GR. 4 PEACE PARKLAND PLANTS

TEACHERS PACKAGE

An Outdoor Exploration of the Plants in the Peace Region

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INTRODUCTION

Welcome to the teacher's planning and activity package for PEACE PARKLAND PLANTS. This outdoor program provides a hands-on look at the important role that plants play in the Peace River Parkland region around Grande Prairie. Students will explore the forest and compare different habitats within the park.

PROGRAM AT A GLANCE

Pre-Visit Activities: 60-90 minutes depending on activities selected

Time Required: 2 hours outdoors

Best season to book program: September, May, June

Suggested Locations: Saskatoon Island Provincial Park, Moonshine Lake Provincial Park, Young's Point Provincial Park or a natural area near you.

ADULT REQUIREMENTS:

We ask that you provide one adult supervisor for every 4-5 students. The adults will assist students with activities and help them remain on task with the group.

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PROGRAM OUTLINES

This program focuses exploration on the lives of plants found in the Peace Region. Students will compare different types of plants, examine plant survival and reproductive strategies and consider the role that protected areas play in preserving habitat.

This program package will give you details on how this program fits with the Alberta Curriculum for Grade 4 Science, a planning checklist, information on what to bring and parent volunteer information.

In addition, a variety of supplementary pre-fieldtrip classroom activities, extension activities and resource materials are included to help you prepare your class for the fieldtrip and build on the topics covered in the **PEACE PARKLAND PLANTS** program.

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GRADE 4 CURRICULUM TOPICS

Life Science:

E: Plant Growth and Changes: (4-10) Demonstrate knowledge and skills for the study, interpretation, propagation and enhancement of plant growth.

SPECIFIC LEARNER EXPECTATIONS

- Describe the importance of plants to humans and their importance to the natural environment.
- Identify and describe the general purpose of plant roots, stems, leaves and flowers.
- Describe common plants and classify them on the basis of their characteristics and uses.
- Recognize that a variety of plant communities can be found within the local area and that differences in plant communities are related to variations in the amount of light, water and other conditions.
- Describe the different ways that seeds are distributed; ex. By wind, animals
- Recognize seed adaptations for different methods of distribution.

CROSS-CURRICULAR CONNECTIONS

This program had been designed to meet specific curriculum requirements for the Grade 4 Science Program but there are also many curriculum connections within the Language Arts, Social Studies, Mathematics, Physical Education and Art programs of studies.

This program is also designed to reflect the goals of Parks and Protected Areas:

- Preservation & Protection: to preserve the province's natural heritage, associated cultural heritage, ecological functions and biodiversity for current and future generations.
- Tourism & Community: to contribute to communities and the economy by fostering sustainable tourism experiences and ecosystem services such as clean air, land and water.
- Heritage Appreciation & Education: to instill pride and encourage stewardship by developing appreciation and understanding of Alberta's significant natural and cultural heritage.
- Outdoor Recreation & Healthy Living: to provide inclusive nature-based outdoor recreation opportunities that contribute to societal health and well being.

FACILITIES AND SERVICES

1. A professional interpreter will guide you on your fieldtrip and be there to answer any questions about the topics discussed .
2. All equipment needed for the fieldtrip will be included. There will be a break during lunch time which your class may want to bring balls, Frisbees or any other supplies for students to use during free time.
3. If your program is at a Provincial Park washrooms are located throughout the area.

NOTE: If you are spending the day in the Provincial Park, we ask that you bring any supplies that you may need for that day. If you are interested in booking the GROUP USE or DAY USE for use before or after you interpretive program, please contact the Alberta Parks office to see if there is availability.

ALBERTA PARKS OFFICE:

780-538-5350

PLANNING CHECKLIST

- Arrange transportation to and from the Park.
- Know the meeting location (Staff will let you know prior to fieldtrip).
- Supply name tags for the students.
- Check student health forms for Allergies that might be of concern. (Ensure that the Parks Staff is aware of any issues prior to the program. It is still the teachers responsibility to be prepared and administer any drugs associated with an allergy or illness).

- Arrange for and prepare adult volunteers (A ratio of 1 adult per 5 students is recommended).
- Ensure that students have a lunch and filled water bottle if necessary.
- Ensure students are dressed appropriately for the weather. All our programs are run in rain, snow or shine unless contacted. (See next page)
- Have a class discussion that reviews the role of Provincial Parks, Park Rules and behavior expectations.

WHAT TO BRING

The weather can be unpredictable. Please ensure that your students DRESS FOR THE WEATHER!

WHAT TO WEAR:

- Long pants
- Warm Sweater or Sweatshirt (Dress in layers)
- Waterproof Jacket and other Rain Gear
- Sturdy Walking Shoes
- Rubber Boots (Optional for pond dipping but highly recommended)
- Warm Socks (An extra pair of socks is helpful if other pair gets wet!)
- Toque, Gloves or Mittens
- Sunglasses or Hat

OPTIONAL ITEMS:

- Any Medications
- Binoculars
- Field Guides to Plants, Animals or Bugs
- Snacks, Lunch, Water Bottle and Water to Drink!
- Bug Repellant
- Sunscreen

PARENT VOLUNTEER INFORMATION

ROLE: Parent volunteers are a wonderful addition to any education program. Their main role is to help the interpreter lead groups through various activities during the fieldtrip and help keep students focused. Parent volunteers do not have to have any previous knowledge of the park.

WHAT TO BRING FOR PARENT VOLUNTEERS:

All the activates are outdoors so please dress for the weather including protection from the sun, rain, snow or bugs. The program also involves a fair amount of walking so please wear comfortable, sturdy footwear.

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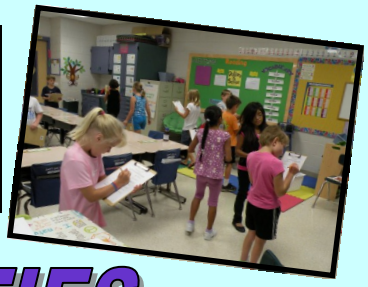
PRE-FIELDTRIP ACTIVITIES

The preparatory activities described here will introduce the topic of insects, spiders and biodiversity to your students and will allow them to practice the skills to be used during the program.

- Have the students begin a journal about an animals life cycle. (journal making can be a great art project). How many different stages are in their animals life cycle? What are some interesting things that happen in the animal's life cycle? We all go through changes. Do we grow in the same way that other animals grow?
- Test observation skills with a "What is Missing" game. Lay out, or mount on a display board a selection of objects or pictures. Give the students a short time to study the objects and then cover the area. While eyes are closed, remove an object and lift the cover. Can they identify what is missing?
- Hand out Plant Word Search



EXTENSION ACTIVITIES

There are many other activities that can be used to expand on topics covered during this field study.

- Have the students write in their journal after the program and see if they can answer their own questions about animal life cycles.
- Have the students write a story or conduct research on an animal that lives in the Grande Prairie Region.
- Build a living tree to understand parts of the tree (see attached instructions)
- Make leaf skeletons (see attached instructions)
- Make your own plant identification cards. Press or scan leaves from local plants and laminate on cards with information about the plant's appearance and habitat.

OTHER RESOURCES

- Jumbo Book of Nature Science by Pamela Hickman. Kids Can Press Ltd. 1996.

- The Kid's Canadian Plant book. The Kid's Canadian Tree Book by Pamela Hickman. Kids Can Press Ltd. 1996.

- *Wildflowers of Alberta by Kathleen Wilkinson. University of Alberta Press. 1999.*

- Plants of the Western Boreal Forest and Aspen Parkland by Johnson, Kershaw, MacKinnon and Pojar. Lone Pine Publishing. 1995.

PLANT WORD SEARCH

C K O L X Z P V O I F E R A Y Q C

X E F P E I W A T E R R Q Z T R M

Q I F G J A P H L O E M M N E Q V

Q Q L D K L F T N Z Z R O O T V C

Q Z O P H O T O S Y N T H E S I S

B Z W I N U T R I E N T S O T L O

U X E W T P S U O U D I C E D L K

R T R T L S N H M O Q K I S K Y T

H E A E V U L H C E Y N D Z I H I

S T V M Z O K I N Q T T R E E P L

N U C O W R R D O O S S Q U M O N

N B K Z L E T Q I S B A M M W R H

B E N I Z F C S C O S R E Z X O K

L R U H V I X R M K X L A Z M L Z

Z P R R K N Y L X D Y I R C A H F

W N T X U O K G M X V C D K D C E

C L G J A C B U L B Q G N E G H D

BULB
CARBON
CHLOROPHYLL
CONIFEROUS
DECIDUOUS
DIOXIDE
LEAF
NUTRIENTS
PHLOEM
PHOTOSYNTHESIS
RHIZOME
ROOT
SOIL
STEM
TREE
TRUNK
TUBER
WATER
XYLEM

BUILD A LIVING TREE

From Sharing Joy of Nature with Children
By Joseph Cornell

Heartwood - provides strength and support
2 or 3 students back to back in the centre
job to hold the trunk and branches upright
pulse like heart

Taproots - deep in the ground (about 30 ft)
keeps the tree from getting blown down
4 students sit at base of tree facing out

Lateral Roots - hundreds of lateral roots (underground branches – tips are tiny root hairs) which sense water, grown towards it and suck it up
4 students lie down with feet at trunk and arms out as roots

Xylem - dead wood tubes that draw water up from the roots
5 students circle around the heartwood

Phloem - growing part of trunk, every year a new layer
5 students circle around xylem
arms up as branches with leaves at the end

Bark - protects tree from insects, fire etc.
- **remaining students form a ring around the tree**

Bring it to life. Heartwood brings life, (make thump sound), roots suck up water (roots slurp), bring up water (xylem throws up hands – wheee), sun shining so lets make food (fingers of phloem wiggle), bring food down (phloem goes whooo), bark protects tree (grrrrr).

MAKING LEAF SKELETONS

from "Jumbo Book of Nature Science"
by Pamela Hickman

With some water and warm weather, you can get an undercover look at the leaves in your neighborhood.

You'll need:

- a variety of leaves
- a dishpan
- Water
- garden soil or compost (not sterilized soil)
- old newspapers
- a bowl
- paper towls
- paint (optional)
- glue (optional)
- heavy paper (optional)

Place the leaves flat in the bottom of your dishpan and cover them with water. Add some soil to the water. Bacteria in the soil will help the leaf tissue decompose. Put newspapers on top to weigh down the leaves.

Leave the dishpan outside in a sunny spot for two to three weeks. The water-leaf mixture may begin to smell as the leaf tissue rots, so it is best to leave it undisturbed and away from the house.

Remove the newspapers and take out a few leaves at a time.

Placed the leaves in a bowl of warm water and very gently rub them between your thumb and forefinger. This should remove the remaining leave tissue and expose the veins.

Press your leaf skeletons between paper towels to dry.

Compare the veins of your different leaf samples. Notice if the veins are long, short, single or branching and how many there are per leaf. Leaf vein patterns are important clues for species identification.

Your leaf skeletons can be made into art by dipping them into colored paint, drying them and gluing them to heavy paper to make pictures.