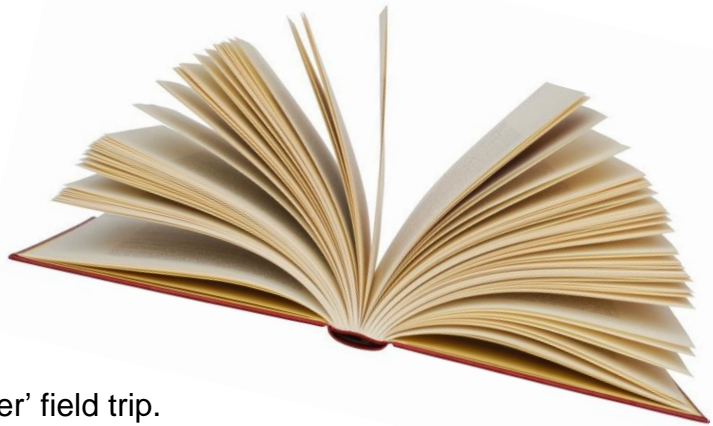




LITERATURE CONNECTIONS

All of the books listed below relate to the theme of seasonal change, are recommended for young children, and are available through the Winnipeg Public Libraries and/or the Manitoba Education Instructional Resources Library. You may wish to make these titles available in your classroom surrounding your 'Getting Ready for Winter' field trip.


Books and activities with an Aboriginal perspective are indicated with a medicine wheel. 



Picture Books (Fiction)

- > **Leaf Man** by Lois Ehlert
- > **Leaves** by David Ezra Stein
- > **Bear Dreams** by Elisha Cooper
- > **Turtle Spring** by Deborah Turney Zagwyn 
- > **Groundhog Stays up Late** by Jean Cassels
- > **Last Leaf First Snowflake to Fall** by Leo Yerxa 
- > **Winter Lullaby** by Barbara Seuling
- > **Forever Friends** by Carin Berger
- > **Pond Seasons** by Sue Ann Alderson

Picture Books (Non-Fiction)

- > **Autumn Leaves** by Ken Robbins
- > **What is Hibernation?** By John Crossingham and Bobbie Kalman
- > **Snow Rabbit, Sun Rabbit: A Book of Changing Seasons** by Il Sung Na
- > **Animals in the Fall** by Gail Saunders Smith
- > **Thirteen Moons on Turtle's Back** by Joseph Bruchac 
- > **How and Why Animals Prepare for Winter** by Elaine Pascoe

PRE-VISIT ACTIVITIES





PEOPLE vs. ANIMALS (1 lesson)

Science/Math

Discuss with your students how fall is different from summer. What do we do that is different in summer and in fall? Some animals and plants adapt to survive the winter season. What do the students do to adapt for winter? Are there any similarities between what people do and what animals do to get ready for winter? Organize student suggestions into a Venn diagram. Here are some ideas to get you started:

Animals in Winter	People in Winter
<ul style="list-style-type: none"> > Grow thicker fur, fluff up their fur or feathers to keep warm > Grow feathers or fur on their feet (e.g. grouse, lynx) > Gain weight in autumn to insulate and provide energy in winter > Eat food collected and stored in summer 	<ul style="list-style-type: none"> > Dress warmly in layers, use fluffy jackets > Wear boots and mittens, may wear snowshoes > Eat a good meal before playing outside > Eat jams, pickles and vegetables grown and stored in summer

NATURE AWARENESS (1-3 lessons)

Science/Movement Break

One of the most important ways to prepare students for their FortWhyte experience is to build their awareness skills in nature. The activities below are good starting points for engaging students' five senses and increasing their observation skills. More activities like these can be found in Joseph Cornell's book, *Sharing Nature with Children*.



Sound Map – Have students sit or lie outside with their eyes closed and ten fingers up in the air. Each time they hear a new sound have them put down one finger until their hands are in fists. Discuss what everyone heard and where the noises came from.

Colour Matching – Give each student a paint chip and the instructions to find something in nature that matches that colour. Swap colours each time students complete the task. Alternatively, paint each section of an egg carton with a different colour and have pairs of students collect and share twelve natural items that match the colours in the carton.





Blindfold Walk – In partners, blindfold one student (or ask her to close her eyes) while the other student leads her to a natural object, such as a tree. The blindfolded student uses all of her senses other than sight to get to know the object (touch and smell in particular) and then is led back to the starting point. When the blindfold is removed, the student who was blindfolded has to try to identify her object using only the sense of sight.

AUTUMN LEAVES (1-3 lessons)

Science/Art

Collect and press autumn leaves with your class. Investigate why deciduous trees drop their leaves (*to conserve water in the winter*) and why leaves change colours (*when the green chlorophyll is no longer present, other colours show through*). Then use your pressed leaves to make a variety of art projects. Three projects are listed below but many more are available online.

One particularly good site is: www.diyncrafts.com/3666/homemade/15-fabulous-fall-leaf-crafts-kids

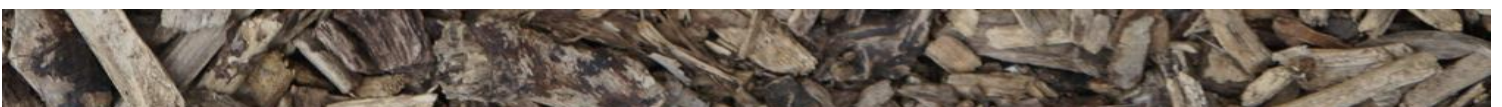
Leaf Rubbings – Flip leaves upside down to get the best access to leaf veins that will make the most detailed rubbings. Try rubbings in “summer colours” and “fall colours”, or experiment with different media such as crayon, pencil, charcoal, and pastel.

Crayon Resist Leaves – Use crayon to sketch your pressed leaves, paying close attention to shape and vein pattern. Afterwards, use watercolor paints to wash over the crayon sketches. Experiment with wet-on-dry and wet-on-wet techniques. Use salt to add extra texture to your paintings. Label your artwork with the names of the trees the leaves came from.



Leaf Jars – Use Mod Podge (or other white glue) to paste pressed leaves on the outsides of recycled glass jars. Putting electric tea lights inside can create a great ambience for quiet times in the classroom. Alternatively, use these jars to store pens, pencils, or other classroom supplies.

Language Arts Extension - Use words to describe your leaves. What kinds of adjectives describe their shape, colour, and smell. How do leaves sound when you walk through them? Create and illustrate class or individual poems.





POST-VISIT ACTIVITIES

ANIMAL BEHAVIOURS SORTING GAME (1 lesson)

Science/Drama

In the program Getting Ready for Winter students are introduced to the four main ways that animals cope with winter—migration, super-napping, hibernation, and remaining active. Cut out the animal cards provided (**Attachment #1**) and have students work as a whole class or in small groups to sort them into the appropriate categories. Once students have sorted them to the best of their ability, provide them with the colour-coded cards (**Attachment #2**) to check their work. Discuss any surprises. Afterwards, have groups of students choose one particular animal and research exactly how it behaves in the wintertime. Act out these behaviours just like behaviours were acted out during the program at Fort Whyte.

SEASONAL ARTWORK (1-2 lessons)

Science/Art/Social Studies

Review the animals and plants seen at FortWhyte Alive. What are they doing to get ready for winter? Show what they are doing with drawings, paintings or clippings from magazines. Create a collage or mural showing seasonal changes.

Ask the students to divide a piece of art paper into four areas, to represent the four seasons. They would then draw a picture of their favourite animal in each box, to show what the animal does each season.

The Medicine Wheel represents many things. One of these is the four seasons. Have students create simple medicine wheels from paper or other materials and talk about the importance of seasonal change in Aboriginal culture.

White = winter
Red = spring
Black = fall
Yellow = summer



Learn to say the names of the seasons in Ojibway at:
<http://www.anishinaabemdaa.com/medicinewheel.htm>



WHAT IF THERE WAS NO WINTER? (1-2 lessons)

Social Studies/Science

Investigate places where it is always "winter" (i.e. there is always snow and ice) and places where it is never "winter" (i.e. there is no ice or snow) through stories, books, films, maps and discussions. How do animals and plants in these places differ from animals and plants here? How are they similar? Some good resources for this activity include:

Books about Polar Animals:

- > <http://www.giftofcuriosity.com/books-about-arctic-animals-for-kids/>
- > http://www.coolantarctica.com/Shop/buy_antarctica_books_online_childrens_books.htm

Books about Tropical Animals:

- > <http://artfulparent.com/2011/06/learning-about-rainforests-with-childrens-picture-books.html>

WINTER STORIES (1 lesson)

Language Arts

Imagine how our lives would be different if we hibernated, migrated or napped through the winter. Describe the daily routines of imaginary people who live in these ways. Would you like to migrate or hibernate every winter? (Maybe some of the students have relatives who **do** migrate to Florida each winter!) Illustrate your stories with pictures or tell them out loud to a partner or the whole class.





















BIRD FEEDERS (1-3 lessons)

Make bird feeders with milk cartons and plastic pop bottles (see figures). What sort of foods do birds (that don't migrate) eat at feeders? What is suet? Discuss winter birds and bird feeding. What birds do you see at your feeder? Can you draw them?

























Attachment #1

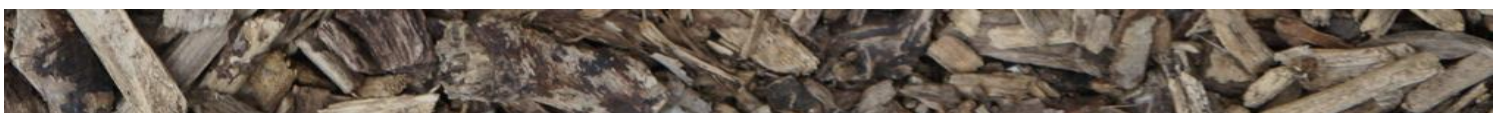
Super Nap					
Migrate					
Active					
Hibernate					





Attachment #2

Super Nap					
Migrate					
Active					
Hibernate					





SUPPLEMENTARY INFORMATION

SQUIRRELS AND WINTER

None of our tree squirrels hibernate, although bad weather keeps them indoors for several days at a time. They dislike cold, snow, rain, or high winds. They are busiest during the fall, gathering nuts, which they store, as every child knows, in preparation for winter. Strangely, they do not store all of their nuts in their nest or even near it. They may actually store their nuts as much as a hundred feet from their nest tree where they may bury nuts in shallow depressions which they cover with leaves. These buried treasures are not necessarily for personal use. With their keen sense of smell they locate caches of other squirrels and eat what they find. This does not seem to lead to any particular social disorder. Many of the buried nuts lie uncollected until sun and rain combine and a new tree sprouts. The squirrels are the Johnny Appleseeds of the animal kingdom!

Squirrels den alone, but when the weather turns really cold a number will curl up together for warmth. Though they prefer hollow trees for their dens, they will readily construct a leaf nest if no trees are available. An individual's territory (range) will extend for some two hundred yards around a single nest tree, but this is seasonal. As different crops mature they will shift ranges, moving over a five-square-mile area in the course of a year. If things go wrong in their neighborhood, whole populations will move off to a new area.

BLACK BEARS AND WINTER

Contrary to popular belief, black bears do not truly hibernate. In the northern parts of their range they do den up for the worst of the winter in a self-made bed of grass, twigs, bark, and leaves. This nest may be in a hollow tree, cave, sheltered under roots or a fallen tree, or may be just a shallow excavation in a wooded area. They are frequently exposed to falling snow during their dormancy.

This winter sleep of the black bear is deep, but his body temperature remains near normal. During a warm spell a bear may move around a bit and then return to his nest. In the southern parts of his range, during the winter the black bear takes naps for a few days at a time, even in Florida and Louisiana. Bears usually den alone, although on occasion a sow will allow her cubs of the previous season to hole up with her. During the summer, black bears have no permanent home but sleep in trees or on the ground whenever they get tired.

Both articles from **North American Mammals**, by Roger A. Caras. Meredith Press, NY. 1967.

