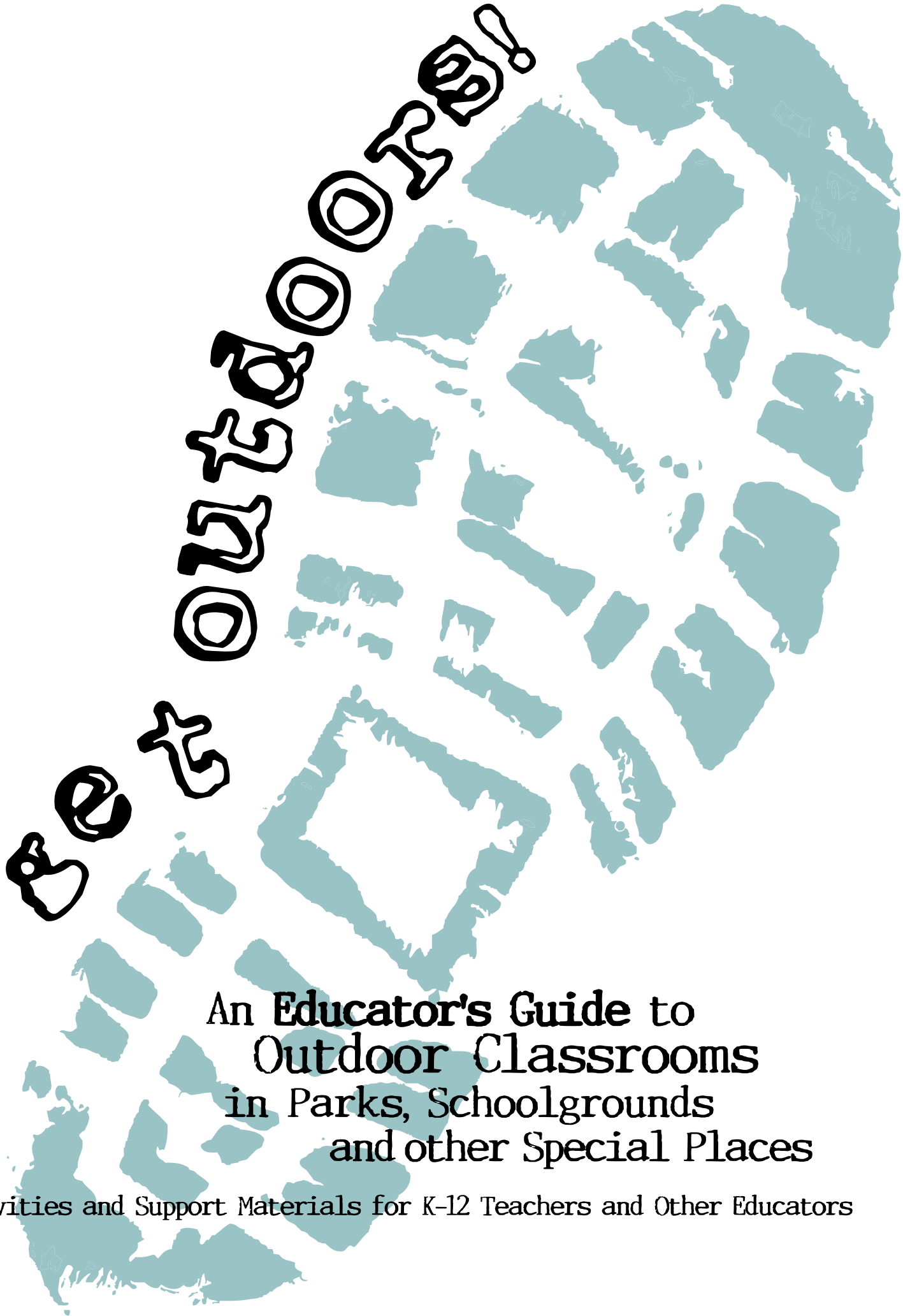
Get Outdoors!



An **Educator's Guide** to Outdoor Classrooms in Parks, Schoolgrounds and other Special Places

Activities and Support Materials for K-12 Teachers and Other Educators

Library and Archives Canada Cataloguing in Publication

Staniforth, Sue
Get Outdoors! : An Educator's Guide to Outdoor Classrooms
in Parks, Schoolgrounds and Other Special Places.
ISBN 978-0-7726-6099-2

"Written and compiled by Sue Staniforth ; edited by Suzanne Morphet ; illustrations by Donald Gunn ; section lino prints by Maria Tratt ; design and layout by Kristine Webber-Lampa & Earthwise Design". Co-published by: WildBC, BC Parks, BC Ministry of Education, Parks Canada, and Metro Vancouver.

1. Outdoor education--British Columbia. 2. School field trips--British Columbia. 3. Parks--Recreational use--British Columbia. 4. Activity programs in education--British Columbia. 5. Outdoor recreation for children--British Columbia. 6. Protected areas--British Columbia. I. Morphet, Suzanne II. WildBC (Program) III. British Columbia. Ministry of Education IV. Vancouver (B.C.) V. BC Parks VI. Title. VII. Title: Educator's guide to outdoor classrooms in parks, schoolgrounds and other special places.

QH541.G47 2009 371.3'8409711 C2009-901328-2

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get outdoors!

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BRITISH COLUMBIA The Best Place on Earth | BCParks
HCTF Education
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metrovancouver
BRITISH COLUMBIA The Best Place on Earth | Ministry of Education

Acknowledgements

This Guide is a truly collaborative effort between many experienced educators and a range of partners. Gail Ross of BC Parks is owed special thanks for initiating and championing the project. WildBC, Habitat Conservation Trust Foundation, Ministry of Environment, Parks Canada and Metro Vancouver are all supporting partners, and the BC Ministry of Education and EEPSA (Environmental Education Provincial Specialist Association) have both endorsed the guide. A huge thank you and debt are owed to a stellar Advisory Team of expert teachers and environmental educators for their outstanding contributions and efforts.

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Special Thanks also to Donald Gunn, Illustrator; Maria Tratt, Printmaker; Kristine Webber-Lampa, Earthwise|Design; and Suzanne Morphet, Editor.

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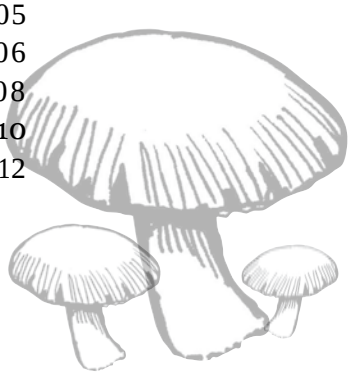


"Passion does not arrive on videotape or on a CD; passion is personal. Passion is lifted from the earth itself by the muddy hands of the young; it travels along grass-stained sleeves to the heart."

Richard Louv, Last Child in the Woods

Introduction to the Guide

Welcome to the Great Outdoor Classroom!

This resource has been developed for teachers and other educators to support and inspire them to take learning outdoors. Many experienced educators have helped to create this guide, endorsing "tried-and-true" activities and combining them with practical, realistic teaching strategies. Almost all the activities can be done outdoors on the school grounds or in a local park, in recognition of the challenges of taking classes on more extended field trips. The activities have been piloted with students from Kindergarten to Grade 12 across BC, and for use by non-formal educators such as park interpreters and youth group leaders. The activities underline the main themes in the BC Environmental Learning and Experience framework (ELE, Ministry of Education, 2007) – those of Complexity, Aesthetics, Responsibility, and Ethics (C.A.R.E.). Relevant learning outcome links are included, as well as a process that maps out "baby steps" for taking students outdoors.

"Come forth into the light of things. Let Nature be your teacher."

William Wordsworth

Background Information on Parks and Protected Areas in British Columbia

This section answers some basic questions about protected areas including why we need them, and describes the regional, provincial and national parks systems in BC.

Section I: Simple Steps to Successful Outdoor Classrooms

Preparing Yourself and Your Students for the Joys and Challenges of Learning Outdoors

This section reviews current research on the benefits of outdoor exploration in the development of children's physical, mental and spiritual health.

Barriers to taking students outside are addressed, and the concept of the 100 Metre Field Trip is supported: you don't have to go far to have engaging and instructive experiences out-of-doors. The Teacher Tip Sheets and Checklists were developed from a range of examples provided by educators, and address how to plan successful outdoor excursions that keep students (and the environment!) safe, while encouraging curiosity and creativity, and helping students make connections to the natural world.

Section II: Get Out There! Easy Activities for Taking Groups Outside

This section highlights "classic best practices" – activities that provide easy, fun and powerful ways to explore an outdoor area, help raise awareness and develop relevant, personal connections to nature. These hands-on, sensory awareness activities require almost no materials and have been used successfully by environmental educators with groups of all ages. They are great "warm up" activities for any field trip, and great "wakeup" activities for quick daily breaks from classroom routines. Adaptations for older students are provided, as well as Critical Questions and Debriefing suggestions for discussion.

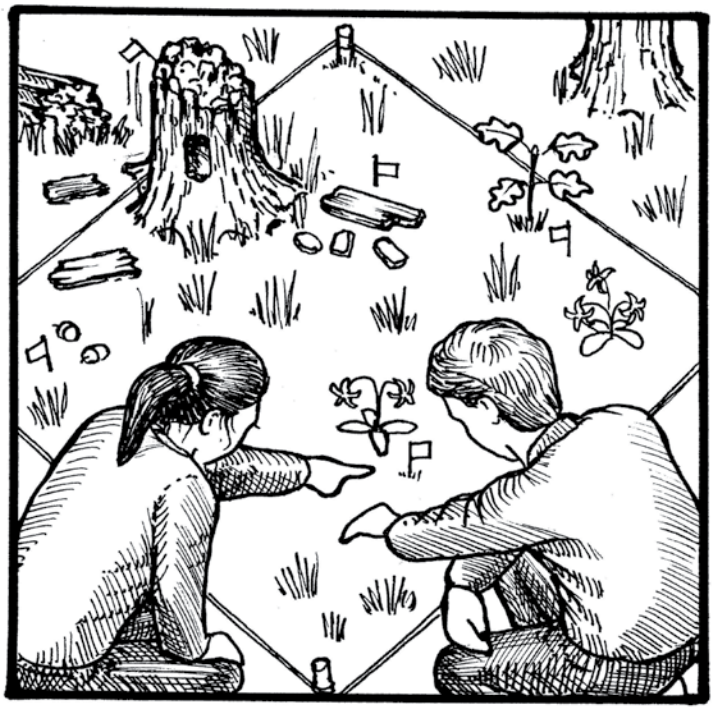
Section III: Valuing Special Places and Family Treasures

Protecting Natural and Cultural Treasures

This section engages students in exploring places that are meaningful to them, examines cultural connections to place and community and investigates values around protection and care. Four activities explore these concepts: listening to a guided imagery story about protecting things of importance, interviewing family members to explore cultural heritage, and writing and reading about personal experiences with special places. Worksheets support student-directed learning.

Section IV: Exploring and Mapping Special Places

These activities explore biodiversity, habitat, and mapping. Students discover BC's biogeoclimatic zones by creating postcards, engaging in hands-on exploration of local biodiversity and developing community mapping skills, including creating base maps, keys, scale, and transects. Activities support student-directed learning, and target Science and Social Studies learning outcomes for intermediate and secondary students.



The Appendices

Prescribed Learning Outcomes, by grade and subject level, additional resources, web links, further background material, along with detailed Park Planner Sheets for visiting provincial, regional and national parks across BC.

However you choose to use this guide, we wish you enjoyment and inspiration in your exploration of the great outdoors!

Conceptual Framework

This resource was developed based on the following "big ideas" or key concepts, which provide a framework for each section and activity. They can be used to plan teaching units, guide the integration of outdoor learning across several subjects, and help students monitor their own learning projects.

1 **Concept 1: We protect things that are valuable to us. Our heritage and culture influence our values.**

2 **Concept 2: Humans need protected natural areas for their spiritual, physical and intellectual health benefits, and their scientific, cultural, ecological and economic values.**

3| **Concept 3: The discovery, exploration and enjoyment of local natural and protected areas provide valuable learning experiences for students.**

4| **Concept 4: Direct, personal experience and involvement with parks and natural areas in our communities help develop one's sense of place.**

5| **Concept 5: Place–based education, where local culture and natural heritage are explored, re-integrates and restores the essential link between people and their communities.**

6| **Concept 6: Active stewardship, or caring for what we don't or can't own, is important to conserve, restore and sustain parks, natural areas and other special places.**

These concepts are closely aligned with the Environmental Learning and Experience (ELE) learning principles, published by the BC Ministry of Education (2007). These principles include Complexity, Aesthetics, Responsibility and Ethics (CARE) as follows:

C -a consideration of complexity and complex systems,

A- aesthetic appreciation,

R-responsible action and consequences of action, and

E-the practice of an environmental ethic.

The ELE's model of direct experience, critical reflection and negotiation are also supported and endorsed by the activities and teaching strategies within this guide.

www.bced.gov.bc.ca/environment_ed/

Routes Through "Get Outdoors": A Map to the Guide

There are many ways to implement these activities with your students. Here are some suggestions for activity choices and paths that sequence the guide's major concepts and sections, while considering time limitations and age groups.

	A Quick Dash If you only have time to do a few activities	A Highlights Tour Build a unit around the following activities	The Scenic Route For a more in-depth unit, take a scenic stroll
Preparation for all Grades: Section 2 and Tip Sheets			
Primary Grades K - 1	1. Sensory Wakeup Circle 2. Rainbow Chips 3. Forest Cologne 4. My Special Place 5. Touchstone	1. Sensory Wakeup Circle 2. Rainbow Chips 3. Transition Activities 4. Walk Softly: A Footprint Activity 5. Forest Cologne 6. My Special Place	1. Sensory Wakeup Circle 2. Rainbow Chips 3. Forest Cologne 4. Transition Activities 5. Instant Cameras 6. Walk Softly: A Footprint Activity 7. My Special Place 8. Stories of Special Places
Elementary Grades 2 - 5	1. Sensory Wakeup Circle 2. Sound Mapping 3. Instant Cameras 4. Forest Cologne 5. Who Lives Here? Habitat Biodiversity 6. Stories of Special Places	1. Sensory Wakeup Circle 2. Energy Burners 3. Touchstone 4. Sound Mapping 5. Adjectives Scavenger Hunt 6. Instant Cameras 7. Make a Mini-Park! 8. Who Lives Here? Habitat Biodiversity 9. My Special Place 10. Family Treasures	1. Sensory Wakeup Circle 2. Touchstone 3. Energy Burners 4. Sound Mapping 5. Instant Cameras 6. Forest Cologne 7. Make a Mini-Park! 8. Choices: A Guided Imagery 9. Who Lives Here? Habitat Biodiversity 10. Stories of Special Places 11. My Special Place 12. Family Treasures

	A Quick Dash If you only have time to do a few activities	A Highlights Tour Build a unit around the following activities	The Scenic Route For a more in-depth unit, take a scenic stroll
Intermediate Grades 6 - 8	1. Sensory Wakeup Circle 2. Sound Mapping 3. My Special Place 4. Family Treasures 5. Who Lives Here? Habitat Biodiversity	1. Sensory Wakeup Circle 2. Energy Burners 3. Sound Mapping 4. My Special Place 5. Transition Activities 6. Family Treasures 7. Postcards from the Zone! 8. Who Lives Here? Habitat Biodiversity 9. Stories of Special Places 10. Your Community Map	1. Sensory Wakeup Circle 2. Energy Burners 3. Sound Mapping 4. Touchstone 5. Walk Softly: A Footprint Activity 6. My Special Place 7. Make a Mini-Park! 8. Family Treasures 9. Who Lives Here? Habitat Biodiversity 10. Postcards from the Zone! 11. Choices: A Guided Imagery 12. Stories of Special Places 13. Your Community Map
Secondary Grades 9 - 12	1. Sensory Wakeup Circle 2. Sound Mapping 3. Choices: A Guided Imagery 4. Stories of Special Places 5. Postcards from the Zone!	1. Sensory Wakeup Circle 2. Choices: A Guided Imagery 3. Family Treasures 4. Postcards from the Zone! 5. Your Community Map 6. Stories of Special Places	1. Sensory Wakeup Circle 2. Touchstone 3. Sound Mapping 4. Choices: A Guided Imagery 5. My Special Place 6. Stories of Special Places 7. Who Lives Here? Habitat Biodiversity 8. Family Treasures 9. Postcards from the Zone! 10. Your Community Map

Some Background Information on Parks and Protected Areas in British Columbia

What Are Protected Areas?

When you think of a park, what comes to mind? A patch of green in a busy city where you eat lunch? A regional trail where you walk the dog? A wilderness area where you camp and fish? In British Columbia, parks like these – whether national, provincial or regional – are some of our protected areas. There are many others, including wildlife management areas, recreation areas, wilderness areas, ecological reserves, nature sanctuaries, greenways and municipal parks, cultural heritage sites, and more. They range in size from vast expanses of wilderness to tiny pockets of nature. They also include areas that are not owned by the public, but are protected by regulations, such as rivers, streams, lakes, ponds and wetlands as well as their shorelines, environmentally sensitive areas, and other areas of noted local importance such as heritage sites and recreation corridors. Take a look at the park websites below to find protected areas where you live.

What Are They Protected From?

Quite simply, they are protected from human activities. These include large-scale resource extraction such as logging, mining, and oil and gas drilling, and development such as hydro-electric dams. These activities completely alter natural areas and leave behind a large "footprint." Road building, urban sprawl, and even some of our recreational activities also harm natural areas. They destroy wildlife habitat and threaten ecosystem functions including air filtration, climate stabilization, flood absorption, and water regulation and purification. Protected areas maintain ecosystems and biodiversity, and enhance and restore local natural areas. They also limit the degradation of special heritage features and significant landscapes that we value as a society.

Why Do We Need Protected Areas?

Protected areas are places where ecosystems are left in a natural state. Ecosystems provide us with many "services", which support the health and wellbeing of the planet and all living things. The Caracas International Congress on National Parks (1992) declared that protected areas are needed:

1. To safeguard areas that are exceptional for health, natural beauty, uniqueness, cultural significance and as sources of inspiration.
2. To maintain the diversity of ecosystems, species, genetic variety and ecological processes that guarantee the existence of life.
3. To protect species and genetic varieties that humans need, especially for food and medicines.
4. To preserve homelands for human groups with traditional cultures and knowledge of nature.
5. To protect those landscapes that reflect the history of human interaction with nature.
6. To satisfy society's scientific, educational, recreational and spiritual needs.
7. To benefit local and national economies and act as models for sustainable development elsewhere.

BC's Protected Areas: How Much is Protected?

In 1984, the World Congress on National Parks stated that four percent of the earth's land surface was protected in order to preserve species and ecosystems, and suggested that perhaps three times as much should be protected to preserve a representative sample of the world's ecosystems. This figure of 12 percent was taken up by Canada's Endangered Spaces campaign, initiated by World Wildlife Fund and supported by provincial and federal government ministries. In 1993, BC's goal was to reach the 12 percent protection level by the year 2000.

As a result of the Protected Areas Strategy, the provincial park system was expanded significantly and by 2008, 13 percent of the province had been designated as protected area. Today, 13.8 percent or 13.09 million hectares of BC's land is protected (0.6 percent is in national parks). Currently, there are 620 provincial parks, seven recreation areas, 129 conservancies, 70 Environmental and Land Use Act designations and 147 ecological reserves for a total of 973 provincially protected areas.

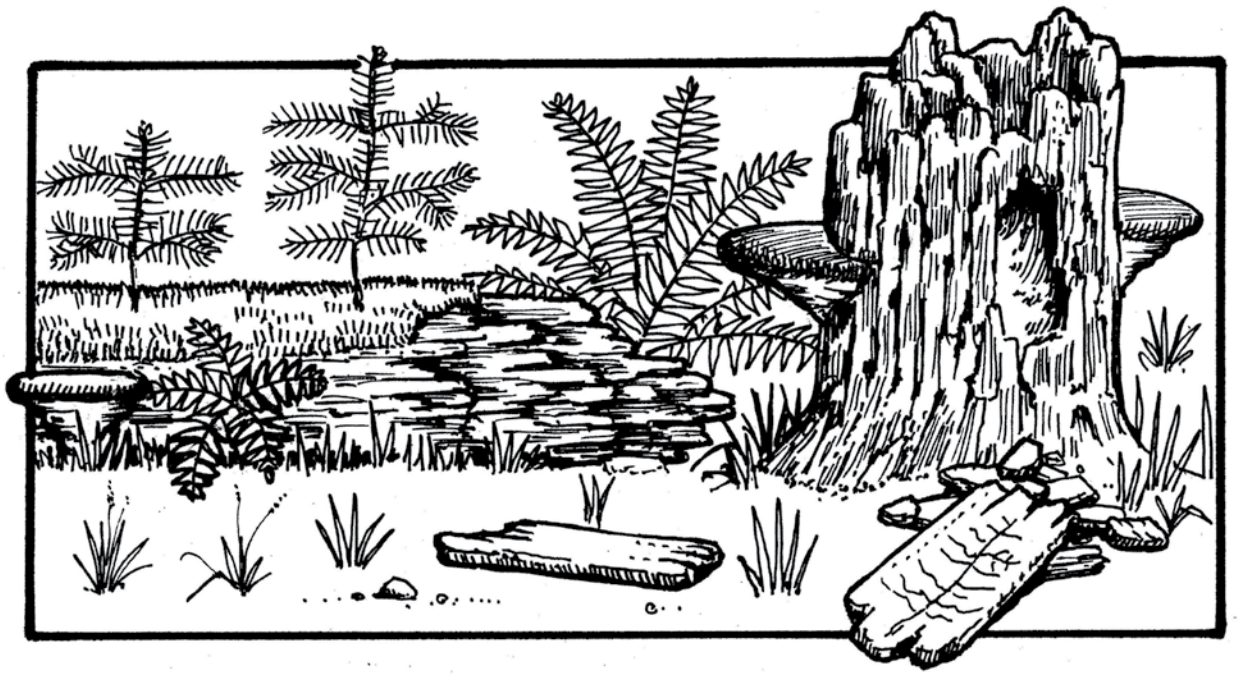
Provincial Parks

BC Parks is responsible for the designation, management and conservation of a system of protected areas, including provincial parks, located throughout the province. These contain many of the best representative elements and special features of British Columbia's natural heritage.

BC Parks is also accountable for the health and survival of the ecosystems and organisms living in our protected areas and must ensure suitable conditions to preserve ecosystem integrity. Protected areas are managed for important conservation values and are dedicated for the preservation of their natural environments for the inspiration, use and enjoyment of the public.

The protected areas system serves many purposes. Some parks protect critical wild habitat, such as Tweedsmuir and Tatshenshini-Alsek Wilderness Parks, while others preserve spectacular spaces for outdoor recreation, including Bowron Lakes and the Juan de Fuca Trail. Many protected areas contain heritage features such as important aboriginal sites, as well as other historical and cultural sites valued by British Columbians. These include Myra-Bellevue (Kettle Valley Railway trestles and tunnels) and Nisga'a Provincial Parks. Four BC Parks – Mount Robson, Mount Assiniboine, Hamber and Tatshenshini-Alsek – are World Heritage Sites.

BC Parks manages 340 campgrounds (with 11,000 campsites), 118 boat launches, 263 day use areas and 7,000 km of hiking trails. In 2006, more than 19 million people visited BC Parks. For more information, maps and teacher resources, see the BC Parks website: **www.bcparks.ca**



National Parks

Parks Canada Parcs Canada

Canada

Parks Canada is the federal agency responsible for national parks, national historic sites and marine conservation areas. Canada's system of national parks began in 1885 with the creation of Banff National Park, and has since expanded to represent many of our unique landscapes. Parks Canada has divided the country into 39 distinct natural regions, based on appearance and vegetation, and is working towards establishing at least one national park per region. Canada's national parks are protected by law for public understanding, appreciation and enjoyment, while being maintained in an unimpaired state for future generations.

National Historic Sites

Parks Canada also protects and commemorates important events in Canada's history through a system of national historic sites. These include aboriginal sites, fur trade forts, railway stations, and other places that reflect historic events and people. Some of Canada's protected areas have outstanding significance, and are recognized internationally as World Heritage Sites by the UNESCO World Heritage Convention, including Kootenay National Park and SGang Gwaay in Gwaii Haanas National Park Reserve.

National Marine Conservation Areas

National Marine Conservation Areas (NMCAs) are managed for sustainable use and provide small marine zones with high protection. In 1994, the National Marine Conservation Areas Policy was adopted, which divides Canada's vast marine environments of the Pacific, Arctic and Atlantic Oceans, as well as the Great Lakes, into 29 marine regions. The government's long-term goal is to have a marine conservation area in each of these 29 regions. Five marine regions have been identified along the coast of BC, an area that supports the richest diversity of marine life in the entire country. These areas are: Hecate Strait, Queen Charlotte Islands Shelf, Queen Charlotte Sound, Vancouver Island Shelf, and the Strait of Georgia. NMCAs include the seabed, the water above it and any species that occur there. They may also include wetlands, estuaries, islands and other coastal lands. NMCAs are protected from activities such as ocean dumping, undersea mining, oil and gas exploration, and development. Traditional fishing activities are permitted, but conserving the ecosystem is the main goal. Parks Canada is responsible for both protecting these ecosystems and managing them for visitors to understand, appreciate, and enjoy in a sustainable manner. Check them out at **www.pc.gc.ca/progs/amnc-nmca/index_E.asp**

For more information, maps and teacher resources, check out their website: **www.pc.gc.ca/education**

Metro Vancouver Regional Parks

Metro Vancouver provides many unique places and programs for students and teachers to "get outdoors" and learn about local sustainability topics. Regional Parks and the Lower Seymour Conservation Reserve (LSCR) protect a legacy of diverse landscapes, features and corridors which help to support sustainability, biodiversity, quality of life and education.

More than 30 sites, ranging in size from six hectares of lakefront at Grant Narrows Regional Park, to over 3,700 hectares of forested wilderness at Lynn Headwaters Regional Park, along with 5,600 hectares of spectacular and diverse landscapes at the LSCR provide excellent opportunities for environmental education, health and wellness, and outdoor recreational activities. For more information about school programs, fieldtrips, teacher resources and workshops, visit **www.metrovancouver.org** (search "education").

Stewardship and You

Protecting areas on public land alone cannot maintain the diversity of species that live in British Columbia. Private land also needs protection, because it is an integral part of the total environment. All living things depend on a healthy environment. On private lands, we can use methods such as conservation covenants, development guidelines, bylaws and other tools to protect sensitive areas such as fish and wildlife habitat or heritage trees. Local action projects at the school and community level can also raise environmental awareness, leading to protection. As well, non-profit groups, land trusts and land conservancies work to protect and conserve land and promote public awareness and conservation activities. The public can also participate in discussions concerning protected areas through events hosted by government agencies, First Nations and other groups. Check out WildBC's website: **www.hctfeducation.ca** for a link to "Leap into Action! Simple Steps to Environmental Action", a guide to action projects, and see the Resources Section for a list of stewardship organizations.

Get Outdoors! To A Park Near You

Provincial, national and regional park websites have lots of good information on park facilities, events and features. See the Appendices to find suggested field trip locations for each region of the province. Check out the Park Trip Planner template which has been developed for each park. The Planner includes up-to-date information on Park Facilities such as spaces available for large group activities, rest and lunch spots, brief descriptions of main trails, special features, visitor requirements, and site specific emergency contact numbers. Along with the Teacher Tip Sheets (p. 38) this will help you plan a successful and fun outing to a park near you! And don't forget to explore other special outdoor places such as community gardens and farms, greenways, vacant lots and fields, and even your own school yard.

"Wonderful how completely everything in wild nature fits into us, as if truly part and parent of us. The sun shines not on us but in us. The rivers flow not past, but through us, thrilling, tingling, vibrating every fiber and cell of the substance of our bodies, making them glide and sing."

- John Muir

"Forget not that the Earth delights to feel your bare feet and the winds long to play with your hair".

– Kahlil Gibran

Section I: Simple Steps to Successful Outdoor Classrooms

Preparing Yourself and Your Students for the Joys and Challenges of Learning Outdoors

This first section reviews some current research on the benefits of outdoor explorations to the development of children's physical, mental and spiritual health. Barriers to taking students outside are addressed, and the concept of the 100 Metre Field Trip is supported: you don't have to go far away to have engaging and instructive experiences out-of-doors. The Teacher Tip Sheets and Checklists were developed with the help of dozens of educators, and address planning successful outdoor excursions that keep students (and the environment!) safe, while encouraging curiosity, connection and creativity.

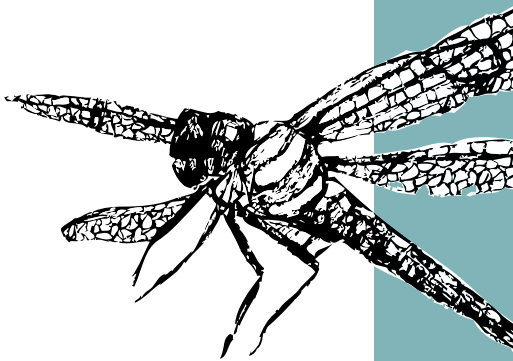
In this Section:

A) Why Should I take my Class Outside?

B) Beating the Barriers to Going Outside: Challenges and Solutions from Teacher Experts

C) Teacher Tip Sheets

1. Outdoor Group Management Tips
2. Sample Letter to Parents: Why Take Students Outdoors?
3. A Note on Conservation: Model a Reverence for Nature
4. Simple Outdoor Classroom Essentials: A List of Materials
5. Field Trip Checklist
6. Outdoor Field Trip Planner Sheet



Why Should I Take My Class Outside?

Current Research on Some Benefits of Outdoor Learning

Go Outside and Play! Most of us grew up hearing this familiar adult refrain, and remember our response to it, whether it was playing in the backyard, joining a game of pickup ball in a vacant lot, or exploring fields and woods beyond urban boundaries. Through spending time outdoors, children develop an innate sense of place – of their place in the world, connected to the myriad of life forms and systems all around them. Researchers have found that unstructured play in nature encourages creativity, imagination and a sense of wonder. It helps develop healthy bodies and minds, including important observational, sensory and experimental skills, and it builds connections to community (Kellert, 2005; White, 2004).

Yet, in the past few decades, the time children spend outdoors, and the ways they understand and experience their neighbourhoods and the natural world have changed dramatically. Much of the recreational time of today's youth is spent on indoor pursuits – TV, computer chat rooms and video games – and their physical contact with nature day-to-day is minimal. Society also discourage kids from having outdoor experiences by suggesting that playing in nature is "dirty", "dangerous", "unproductive" or "off-limits". Furthermore, the seductive lure of technology keeps many young people inside and plugged into artificial, mediated experiences.

Childhood Development: Mental, Physical and Spiritual Health Benefits

For healthy development and a connection to the world, children need to play in nature. That has been documented by several decades of research linking our mental, physical and spiritual health with our associations and experiences with nature.

Many educators note with alarm the increasing rates of childhood obesity and diabetes throughout North America, a trend that is linked to a lack of physical activity and active play. Other research points to the role of outdoor learning in enhancing school test scores and overall achievement, as well as increasing self-esteem, self-discipline and civic responsibility in youth (American Institutes for Research, 2005; Lieberman and Hoody, 2000, 1998).

"Play in nature, particularly during the critical period of middle childhood, appears to be an especially important time for developing the capacities for creativity, problem-solving, and emotional and intellectual development"

(Kellert, 2005).

Direct experiences in nature –walking the dog, sitting outdoors, playing games, picking berries – help reduce stress and protect psychological well-being, especially in children undergoing difficult life events (Delate et al., 2004; Kahn, 1999; Cobb, 1977). Recent research also shows a positive correlation between the length of children's attention spans and their direct experiences in nature: time spent in natural settings significantly reduces symptoms of attention-deficit (hyperactivity) disorder in children as young as five.

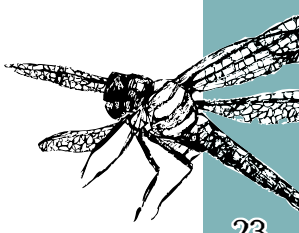
Connecting to Community

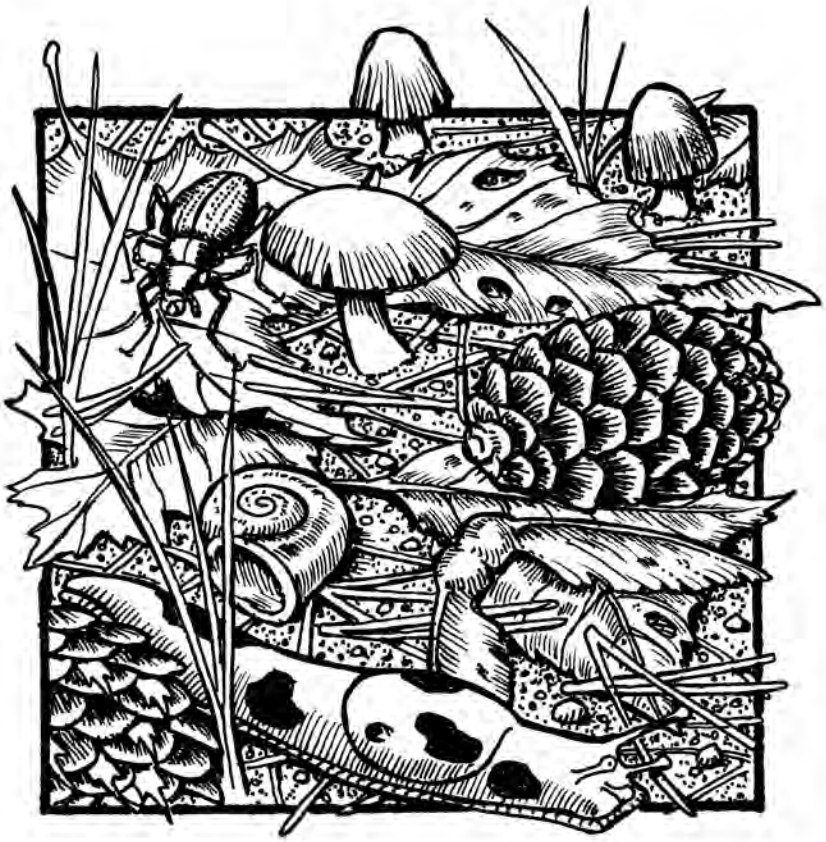
"Climb the mountains and get their good tidings. Nature's peace will flow into you as sunshine flows into trees. The winds will blow their own freshness into you, and the storms their energy, while cares will drop off like autumn leaves." – John Muir

David Sobel, in his book Place-Based Education: Connecting Classrooms and Communities (2004), describes the many benefits of connecting a person with the nature and culture of their "homeground" or place. By exploring, restoring and "re-storying" connections to nature and neighbourhoods, students become reintegrated into their communities and revitalized, "they become part of the community rather than a passive observer of it" (p. iii). Place-based education has been shown to inspire stewardship and renew civic life, as students reconnect with their communities and develop skills to care for the environment (Hart, 1997; Sobel, 2004). This re-connection and empowerment are especially important for adolescent students, who need opportunities to work on real, tangible problems in their own communities, and have more sophisticated skill sets to tackle action projects (Sobel, 1996).

A Key to Conservation

The ability of children to experience the outdoors may be essential for conservation. Studies show that an affinity to nature and the development of an environmental ethic stems from childhood experiences in the outdoors. Louise Chawla's studies of conservationists (1998, 2006) show that they all had some transcendent experience in nature when they were children, whether it was days spent hiking in national parks or hours spent exploring roadside ditches. If experiences in nature are radically reduced for future generations, where will stewards of the earth come from? As Richard Louv states in "Last Child in the Woods" (2006), " the human child in nature may be the most important indicator species of future sustainability".





Educational Benefits of the Outdoor Classroom

Stepping outdoors opens up a huge array of teaching and learning opportunities, and generates excitement and enthusiasm in students of all ages. Learning outdoors is fun! Hands-on learning engages the body and brain in kinesthetic, discovery-based activities, by awakening our senses to smells, textures, sounds and colours. Direct experiences help learners make meaning for themselves, and develop a connection to the natural world, its inhabitants, elements and forces. Direct opportunities to observe plants and animals helps develop an understanding of relationships and processes in nature. For many, field trips and outdoor learning experiences are the most memorable part of a school year. However, the barriers to taking students outside the classroom walls are considerable.

We asked experienced educators for their ideas and strategies, and share some of them below.

Beating the Barriers to Going Outside:

Challenges and Solutions from Teacher Experts

Overflowing schedules, more and more prescribed learning outcomes to meet, bigger class sizes and reduced funding for field trips are some of the challenges teachers face when taking students outdoors. However, many teachers have found ways around the challenges in order to provide memorable and valuable learning experiences for students.

The 100 Metre Field Trip! - Stay Close to Home /School

Many worthwhile activities can be done right outside the school. Start small - head outside and do one or two sensory awareness activities in the schoolyard. This will get both you and your students used to being outdoors and learning how to learn together outside. Do an activity from Section 2 every week outdoors. Then include outdoor silent reading, writing in journals, observing, and art activities. Teachers find that as students get used to doing activities outdoors they thrive on it, and actively solicit opportunities to do more, reducing behavioural challenges. Also, by exploring the school grounds and nearby areas, students are reconnected with their immediate community.

Beating the Dreaded Recess Syndrome

"The first time I took my kids on a field trip they ran around like wild things, trampled flowers, and two guys fell in the pond.... never again". – Grade 6 teacher, Vancouver.

Loss of control is an issue for most teachers when pondering outdoor activities. Students are not accustomed to being outside for any reason other than to play at recess – hence the term "recess syndrome" for the boundless energy and enthusiasm they often display. This energy can overwhelm teachers and be counterproductive for learning, discouraging teachers from repeating the experience. Most of us associate formal learning with the indoors, sitting at a desk and using books, pencils and paper. It is no surprise then, that many teachers are unfamiliar with outdoor learning, since they have had few experiences themselves for guidance.

Follow the tips for group management (p. 27): let students know what is expected of them, and establish and practise desired behaviours inside first. Before you begin, burn off some of that excess energy with active games (see p. 44), and use well-defined activities to maintain focus – the benefits will follow!

"Expertise" Not Necessary

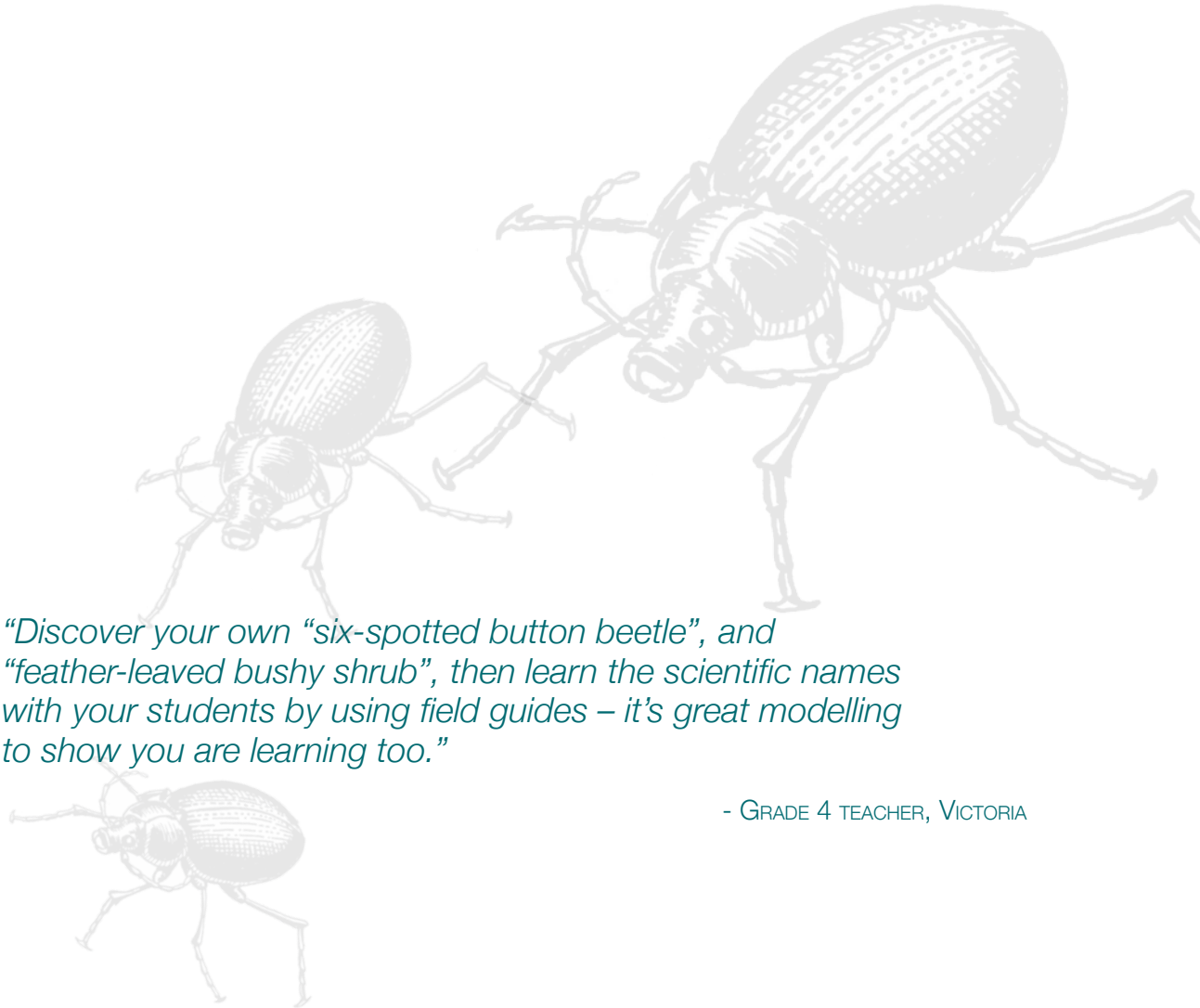
Many teachers feel insecure about their knowledge of the plants and animals around them – natural history wasn't something they studied. However, you don't need to be an expert!

"But I don't know anything about biology or nature!"

- Grade 5 teacher, Kelowna

Don't let a lack of knowledge intimidate you – it is the exploration and discovery that is important in outdoor learning. Have students build their observation skills by noting the diversity, similarities and differences in the plants and animals they encounter. Many educators encourage students to make up their *own* names for organisms they discover, based on their characteristics: after all, that's what the early scientists did!

See the following Teacher Tip Sheets, Planning Checklists, Materials List and the Sensory Awareness activities in Section I for more ideas to begin your outdoor journey.



"Discover your own "six-spotted button beetle", and "feather-leaved bushy shrub", then learn the scientific names with your students by using field guides – it's great modelling to show you are learning too."

- Grade 4 teacher, Victoria

Teacher Tip Sheet 1 | Outdoor Group Management Tips

Beating "Recess Syndrome" and Creating Effective Outdoor Classrooms

1

Before You Go: Planning, Preparation and Practice

Since most of us have not had opportunities to experience outdoor education, it's important to teach and practice specific skills and behaviours needed for outdoor learning with students. Practice these indoors so everyone knows what to expect. Ask students to suggest ground rules and agree on them as a group. Use a whistle, duck call or other auditory signal to gather the group, and let them know it's time to look and listen when they hear it. While doing tasks indoors, practice behaviours such as responding to the whistle, ensuring everyone can see you, and forming a circle to discuss activities. Note that some children may be uncomfortable or even fearful going outside: outlining a plan will help reassure them. The day before, explain where you'll be going and what you'll be doing. Discuss what to wear: good footwear (no sandals or heels!) and a wind/waterproof jacket are important.

2

Visit the site beforehand and plan your program well.

For field trips offsite, it is important to visit the location before taking your group there, even if it's just to the local park down the street. Use the Field Trip Planning Sheet in this section to help you remember details. Find the easiest access points to a pond or field, note any unique features such as big trees to serve as boundaries and gathering places, and look for open areas for games. Write clear directions to the site for all adult drivers, note bus routes if applicable, and see if there is a map available to copy. Check the websites in the Appendices for detailed logistical information on visiting specific regional, provincial and national parks.

3

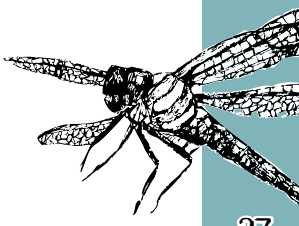
Set the stage

Once outside, set clear physical boundaries that students understand and will respect, e.g., "Don't go past the big maple tree and the edge of the field", or "If I can't see you, you've gone too far". Try out the whistle or other auditory signal and agree on a place to meet when the signal is given. Make sure all students can be seen and stress that they must be able to see you at all times.

4

Heading Out: Small Steps Close By

Start in the school grounds. Local explorations or "100 metre field trips" are particularly useful, as there is more opportunity to return, build on experiences and develop a sense of place. Also, students can visit them on their own time. Always begin by gathering the group in a circle and reviewing the planned activities. Keep students' backs to the sun so they can see you. Then start with a short activity such as the Sensory Warm-up Circle or Rainbow Chips,



either of which takes just ten minutes. Later, increase your time outdoors to twenty minutes, then thirty minutes, and so on. This helps both you and the students feel comfortable and in control of each stage. A big bonus is that students tend to monitor their behaviour outdoors; they enjoy learning outside and want more opportunities.

5

Use well - defined activities rather than loose explorations

Gather the group together before each activity, explain and demonstrate the task, and set boundaries for exploration ("Stay between the fence and that row of trees"). Simple tools such as paint chips, magnifying glasses or toilet paper tubes used as "scopes" help focus students' attention. Let them go while you mingle, admire and support their discoveries. End the activity back in a circle with a sharing and quick debrief. For longer outdoor durations, begin with an active game such as Habitat Freeze Tag (p. 47) or Decomposition Tag (p. 44), to allow students to burn off some energy and enable them to better focus on the more reflective activities.

6

Bad Weather Backup Plans

Have some backup plans in case of poor weather, such as a shelter or big tree to retreat to, or a tarp strung between trees. You can still get out and do activities in the rain or cold as long as everyone's appropriately dressed. Remember that paper goes to mush in the rain – bring big ziplock bags or waterproof stuff sacks to keep books and paperwork dry. Bring along some emergency raingear – inexpensive and reuseable rain ponchos or big biodegradable garbage bags with holes cut out for head and arms, some plastic grocery bags to stuff into leaky boots or shoes, and a few hats. If the weather is terrible, postpone the trip: there's no sense in having a miserable experience.

7

Safety Rules

Review some basic safety rules with the group before you head out on bigger adventures:

- Choose a buddy and keep that person in sight all day.
- If you get separated from the group, stay put! Hug a Tree – stay in one place and the group will find you more quickly.
- Ensure students are dressed properly, have adequate water and food, and know who has First Aid kits (the teacher and/or at least one parent/helper).

Teacher Tip Sheet 2 | A Sample Letter to Parents on Taking Students Outdoors

Dear Parents and Guardians,

Re Get Outdoors! Exploring the Outdoor Classroom

I am writing to tell you about an outdoor approach we are taking in teaching aspects of Social Studies, Science and Language Arts this term. Beginning next week, we are going to be working outdoors as a class for a short period every day or so. We will be using the school grounds, courtyard and the park across the street. Students will participate in sensory awareness activities and work on developing their observation, problem-solving and experimental skills. For example, students will be mapping sounds they hear, creating "mini-parks", exploring biodiversity, writing stories and poems about special places, and making a class mural of our experiences to display in the school.

Why Go Outside?

Playing and exploring outdoors are experiences that most adults today grew up with. Yet in the past few decades, the amount of time children spend outdoors and the ways they experience their neighbourhoods, have changed dramatically. Much of the recreational time of today's youth is spent on indoor pursuits, even among children who live in rural areas. Some educational research links children's mental, physical and spiritual health with time spent outdoors, experiencing nature. Directly observing plants and animals helps children develop an understanding of relationships and processes in nature, and also builds connections to community. Besides – learning outdoors is fun! Students are excited and enthusiastic to try new activities and discover new things. This type of "hands-on" learning often reaches students who don't thrive in a typical classroom setting.

Please ensure that your child wears enclosed footwear to school and brings along a hat and coat on cooler days. If you have any questions or suggestions about our outdoor learning program, please contact me at (phone) or (email). Also, if you would like more information about the educational benefits of the outdoor classroom, I'd be happy to pass on some recommended reading.

Thank you!

Warm Regards,

_____Teacher

Teacher Tip Sheet 3 | A Note on Conservation

Model a Reverence for Nature

The living things that inhabit this planet are uniquely adapted to particular habitats. As we explore the natural world, we should show reverence and respect for other living things. Effective environmental learning requires direct experience with the natural world, but we must take care not to jeopardize the very life forms and environments we are studying. The following guidelines form the basis of a Conservation Ethic that should be an essential part of all outdoor programs. We have found that instead of "preaching" these guidelines, it's much more effective to have your class or group generate their own list through a brainstorming activity.

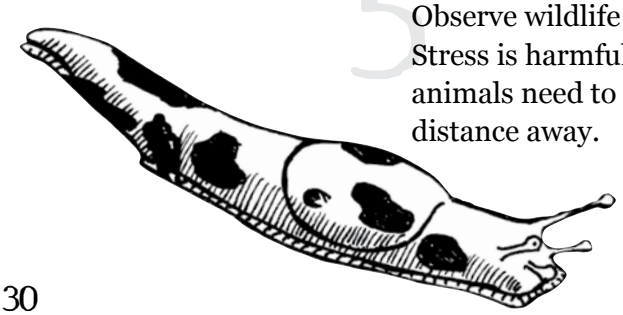
1 **Stay on the Trail**
This minimizes your impact on plant life and allows animals to adapt to human use of an area.

2 **Patting Prevents Picking**
Explore natural objects such as leaves, shells, tree branches and feathers, but do not pick any live plant material or remove things from their location: this is their home.

3 **Turn the Rocks or Logs Back Over**
When exploring under a rock or log, do so gently. Try not to crush plants and animals that may be living on, beside or under it, and put the rock or log back the way it was before you investigated.

4 **Fill in Any Holes**
Whether digging on a beach for burrowing animals or exploring the soil layers of a forest floor, fill in any holes you create. Plants, insects and animals living in the area will be disturbed by piles of dirt covering their burrows and trails.

5 **Wildlife Viewing Etiquette**
Observe wildlife as quietly as possible. Never chase animals, touch or feed them. Stress is harmful, so respect their space and habitat. Remember that birds and animals need to rest during the day. Use binoculars and keep a respectable distance away.



6

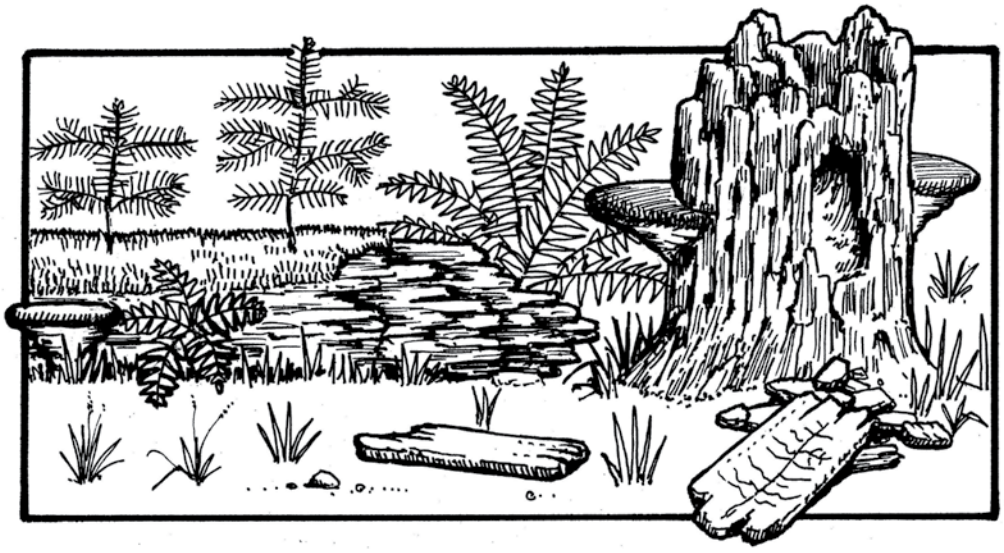
Leave all Specimens, Alive or Dead, in Their Natural Habitat

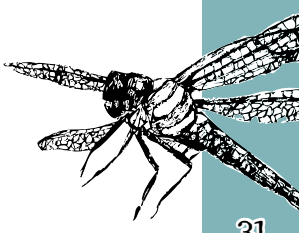
Do all of your discovering on-site – observe living things in their home place. Do not move plants or animals from one location to another, and do not take any organisms away. Dead leaves, fungi, shells of animals, stones, and seeds all have a role to play in the ecosystem. Don't choose activities that require collecting, pressing and drying of specimens: teaching potential is limited, and students can demonstrate the same skills of observation, identification and categorization with live specimens in their natural habitat.

7

Leave No Trace

In every way, try to leave the environment and its inhabitants unchanged by your visit. Pack out all garbage, even though you may not have brought it in. Bring along some garbage bags, and protect hands with small plastic bags or gloves.



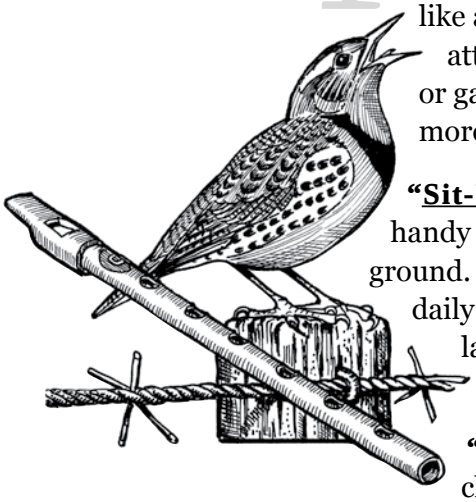


Teacher Tip Sheet 4 | Outdoor Classroom Essentials

A List of Materials

Taking students outside does not have to be a complicated endeavour with sophisticated and expensive "science equipment" or field trip gear. In fact, sometimes equipment can hamper a holistic outdoor experience, and the possibility of damaging or losing expensive tools can increase anxiety for teachers. Many experienced teachers, outdoor educators and park interpreters have contributed to the following list of tools that are inexpensive, effective and easy to make.

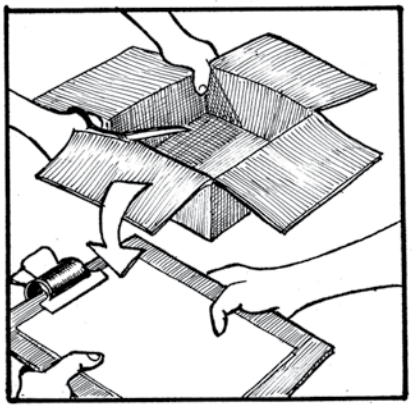
1 The Basics: Staying Together, Dry and Comfy



Attention-Getters: Use a whistle, bird or duck call, a musical instrument like a penny whistle or rattle, or other audible signals to get a group's attention when outdoors. Let them know it's time to look and listen, or gather together when they hear it. It's much easier on your voice and more fun than yelling!

"Sit-Upons" or "Wedgie Pads": Have your class make a set of these handy outdoor seats, to keep dry and comfy when sitting on damp or muddy ground. Use a piece of cardboard or collapsed cereal box, add a section of the daily newspaper or cushion foam (for added comfort!) and cover it with a large grocery bag. Tape the bag tightly shut with duct tape or other waterproof tape.

"Butterfly-Clip-Boards": Make inexpensive and practical clipboards by cutting out rectangles of discarded cardboard, (cereal boxes work well) or using the covers of old three-ring binders with the cut edge duct-taped. Attach several pieces of paper to the board using a large bull-clip or butterfly clip fastener, or two big paper clips, and add a piece of transparency paper on top to keep things dry.



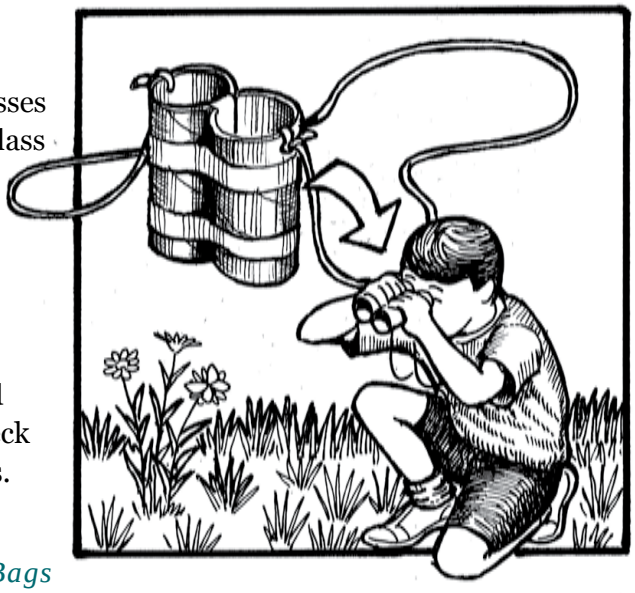
"Sit-upons and bull-clip boards can also be used as fans or sun shades for students on hot days, to make sure everyone stays cool and able to concentrate."
– Rachel Walmsley

Outdoor Writing: On wet days, paper can "melt" or turn into mush very quickly. Provide participants with large zip lock bags or waterproof stuff sacks to store paper, clipboards and journals. Encourage the use of pencils, as ink will run in the rain.

"Instant" Raincoats: Great for those unexpected showers and/or unprepared participants! Buy a package of large garbage bags (the big orange or clear biodegradable leaf bags are a nice size, easier to decorate, and easier on the environment) and have students cut out holes for their head and arms. If you like, add decorations with duct or coloured tape and permanent markers. Bring along some grocery bags to stuff into leaky boots or shoes as well.

Name Tags: Have students make name-tags that reflect the theme of the field trip by using cut-out shapes ("tree", "shell", "animals") or drawing pictures; make them for parent helpers too.

2 Focusing and Collecting Tools

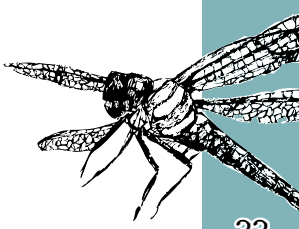


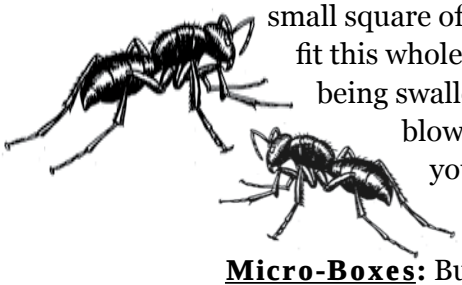
Magnifying Loops: Small, hand-held magnifying glasses are extremely useful. Save your pennies to purchase a class set. Look for the ones that fold in on themselves for protection, versus the ones that have handles and come in a ziplock bag: the bags get lost and the lenses get scratched quickly.

Toilet Roll Scopes: Collect empty toilet paper and paper towel rolls and use them as "spotting scopes" and "binoculars" (tape two toilet rolls together and add a neck string) to help younger children focus on specific things.

Texture Bags: Bring some cloth or paper bags for collecting textured natural items. *"I use Touchy-Feely Bags with all ages as a focusing tool. Use paper bags, lunch bags or cloth, and collect items from the area you're going to...these can be around a theme like trees (leaves, cones, etc.) or a variety of things. Make five different bags with one item in each to pass around a circle. No one is to look in the bag, just slip their hand inside to feel the item, then hand it to the next person. Once all five bags have gone around the circle, you're ready to go out and find the items!"*
- Roseanne Van Ee, Vernon, BC

Texture Rings: A texture ring is a donut-shaped piece of cardboard wrapped with different things to demonstrate texture: *"I use things like sandpaper, soft yarn, fuzzy fabric, plastic, etc., that kids can match to natural textures. They are great focusing tools! – Susie MacDonald, Prince George*





Insect collectors or "Pooters": Get some large "milkshake" straws (wide diameter) and smaller pop straws and cut them in half. Slip a small square of nylon stocking over the end of the smaller straw and fit this whole thing into the larger straw (the nylon mesh prevents bugs being swallowed!!) Practice sucking up small bits of paper and gently blowing or "pooting" them into a clear collecting jar - then try your pooting skills on insects. Remember to always release everything where you found it!

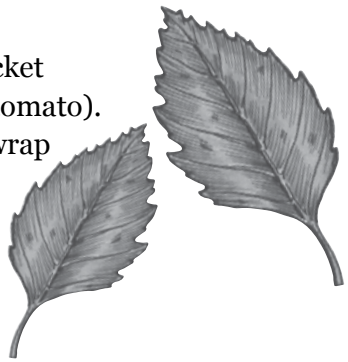
Micro-Boxes: Buy small plastic collection boxes that also magnify – they come in different sizes and make focusing easy.

Small clear containers: For temporary collections, use pill bottles, film canisters and small deli containers. *"Empty film canisters make good collection boxes for dead insects, water samples or other little items that students want to look at under the microscope when we get back to class." - Erika Van Oyen, Kelowna*

3 Water Exploration Tools

Turkey basters and large "milkshake" straws as gentle water insect collectors. *"Turkey basters are great for gently sucking up water sample critters. I use white ice cube trays or styrofoam egg cartons filled with water to separate critters for viewing." – Kim Fulton, Armstrong*

Dip nets: Make your own using a broom handle or pole, a wire coat hanger, and some old nylon stockings with attached feet. Bend the coat hanger into an oval frame and flatten out the "hook" part. Fold the nylon over the rim, attaching it with small safety pins. Tape the flattened "hook" to the pole with duct tape and voila! *"Home-made dip nets are a lot of fun to make and use. Coat hangers, panty hose or cheese-cloth and an old hockey stick work well. Kids make them ahead of time and it creates excitement." – Kim Fulton, Armstrong*



Pond scopes: Cut the bottom out of an ice cream bucket with a utility knife or use a large empty can (coffee or tomato). Cover the bottom and up the sides with heavy plastic wrap and secure with an elastic band and duct tape and you have an excellent tool to take a look into the pond.

4 General Essentials to Have in Your Outdoor "Bag of Tricks"

Pencil sharpener **-** pencils always break!

Chalk **-** for marking pavement

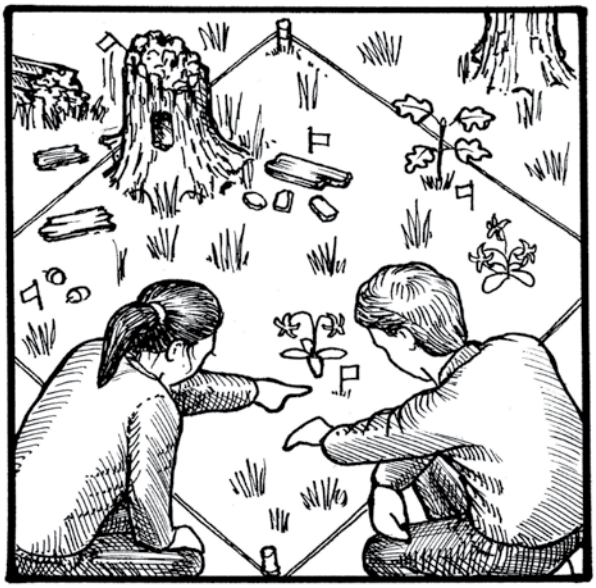
Wax crayons **-** for making bark / leaf / rock rubbings

Lengths of rope and string - for defining the boundaries of quadrants, circles and transects for study; delineating mini nature trails; providing a walking guide for a group of young children or blind-folded participants ("Everyone hold onto the rope"); building food chains and webs

Flagging tape - to highlight boundaries, special finds or trails, and to use as "tail tags" for games

Sunscreen, water and snacks - have students bring their own and carry extra

Weather instruments - thermometer, rain gauge, wind gauge



5

Field Guides

Contact your local Naturalist Club **bcnature.ca/index.html** for book donations: *"Individual members may donate their older versions when they buy the newest editions!" - Mary Ellen Grant, Kamloops*

6

Outdoor Teaching Kits

The Environmental Educators Provincial Specialist Association (EEPSA) has a great website that includes a section on making outdoor teaching kits for students.
www.bctf.ca/eepsa/outdoorkits/outdoorkits.htm
- Steve Lott and Patrick Robertson, Vancouver

Frances Vyse of Kamloops suggests having students bring from home to build class sets:

Scarves and bandannas - for use as blindfolds, "tail tags" in games

Small items - for hiding along a path for a "non-nature" scavenger hunt

Small clear plastic containers with lids - to hold temporary collections

Plastic insects and animals - to create a collection of examples

Pictures from magazines - for class/individual projects

Teacher Tip Sheet 5 | Field Trip Checklist

Things to Do and Bring Before, During and After A Trip

1 Pre-trip

- Send student waivers to parents and have them returned.
- Hand out a list of things students need to bring: e.g., journal, raingear, hat, sun screen, bug repellent, water, snacks, lunch, "sit-upons", solid footwear (NO dress shoes, heels, open toes or sandals) and what not to bring: e.g., cell phones or electronic devices.
- Organize transportation: _____ parent drivers (organize car-pooling and maps)

  _____ bus and money needed from students

  _____ walking (outline route)
- Organize parent and volunteer helpers: send each an outline of your expectations and any extra jobs.
- Document emergency procedures and phone numbers.
- Determine who will carry first aid kits and any student medication:

  _____
- Determine 'sick kid' plan and who will handle it, if necessary:

  _____

2 Planning

- Make name tags for all students, volunteer helpers and other teachers.
- Organize a buddy system.
- Make student group configurations for small group work.
- Check that volunteer helpers know their roles and responsibilities.
- Do a site visit to avoid any surprises and get familiar with the site.

- Do some pre-trip activities that introduce and prepare students for the field trip (sensory awareness).
- Get a map that includes site layout plus parking, washrooms, picnic sites, etc.
- Share the day's agenda and site layout with your class.
- Organize scheduling at the site: bus return time_____,
  snack breaks_____,
  lunch time_____.
- Contingency plans for inclement weather: _____

  _____
- Priorize activities and determine what will be omitted if short on time.
- Prepare payments if needed (program/ parking).

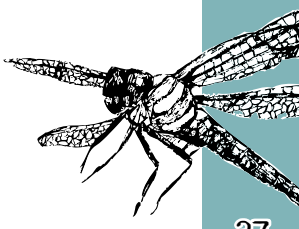
3 Day of Field Trip

- Share itinerary and map with drivers and leaders: include contact numbers in case anyone gets lost or delayed.
- Check students off class list as they arrive and depart site.
- Review the "*what if*" procedures if anyone gets separated.

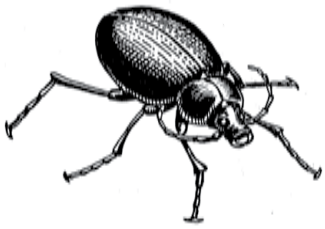
4 After the Field Trip

- Follow-up and celebration: Summarize learning experiences with a class mural, displays, photos, posters, stories, poems, maps, etc.

Reflection: Did you achieve your outcomes as planned? If not, is that necessarily a bad thing? What were the positive elements and challenges of the trip. What things would you do differently next time?



Teacher Tip Sheet 6 | Outdoor Field Trip Planner



Bring this along with you when you check out a field trip site, use it to review site specifics with someone who's been there before, and make a final copy for all parents/helpers coming with you.

Destination: _____

Date of Field Trip: _____

Description of Area: _____

Driving Directions: _____

_____

_____

Map: (attach a MapQuest or photocopy that shows the route)

Meeting Spot: _____
(location/specifics)

_____

_____

_____

Benefits of Using This Area: _____

_____

Space For Large Group Activity: _____

Special Features: _____

Description of Trails: _____

Washroom/ Water: _____

Rest and Lunch Spots: _____

Special Considerations
(Site and group)

Contingency Plans

Site Specific Emergency Contact Numbers

Is the site within cell phone range?

Cell phone contact number(s)

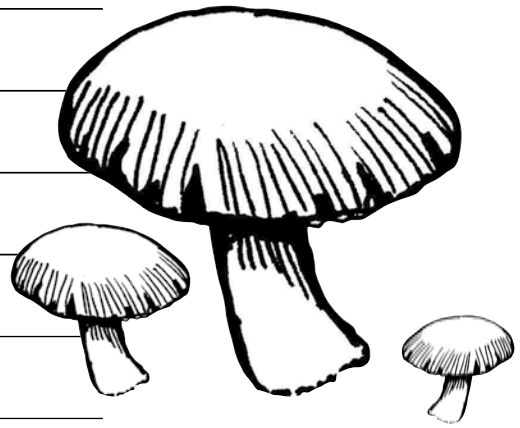
Nearest land phone location

Nearest medical facility

Nearest hospital

School phone number

Teacher Notes



"Every child should have mud pies, grasshoppers, water bugs, tadpoles, frogs, mud turtles, elderberries, wild strawberries, acorns, chestnuts, trees to climb. Brooks to wade, water lilies, woodchucks, bats, bees, butterflies, various animals to pet, hayfields, pinecones, rocks to roll, sand, snakes, huckleberries and hornets; and any child who has been deprived of these has been deprived of the best part of...education."

Luther Burbank

Section II: Get Out There! Easy Activities for Taking Groups Outside

Getting Started: Activities to Introduce Sensory Awareness

This section of the guide contains hands-on, sensory awareness activities that have been used successfully by environmental educators with groups of all ages. These "classic best practices" help increase our ability to observe and be present in nature, emphasize getting to know local species and their habitats, and inspire local action and stewardship. The activities also provide the foundation for the main themes of the BC Environmental Learning and Experience framework (Ministry of Education:**www.bced.gov.bc.ca/environment_ed/**) – those of Complexity, Aesthetics, Responsibility, and Ethics (C.A.R.E.). They are great "warm-up" activities for any field trip, and great "wakeup" activities for quick daily breaks from classroom routines. Adaptations for older students are provided, as well as Critical Questions and Debriefing suggestions for discussion.

In this Section- Activities:

1. **Sensory Wakeup Circle**
2. **Rainbow Chips**
3. **Energy Burners**
4. **Touchstone**
5. **Sound Mapping**
6. **Forest Cologne**
7. **Adjectives Scavenger Hunt**
8. **Transition Activities: Moving a group from A to B**
9. **Walk Softly – A Footprint Activity**
10. **Instant Cameras**
11. **Make a Mini-Park!**

Hands on Activities

1 - Sensory Wakeup Circle

Time required:
5 – 10 minutes

Materials:
none

Audience:
All ages

This is a nice introductory and awakening activity to do each time you take a group outdoors. Gather the group in a circle and tell participants that you'll be waking up their senses to better explore and observe the environment. Ask them to list our main senses and remind them of ones they may not think of, such as our sense of temperature, hunger, and air currents. Wake the senses up individually:

Touch: Have everyone rub their hands together vigorously until they feel heat energy being generated between their palms when they pull them apart slightly. Do this until everyone has "woken up" their fingers.

Hearing: Have everyone put on "deer ears" – cup hands around their ears so the area for capturing sound is enlarged. To demonstrate how effective larger ears are, have everyone take their "deer ears" off as you keep speaking, and then put them on again, noting how much louder your voice or other sounds become. Try having the group put the "ears" on backwards to hear sounds behind them. Now have everyone close their eyes (to block out the dominant sense of sight) and count the number of different sounds they hear in a 20 – 30 second time frame. Younger students might want to hold up their fingers for each sound. Ask people how many sounds they heard, and to describe some of them.

Taste: If it is raining, have everyone taste a raindrop, or some seawater if you are on the beach, but otherwise save the tasting for lunchtime!

Smell: Have everyone close their eyes and focus on their sense of smell by taking a breath through their mouths and then two big breaths through their nose. Have different people in the circle describe what they smell. Now have the group turn to face out of the circle and repeat the smelling exercise; ask for any different scents.

Sight: Send the group out from the circle to do the Rainbow Chips activity (see Activity #2).

Adaptation for Older Students:

Small Group Sessions - Middle and secondary school students may feel uncomfortable doing the sensory awareness activities in a large group, but thoroughly enjoy them in smaller gatherings. Put older students in groups of two or three, and give each group a piece of string about three metres long. Have them move to an area away from other groups and lay down the string so it forms a circle. Ask each group to do one or two of the sensory activities – e.g. Sound Mapping, Rainbow Chips, and/or recording the smells, colours and textures found inside their circle.

Digital Photo Sensory Shoots - Have students work in groups of two or three, ensuring that each group has a digital camera or cell phone camera to use. Give each group a sensory theme (colour, texture, smells, sounds, contrasts, etc.) and have them take photos in an outdoor area based on their theme, to show to the class later as a PowerPoint display or hard copy collage.

Critical Questions: Which sense could you give up? Which sense could you not live without?

#2 - Rainbow Chips

Time required:
15 minutes

Materials:
Bag of 30 - 40 paint colour chips from a paint store

Audience:
All ages

Rainbow Chips: This is a fun and easy activity that gets participants looking closely at things around them, and hones their observation skills. Collect a selection of paint chips from your local paint store, ensuring that you get a good range of colours and shades. Cut up the chips if they are in strips, and place them in a bag. Hand each participant a "rainbow chip", telling them that every colour of the rainbow exists in nature all around us, and send them off to match their chip colour as closely as possible with something natural (human-made items like garbage or clothing don't count!). Ask them not to pick their matched item if it is alive, but to show it to someone close by. Offer some hints: turn leaves and stems over to see colours beneath, look closely at rocks and pebbles, lichen, tree bark and sap. Once they have found a match, give them another colour chip to match, or a whole strip of paint chips of similar shades to match.

Critical Questions: What surprised you the most about this activity? What colours were hardest to find?

Extension: Paint Chip Poetry - Based on the name and colour of their paint chip, have students write a haiku, cinquain or other type of poem.

#3 - Energy Burners

Time required: 15 minutes

Materials: black arm band, 'Decomposer' hat.

Audience: Grades K – 7

Get Active: Help students use up some energy and combat "recess syndrome" by playing active games or doing a few aerobic exercises before focusing their attention and senses. It's also a great way to integrate physical activity and learning. Decomposition Tag burns off some energy while assessing what students know about the cycle of life, death, and decomposition. Also check out Habitat Freeze Tag (p. 47).

Decomposition Tag: Play this game after discussing decomposition and studying some decomposers (e.g., slugs, snails, bacteria, fungi, earthworms, insects). Set some boundaries and choose one child to be 'Death' (wears the black armband), and one to be the 'Decomposer' (wears the decomposer hat). Everyone else is a living thing. Death must chase and tag the living things; when a living thing "dies", they must freeze with their arms outstretched until the Decomposer runs underneath their arms, returning them to the cycle as another living thing. (For large groups, two Deaths may work better).

Play one round. For the second round, pull out the Decomposer after a few minutes of play and explain that she or he has been harmed somehow. For example, the Decomposer is a slug who has eaten some slug bait in a garden, OR he is a fungus that has fallen victim to increased soil acidity due to acid rain. Wait until Death has tagged everyone and is calling the Decomposer to come and release them, then have the Decomposer explain what happened, and why he can't operate. To finish, allow the Decomposer to return to the game and free the dead things. Hypothesize about what would happen without decomposition.

Critical Question: Ask students to identify sources of acid rain (e.g., cars, heavy industry) and ways to reduce acid rain and pollution (adapted from Metro Vancouver Parks).

#4 - Touchstones

Time required: 10 minutes

Materials: small stones, enough for one per participant

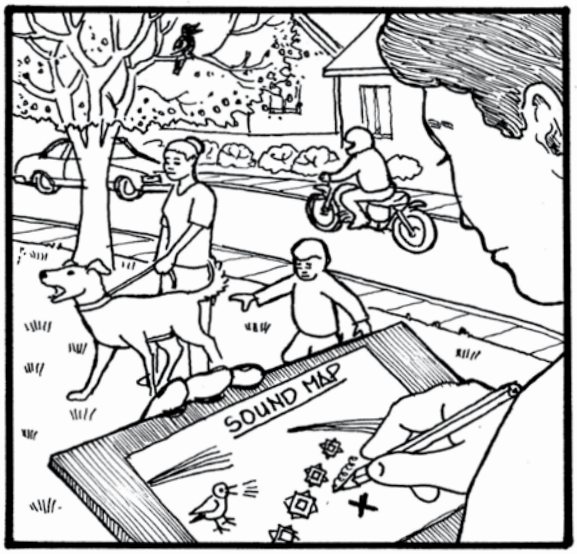
Audience: All ages

Touchstones: This is an easy and engaging sensory awareness activity that gets participants focused on their sense of touch. Have the groups form a circle, facing inwards, and ask everyone to step forward until their shoulders are touching. Have everyone hold their hands behind their backs, and tell them to be ready to hold a small rock that you will be passing out. Give out one stone per person, stressing that no one should look at their rock - they must get to know it purely through their sense of touch, by noting its texture, size and unique features. After several minutes, collect all the stones and place them in the centre of the circle. Have participants try and find their stone first just by looking for it. Then let them pick up the stones to search using their sense of touch.

Critical Questions: Could you find your stone just by looking? Did you have to touch it to be sure? Did your stone look different than you thought it would?

#5 - Sound Mapping

Sound Mapping: Gather your group in a circle and have them listen and count the number of different sounds they hear around them. Now that their sense of hearing is tuned up, give each student an index card, or have them use a page in their journals. Tell students they'll be drawing a sound map of this area, as well as a key to the sounds they hear. Have them make an "X" in the middle of the page to represent themselves. Each time they hear a sound, they should note it with a symbol on the map where it was heard relative to the "X". Students can choose any symbols they want to represent sounds: e.g., pictures, musical notes, squiggly lines. To begin, have students move apart and sit on the ground or on a "sit-upon" several metres away from one another. After a few minutes of listening and recording, have students pair up, share their maps and symbols, and discuss their favourite sounds.



Critical Questions: What's the quietest place near or in your home? Your school? How far would you have to go to find no human-made noises? Absolute silence?

Time required:
15 minutes

Materials:
pencils and index cards or journals, "sit-upons" (see Materials list)

Audience:
All ages

#6 - Forest Cologne

Forest Cologne: This activity focuses and heightens participants' sense of smell as they create and share wonderful-smelling concoctions. Gather the group outside where there are a variety of plants and trees, and give each student a tiny paper cup. Tell them they will be creating their own personal perfume in the cup by using the scents of the things growing around them. Demonstrate what and how sampling should occur. Note: students can sample from live plants only if the sample is the size of their little fingernail! Dry leaves, evergreen needles, bits of mushroom, moss and earth are all good ingredients: rubbing a sample between your fingers releases more of its scent. Once students have had time to collect and mix their "cologne", form a circle and have all students pass their samples to the right, taking time to smell each one as it goes by until everyone has smelled all the mixes.

Note: students can sample from live plants only if the sample is the size of their little fingernail!

Critical Questions: What smell surprised you the most? What smells did you like the best? The least?

Time required:
10 - 15 minutes

Materials:
tiny paper cups (ketchup-sized!) or cut-up egg carton "cups": one per student

Audience:
Grades K – 12

#7 - An A –Z or Adjective Scavenger Hunt

Time required:
15 – 30 minutes

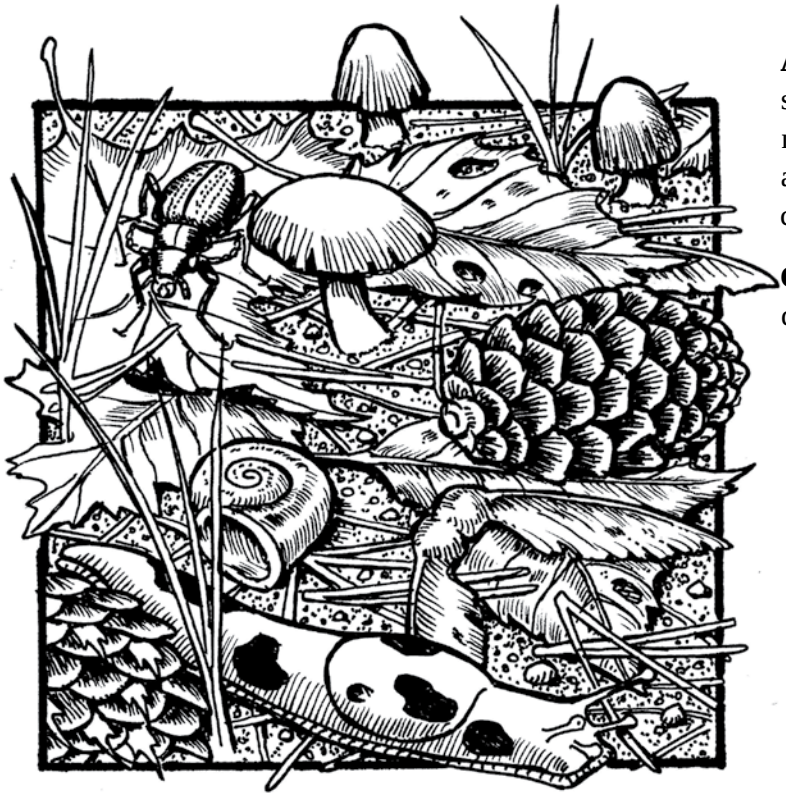
Materials:
one empty egg carton per student, pens or markers, a rock.

Audience:
Grades K – 7
(Note: this is a good "buddy class" activity)

The Alphabet Hunt: Pair up students and send them outside with an Alphabet checklist. Their challenge is to find and list (or draw) something in nature for each letter on the list. Give a few examples (**A**pple tree, **B**ark, **C**louds, **D**irt, etc.), set some criteria (nothing human-made, no picking of live plants), provide physical boundaries (e.g., stay on school grounds) and set a time frame (e.g., you have 15 minutes) before they head out.

"I love to do an A-Z scavenger hunt, a great activity for buddy classes or as a starter for the Diversity of Life/Ecology units in grade 6/7. Afterwards we have all kinds of discussions e.g., they cut up their list and classify the items as living or non-living... our class was really hung up as to whether an egg was alive or not!"
– Sarah Beairsto, Maple Lane Elementary

The Adjectives Hunt: Before going outside, brainstorm with the class as many adjectives as you can come up with. Then hold up a rock, and ask for one word that best describes it. Give each pair of students an egg carton, and have them secretly write 12 different adjectives on the flat part of the egg carton lid, in the spot corresponding to each egg's space. Review collecting guidelines with the group: only collect dead things unless the live item is abundant, like grass. Once outside, have students look for any natural item the size of their baby fingernail that represents each of the adjectives on their lid. After ten minutes of collecting, have two pairs share their collections without showing the adjectives written on the lid. Partners attempt to guess the adjectives by looking at, or touching, the natural items.



Adaptation: Instead of collecting things, have students list, photograph or sketch things in nature that correspond to a list of adjectives. The accessibility of digital cameras (and cell phone cameras) makes taking photos more doable.

Critical Question: Why is there so much diversity in the natural world?

#8 - Transition Activities Moving a Group from A to B

One challenge that teachers and other group leaders face is how to keep a group focused while moving from place to place outdoors. It can be very distracting to have the group chatting about the latest movie as they walk to the next site. This also sidetracks the lesson and takes away from time that could be used to observe, listen and further connect with the world around them: the journey is as important as the destination! The following activities help keep groups on task while enjoying the journey.

Students make critters from different colours of play dough that are then hidden in an area: students try and find the most critters... a great intro to a lesson on camouflage! – Michelle Cauchon, Lloyd George Elementary

Some tips:

- Have students walk very slowly in silence, or do a listening activity.
- Give them Colour Cards (see below) or a scavenger hunt to complete.
- Try hiding "un-natural" objects such as saltshakers, water bottles and plastic toys along the trail beforehand, and see how many the students can locate. (Un-Nature Trail activity from Cornell, 1979).

A) Habitat Freeze Tag (K - 5): One fun and active way to help elementary students stay focused and burn off some excess energy is by using the main theme of their outdoor exploration as a basis for playing "freeze tag". For example, to move from the schoolyard to a forested area, focus on looking at the types of trees along the way. Before heading out, work together to create simple body forms that represent the different trees you might see en route.

A tree theme example:

Tree Type	Body Shape
Douglas Fir	Stand straight and tall, with arms straight up overhead.
Red Cedar	Stand with arms swooping downwards to simulate the graceful curve of cedar branches.
Big-Leaf Maple	Stand with arms outstretched and fingers spread open as wide as the big leaves.
Lodgepole Pine	Stand straight with fingers all upright simulating spiky needles and upright branches.

Then, as you are walking to the site (or running, if you really need to burn off some energy!) call out the name of a tree, and have everyone stop and quickly make the shape of that tree with their bodies.

This is a good kinesthetic activity, while reinforcing tree identification and also allows the teacher to quickly assess the level of knowledge retention.

TIME REQUIRED:
20 MINUTES

MATERIALS:
COLOURED PENCILS, INDEX CARDS OR JOURNALS.

AUDIENCE:
GRADES K – 5

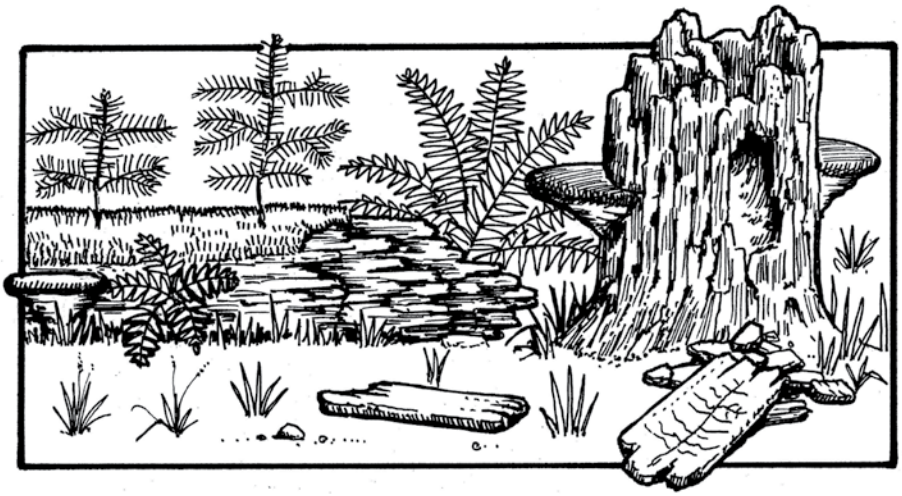
B) COLOUR WALKS: Another activity that emphasizes observation skills and tuning in to the remarkable diversity of colours in nature is going on a colour walk. Before heading outside, have students make a "Colour Card" using as many different coloured pencils as possible. Have them make a small square of colour at the top of their page with a column below it. Keep all the shades of colours together: for example – have them draw all the shades of red beside one another (see the diagram). Have students pair up and see how many colours they can find on their walk, ticking off each one in the column below the shade they found.

Adaptation: Rainbow Chips on the Move - give each student three or four paint chip colours or strips to match en route, and count how many matches they make.

C) BLINDFOLD WALK (GR. 3 - ADULT): One way to further attune students to nature is by creating a blindfold chain. Have students blindfold one another and then hang on to a long rope. Take your position at the front of the rope, and ensure that the person at the end of the rope is not blindfolded either. Lead the chain of participants slowly to your destination – even if it is just to the edge of the school grounds. Ask them to walk in silence (for a more magical experience) as you lead them slowly and carefully to the area of study. Have students note the smells, textures and sounds all around them. In an open area, ask them to sit down and remove their blindfolds.

Critical Questions: How did it feel to walk "blind"? Did you notice any difference in how and what you saw when you took the blindfold off (more colours, textures, light patterns)?

D) Observation Detectives (Gr. 2 - Adult): Have students work in pairs to find the most number of different plants, animals and/or signs of animals – have them sketch or briefly describe their findings on index cards as they travel.



#9 - Walk Softly: A Footprint Activity

Description: This activity emphasizes the fragile nature of many natural ecosystems, and the impact that humans can have just by walking through an area. It also promotes observation and categorization skills.

Time required:
30 minutes

Materials:
an outdoor area, paper and pencils for tracing, acetate sheets or soft wire, journals

Audience:
Grades 2 – 8

Instructions: In the classroom, have students trace their foot on a piece of paper. Cut out the footprint and then use it as a pattern to cut out another footprint on a piece of see-through plastic (stiff cellophane or transparency paper works well) OR use soft wire to make an outline of their footprint. Hula hoops, wire coat hangers pulled into a square, or rope circles can also be used. Upon arrival at the natural site, have students "walk" their plastic or wire footprint on an area with a diversity of plants. Have students note what their footprint would have "squashed" by counting all plants and any insects they find under their footprint, and listing them in their journals (or on the initial paper footprint that they cut out). Have them count the numbers of similar plants and record them. Older students may want to identify the plants with field guides (see Resources section). Students can also draw one or more of the plants, and display the lists and drawings back in class. Discuss with students the impacts of having a group walk through a natural site.

Critical Questions: How could you minimize the damage from walking? What other impacts do humans have when visiting natural areas?

#10 - Instant Cameras

Time required:
20 minutes

Materials:
an outdoor area, index cards, coloured pencils.

Audience:
All ages

Description: This is a powerful and enjoyable activity that helps focus observations, calm restless participants and promote creativity. One person takes the role of the camera while another plays the photographer, who guides the camera to take "pictures" of beautiful and interesting things.

Instructions: To begin, pair up students and explain the rules. One person is to be a photographer while the second is the "camera", who will have their eyes closed between the "pictures" the photographer takes. An important first step is to demonstrate how to guide the "camera" safely: have a student close their eyes while being the "camera", and stand beside them, holding one arm gently to guide them while giving directions; i.e., "Walk to the right, now lift your leg carefully to climb over a log, bend down," etc. Have students practice guiding their partners before beginning the activity. Tell the photographers to experiment with unusual angles and perspectives such as close-ups of moss, looking up a tree trunk, or panning a horizon.

Have pairs begin with the photographer guiding the camera through a natural area. When the photographer sees something he or she likes, they point the camera's lens (eyes) at it, framing the object they want to shoot and pressing the "shutter" (squeezing the camera's earlobe) for three to five seconds to expose the "photo", then releasing the "shutter" to close it (the "camera" shuts their eyes). It is important that the "camera" person keeps their eyes closed between "pictures", in order for the pictures to really make an impression. Have the photographer take three or four photos, then trade roles. After everyone has taken turns, discuss the "pictures" that people remembered, and have everyone "develop" one by drawing it on an index card or in their journals (adapted from Cornell, 1989).

Critical Questions: What picture stood out for you the most, and why? How did closing your eyes between pictures help "develop" them?

#11 - Make a Mini-Park!

Description: Students will brainstorm reasons for creating parks, and work in pairs to create a "mini-park" that someone the size of their thumb would come to visit.

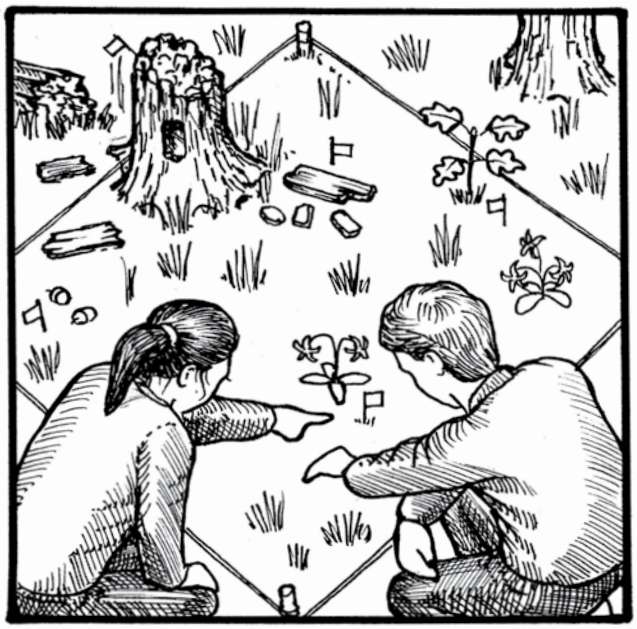
Why Parks? Before going outside, have students brainstorm the different reasons that parks have been created, and list them on the board. Some of these include:

- Protecting biodiversity - the variety of plants and animals found in an area
- Protecting ecosystems and ecological processes that support the existence of life
- Protecting unique or special features: for instance, Banff National Park was initially created to protect the hot springs found there
- Protecting representative areas of a region's natural heritage, such as valleys, grasslands, lakes, deserts, beaches
- Protecting special recreational areas for kayaking, hiking, swimming, dog-walking
- Ensuring there is urban green space for people to walk, breathe fresh air and play games

Instructions: Outside, tell students to create a "mini-park" for someone the size of their thumb to visit. Each pair of students receives a piece of string or surveyor's tape which will act as their park boundary, as well as five toothpicks to place at specific spots in their mini-park as "interpretive sign posts" to highlight special features. Students should be prepared to describe why they chose particular areas to protect.

Once student pairs have completed their park, they should show another pair through it, pointing out the highlights and reasons for protecting certain areas, then reverse roles. Have students write a short descriptive paragraph about their park in the style of a travel brochure, commenting on the wonders and special features. Remember to dismantle all the "parks" when you leave!

Critical Questions: Why do we create and protect parks? What would society be like if we didn't need parks?



Time required:
45 minutes

Materials:
A natural area, a three metre length of surveyor's ribbon or string and five toothpicks for each pair of students

Audience:
Grades 2 – 6

"Place-based education… celebrates, empowers and nurtures the cultural, artistic, historical and spiritual resources of each local community… It re-integrates the individual into her homeground and restores the essential links between a person and her place."

Laurie Lane-Zucker, Orion Society

"Without our differences, we can never know the meaning of understanding."

Simon Lucas, Nuu Chah Nulth elder

Section III: Valuing Special Places and Family Treasures

Protecting Natural and Cultural Treasures

Our heritage is everything that has been protected and passed down to us, from special silverware to a family story, museum treasures to cultural traditions, our grandmother's carefully tended garden to wilderness parks. There is a rich diversity of values and relationships in the things that families and communities treasure and protect. Connections to history, culture, spirituality and traditions are demonstrated when we cherish objects, places, clothing, foods, activities, stories and songs.

This section allows students to explore places that are meaningful to their communities, and it encourages them to examine the values associated with protecting and caring for them. The following activities explore these concepts: listening to a guided imagery story about protecting things of importance, interviewing family members to explore cultural heritage, and writing and reading about personal experiences with special places. Worksheets help students develop and practice interviewing skills, while writing assignments encourage them to explore their experiences with place.

In this Section- Activities:

Activity 12

Choices – A Guided Imagery

Materials:
Journals and pens, chart paper and markers

Time required:
One period

Audience:
Grades 4 – 10

This guided imagery activity is an intriguing way to explore personal values around protection. Students imagine a crisis situation in which they must quickly choose items to protect, and afterward reflect on how their values affected their choices. They then debrief through a brainstorming activity to develop some context for the story and explore the impacts of decisions. Finally, they extend their analysis to include protection of a broad range of things.

Procedure:

In this activity, students will discover that protection involves making difficult choices. People protect things both material (such as a ring or book) and non-material (such as a view or clean air) based on their values. Sometimes, it is not possible to protect everything of value, and one must decide what to protect and what not to. Students will reflect on how their values affect their choices.

1. Prior to reading the following script, have students get their journals and pens ready. Darken the classroom as best you can. Have students be aware of how they are sitting, and give them time to get comfortable with their eyes closed and their heads on their desks. Tell them you are about to read a story of a crisis situation. Read in a calm, relaxed voice, pausing often.

Try to imagine the things I am about to describe. I won't put in all the details, so you must try to see and feel as clearly as you can the things I mention. Listen for a moment to the sounds you hear around you.

Imagine that you are walking into your home, or to a place you enjoy going, where you feel comfortable, relaxed and safe. Look around, see the colours of the walls and floor. Sit down for a moment. Notice what surrounds you. Does something make you smile? What is in the room? What sounds do you hear? Are there friends or family in the room? Look at them carefully. Your pet, if you have one, is looking at you.

Find a spot to sit where you feel comfortable. Look around at the scene. Look for details. Notice the furniture, pictures, books, the things on the walls. Where are these things from? Do any of them stir up memories? What memories come back?

Keep looking closely at the room and at all the things around you. Enjoy being there, feeling relaxed. Notice the ceiling, the light in the room. Look at the view out the window. Suddenly you hear a loud knock at the door. Someone calls out, "A major fire is raging less than a kilometre away. Evacuate now!"

All the people in the house - and your pets - get out safely. You have thirty seconds to grab just three things. Open your eyes now, and write down what they are.

2. Allow students no more than a minute to record their three choices Then ask them to get comfortable and close their eyes again for the rest of the story.

Assure students that everyone has been safely evacuated from the fire.

You are safe now, in a car with your family. You are driving down the highway, away from the fire. The road is jammed with traffic. An officer is directing all cars to the side of the road. You hear the instructions, "All private vehicles must be abandoned. Everyone board the rescue bus."

You have time to grab just one of your things. Open your eyes now and circle your choice.

3. Have students share their choices with a partner and discuss these questions. Students can record answers in their journals.

- What are some of the reasons for your choices?
- In what ways was it difficult to choose?
- What do your choices tell you about yourself?
- How do you feel about what you left behind?
- With more time to think about it, would you have chosen differently?

4. <u>Group Brainstorming</u>: As a closing activity, have students reflect on the connections between what we protect personally and as a culture. Divide students into groups and give each group a recorder, OR have students answer the following questions in their journals after discussing them.

- What is protection?
- What do you protect personally? What do we protect as a culture?
- How do we protect things individually or collectively?
- Why do we protect things?
- What are some costs of protection? What do we give up to protect things?

Have groups share their ideas with the class and look for similarities and differences in the lists.

Assessment:

Journal entries and/or small group work should contain:

- Descriptions of personal definitions of protection and a rationale for choices made
- Reflections on why individual choices were made and how they indicate personal and cultural values and priorities
- Description of the costs of protection: What do we give up to protect things and places?

Activity 13

Family Treasures and Cultural Connections

Materials:
Paper and pens, class copies of Do an Interview! Student Worksheet

Time required:
One period to complete worksheet, out-of-class time to do interviews

One period for activity-sharing and summary

Audience:
Grades 5 -10

In this activity, students develop interview questions to ask family or community members about cultural, traditional, and historical values around treasured items, stories, places, foods, and/or ceremonies. Through interview research and class presentations, students will explore an array of treasures that highlight heritage, culture and different values around protection.

Procedure:

1. First Period Tell students they will be researching a family treasure. They will do this by asking members of their family about something that is important and prized. Brainstorm what a family treasure might be: a work of art, a book, photographs, a piece of furniture, an item of jewellery or special foods. Their treasure might be something they do not own, such as a family's favourite place to visit. It might be non-material: for example, memories of a celebration or a special family trip; or the words and music of a favourite story or song. Students can interview relatives or community members about their family treasure, or they could visit a local senior's centre and interview residents.

2. With the class, brainstorm a list of questions students could ask about their selected treasures. For example, they might ask how long something has been in the family, how many times the family has visited a particular place, what special preparations go into creating certain foods, or who first told their favourite story. List the questions on the board, and have students record them in their journals.

3. Have students work in pairs and give each student a Do an Interview! worksheet (p.57-58). Ask students to develop their list of questions further and try them out on their partners to make sure they are clear and understandable. Students then finalize their list of interview questions. Allow several days for students to complete their interviews.

4. Second Period Once the interviews are completed, ask students to share, in small groups or with the class, what they learned about their family treasures. Have them describe what significance the treasures have for their families, and anything else they have gleaned. Encourage students to think about protecting the treasures, and what each treasure may need protection from. For example, a photograph may need protection from moisture, heat, and fingerprints; a story, from fading memories; a place, from development.

Assessment:

Student presentations should be clear and thoughtful, with precise vocabulary and varied sentences. Significance of the treasure should be evident, and how it has been protected. Look for logical organization and relevant details that convey the personality and experiences of the person interviewed.

Family Treasures and Cultural Connections

Do an Interview!

Interviews are a great way to find out information about issues, opinions, history and traditions. To help you get the right information in an organized way, follow these steps:

Step 1: Figure Out Your Audience

Think about the people you'll want to talk to. Who would be best to ask about family treasures – grandparents, parents, other relatives? Maybe it's a friend or community member? You may want to interview more than one person to get all the information. Make a list of all the people you want to interview. Your parents or caregivers can likely help you and may be on your list as well. You'll also need to decide whether you'll interview people in person, by phone or by e-mail. If by phone and the call will be long distance, be sure to get permission.

Step 2: Figure Out Your Questions

Write down all the things you want to know. Now make them into questions that are short and sweet. A good rule is to ask about only one main idea in each question. (For example: Where did the old clock come from? How long has the rocking chair been in the family? How many times has the family visited Shuswap Lake? Who first told that story?) Another tip: ask who, what where, when, why and how and you'll likely cover all the points.

Step 3: Practice with a Partner!

Try out your list of questions on a partner to make sure they are clearly worded and easily understood. Ensure that each of you is asking the right questions to receive all the information you want. Talk about any problems you have understanding each other's questions, then re-write your questions to make them better.

Step 4: Get Interviewing!

Make a date for your interview or phone call with a family member for a specific time. When meeting in person or on the phone, make sure you have a quiet spot in which to talk. Have plenty of paper to take notes. Write down as much as you can in point form and don't worry about neatness – as long as you can read it! If you have a tape recorder, record the interview to make sure you get all the details – be sure to ask permission first.

continued on next page. . .

Student Worksheet

Step 5: Organize Your Data

When you've finished the interview, organize your notes and information as soon as possible, so you don't forget anything. If you taped the interview, listen to the tape and transcribe (write out) what was said. Add any other information you may have collected through emails or other interviews. Is there a photo you could include, or a drawing you could make?

Now organize your information into a written presentation:

- Use your questions as headings to tell the story of your family treasure.
- Give the person's name and his or her connection to you and to the treasure.
- Describe the treasure.
- State why it is valued.
- Add details about the treasure's history and its connections to the person you interviewed.
- Explain how the treasure is protected.
- Include a drawing or photo of the treasure or person you interviewed, if possible.

Quick Notes

Student Worksheet

Activity 14

My Special Place

Students choose and explore a special natural place in the schoolyard, park or other area. They describe the local environment using sensory details; they reflect on its importance; and, they discover their own connections to it.

Materials:
class set of "sit-upons" (see Materials section); student journals, pens, coloured pencils, a natural area such as a park

Time required:
One period outdoors

Audience:
Grades K – 10

Green spaces, parks and natural areas may be valued by different people for a variety of reasons. For example, a local park may be a favourite hangout for one person, a place to play soccer for another, and a bird-watching location for someone else. By visiting a local natural area, students can quietly reflect, observe and explore any connections they might feel to the place itself. Direct, personal experience and involvement with natural areas in our communities helps develop our sense of place, and helps re-integrate the links between us and our communities. Through this process, connections are made with parks, protected areas and other natural spaces.

Procedure:

1. <u>Before Departing</u> Explain the purpose of the field trip and have students write the following words in their journals, as reminders of what to look for in their special places: ***colours, shapes, smells, textures, sounds, temperatures, communities, "belly-back" views.***

Students can check out "belly-back" views of their chosen place by first lying face down on the ground and examining what they can see close-up. After a few minutes, have them turn over on their backs, look up, and explore this expansive view of their special place.

On another page, have them record these questions:

- What is special to you about this spot – what attracted you to it?
- Does this spot remind you of past moments, places you have been, or things you have read?
- What does it tell you about yourself?

continued on next page. . .

My Special Place, continued

2. <u>Outside</u> Take the class to a natural area: a park is ideal, although a non-paved portion of the schoolyard can also work. Have some high-energy activities planned beforehand to use up some of the students' excess energy. Then, calm things down by leading them in the Sensory Wakeup Circle or Rainbow Chips activity (see Section 2).

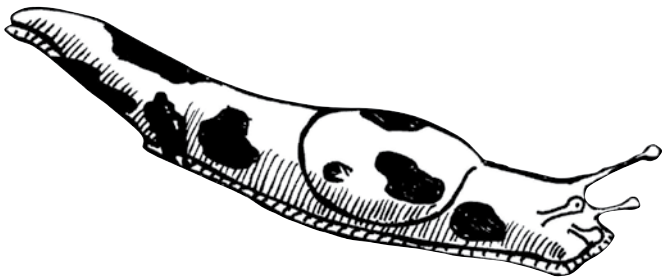
3. Tell students you will be asking them to look for a spot or an object that is particularly beautiful, meaningful or enticing to them. For example, they may feel drawn to an old tree, a brightly coloured flower, or a shady bench. Before seeking their spots, work together to establish some easy-to-see boundaries for the group. Insist that students give one another space (at least a few metres between students is preferable) and remain silent during the activity.

4. Have students bring their journals and pens, coloured pencils or paints with them as they find and move to their spots. Give students at least 10 - 15 minutes to think about and respond to the questions and reminders they have written in their journals.

5. <u>Back in Class</u> Have students write stories about their special places, using the details they captured while in their spots.

Assessment:

Develop some criteria with the students around what makes a good story. See rubric on page 62. Stories should contain descriptive references to all the senses and reveal personal connections between students and their places. Give bonus marks for reflections on other experiences and places, and on personal preferences.



Activity 15

Stories of Special Places

This is a writing and language arts activity where students explore and describe places and experiences that have meaning to them. Student worksheets and a bibliography of books about special places help support the activity. See adaptations for senior students.

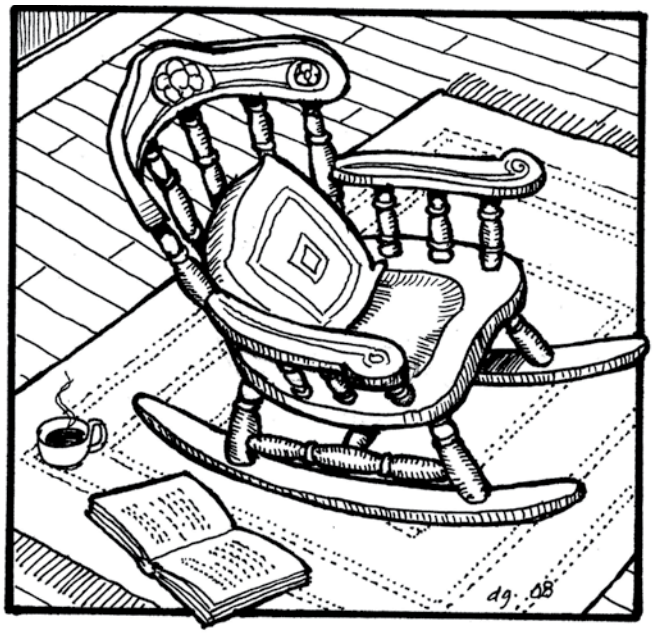
Materials:
student journals, pens, class copies of Student Worksheets

Time required:
One class period and out of class time to complete

Audience:
Grades 1 – 12

Elementary and Middle School Students: In this activity, students write a descriptive story about a place that is special to them. Primary students can explore books about connections to place. Many of us are lucky enough to remember special places we enjoyed as children and even into adulthood: childhood forts, local parks, favourite climbing trees, cozy nooks in closets and attics, a grandparents' kitchen or a comfy reading corner in a room. These places can evoke powerful memories and feelings of connection and bonding with the elements that make up that particular spot. This is a good follow-up activity to **My Special Place**, (p.59), and a nice extension to reading assignments dealing with the importance of place to a storyline or character's personality (see suggested reading list).

Secondary Students: A suggested adaptation for secondary students uses the "environmental autobiography" to facilitate their exploration of their own environmental history. An environmental autobiography is an on-going essay describing your personal environmental past. You describe significant environments, no matter how small, which you feel have in some way influenced you. Learning about the environment and our connections to it, is a lifelong process, which occurs wherever people are. The most powerful and lasting education may have little to do with formal schooling and much more to do with the environments we experience directly throughout our lives.



Environmental autobiographies also serve to show how the settings and experiences of the past affect our current sense of place and our feelings of "connectedness" with the environment. See the list of suggested books to read more about connection to place.

"The purpose of environmental autobiographies is to heighten (people's) awareness of their own environmental histories and to alert them to how settings of the past affect their current environmental preferences and values"

(Cooper Marcus, 1978, p. 35).

PROCEDURE:

1. Start a class discussion by talking about a place that is special to you. Give some examples of literary special places, such as the 100 Acre Woods from Winnie the Pooh, or the wardrobe and Narnia from The Lion, The Witch and the Wardrobe. Ask students to share as a class examples of special places from their own experiences, from stories of family or friends, or from books or movies. Have students pair up and take a minute to tell their partner about their own special place, or one they've heard about. (This helps students who might be "stuck.")

2. Pass out the ***Student Worksheets*** (p.65-67) and tell students they'll be writing a short story about a place they have a connection to. These can be places such as forts, a cottage, favourite climbing trees, cozy nooks in attics, or a special room. The story can be a description of the place, an event that happened there, or even a make-believe mystery or a thriller!

ASSESSMENT:

Develop some assessment criteria together with the class and/or provide students with the following rubric.

LITERARY WRITING: STORIES AND POEMS

Criteria	Not There Yet	Adequate	Commendable	Exceptional
Meaning Ideas and information, use of detail	Story's events not well connected. No main idea or problem. A simple plot with few details. No attention paid to audience.	Predictable story, similar to the example or someone else's. Few descriptions, details or images. Awareness of audience.	Story follows a logical sequence of events, and has original ideas. Details and descriptions used to develop plot. Words chosen to influence audience.	Creative ideas used to develop story. Variety of descriptions and details show rather than tell about the characters and plot. Written with audience in mind.
Style Clarity, variety and impact of language	Repetitive, with short, simple phrases.	Some descriptive language used. Phrases are similar. Length of some phrases are varied.	Clear writing with varied vocabulary. Variety of phrase lengths and types.	Varied language used to create images for the reader. Appeals to the five senses. Good transitions between phrases.
Form Poetic form, imagery and language use	No real beginning or ending, just events. Ideas are scrambled or disconnected. Too much focus on retelling about action. Too many characters that are not well developed.	The story has a beginning, middle and end.	Story or poem follows the criteria given. Descriptive language used to create imagery.	Creative ideas expand on the basic format of the story or poem. Descriptive language and imagery used to magnify meaning.
Conventions Complete sentences, spelling, grammar (verb agreement, tenses) and punctuation	Many spelling errors. Punctuation and grammatical errors. Long run-on sentences.	Some errors in spelling, punctuation and grammar but not enough to confuse the reader about the events.	Most sentences structured correctly with few errors. Most words spelled correctly, and story is neatly presented.	Writing is clear. Varied vocabulary, very few errors. Correct spelling, punctuation and grammar, neatly presented work.

Suggested Reading List About Special Places and Connections

There are some excellent books about people's connections to place. Review the following list and select those most appropriate for your class.

Elementary Level Books

Baker, Jeannie	Home (2004)
	The Hidden Forest (2000)
	Where the Forest Meets the Sea (1987)
Brincko, Julie	Fireflies (1985)
Bruchae, Joseph	Fox Song (1999)
Bunting, Eve	Secret Place (1996)
Dr. Seuss	The Lorax (1971)
Berton, Pierre	The Secret World of Og (1961)
Cherry, Lynne	The Great Kapok Tree: A Tale of the Amazon Rainforest(1990)
Grahame, Kenneth	The Wind in the Willows (1909)
Lasky, Kathryn	Pond Year (1995)
Major, Beverly	Over Back (1993)
LeBox, Annette	Salmon Creek
Maclachlan, Patricia	All the Places to Love (1994)
	Sarah Plain and Tall (1999)
Milne, A. A.	Winnie the Pooh (1926)
Peet, Bill	The Wump World (1970)
	Farewell to Shady Glade (1966)
Romanova, Natalia	Once There was a Tree (1992)
Ryder, Joanne	Earthdance (1996)
Rylant, Cynthia	When I was Young in the Mountains (1993)
Wood, Douglas	A Quiet Place (2002)
Yolen, Jane	Owl Moon (1987)

Middle and High School Level Books

Alexander, Caroline	The Endurance: Shackleton's Legendary Antarctic Expedition (1998)
Carson, Rachel	The Edge of the Sea (1955)
Carter, Forrest	The Education of Little Tree (1976)
George, Jean Craighead	Julie of the Wolves (1973)
	My Side of the Mountain (1987) - or any of her books.
Hiaasen, Carl	Hoot (2006), Flush (2007)
Kingsolver, Barbara	Prodigal Summer (2001)
Krakauer, Jon	Into Thin Air: A Personal Account of the Mt. Everest Disaster (1997)
	Into the Wild (1996)
Lynch, Jim	The Highest Tide (2005)
Mikaelsen, Ben	Touching Spirit Bear (2005)
Mitchell, W. O.	Who Has Seen the Wind? (1947)
Mowatt, Farley	Owls in the Family (1973) – or any of his books.
Paulsen, Gary	Hatchet (1987), The River (1999)
	Brian's Winter (1998) – or any of his books.
Starkell, Don	Paddle to the Amazon:
	The Ultimate 12,000-Mile Canoe Adventure (1986)

Some suggested middle and high school level books of poetry and prose about place:

E. E. Cummings	"Maggie and Millie and Molly and May"
Frost, Robert	"Birches"
Lowther, Pat	"If I take you to my island"
Oliver, Mary	"Spring", "Mockingbirds", "Climbing the Chagrin River"
Rogers, Pattiann	"Firekeeper" "New and Selected Poems"
Snyder, Gary	"For All", "At Tower Peak"
St Vincent Millay, Edna	"God's World"
Thomas, Dylan	"Fern Hill"
Whitman, Walt	"Mannahatta", "Spontaneous Me"
Wordsworth, William	"Daffodils"

Canadian poets :
www.library.utoronto.ca/canpoetry/index_poet.htm

Academy of American Poets / Educators' page:
www.poets.org

Stories of Special Places

Write a Short Story!

Write a short story about a place you have a connection to – somewhere you know well. This can be a treehouse or fort, a cottage, a local park, a favourite climbing tree, a cozy nook in a closet or attic, your room, a grandparents' kitchen, a favourite garden or a backyard hedge.

Describe the place with as much detail as possible

- What does the place look like?
- What colours, shapes, and textures do you see there?
- What does it smell like?
- What sounds do you hear there?
- Does anything /anyone else live in this place?
- Why is it special?

Try to describe the reasons this place stands out for you – what makes it special and meaningful? What feelings do you have when you are in this place, or when you think about being there? How does this place remind you of past moments or of other places you have been?

Events: What has happened there?

Describe some of the experiences you have had in this place: they don't have to be only positive ones! Some people will have vivid memories of being terrified by a spider in their room, of falling into a pond they were exploring, or of getting locked into a garden shed!

Imagine!

If you like, develop a plot in your story: get your imagination going and make your story a mystery or a thriller! You might have found something unusual in your special spot, heard or seen something while hiding that you shouldn't have, or discovered a path to somewhere new.

Make sure you describe the special place with as much detail as possible to bring it alive for the reader. Aim for one to two pages in length – and add a drawing if you wish.

Student Worksheet

Environmental Auto|biographical Guidelines

Take a voyage into your environmental past! Start with your earliest childhood memories of being in nature – what do you remember?

Take a voyage into your environmental past!

Start with your earliest childhood memories of being in nature – what do you remember? Push yourself to delve as deeply as you can into those first experiences.

Often you'll find that as you recall and record some early memories, others will surface as well.

It is important to note both your positive and negative experiences. Also, your remembered experiences don't have to be in "wilderness" settings. They may come from backyard play, summer camp, exploring a garden, splashing in a wading pool, getting lost at the beach, getting chased by a snake-wielding sibling.....!

Perhaps some of your earliest recollections are from television shows or films. Go back as far as your memory takes you!

Write a story about your memories of outdoor experiences as though you were telling them to someone else. Include as many sensory details and descriptions as possible.

continued on next page. . .

Student Worksheet

Include at least three experiences, and answer the following questions in your story:

- Were there special places, events, pets, activities or people that were significant?
- What about landscapes – what early images of forests, fields, city parks, or backyards do you recall?
- What did you do / watch / feel / hear?
- How old were you? (approximately)
- Who were you with?
- What did that experience mean to you?
- Why was it memorable?

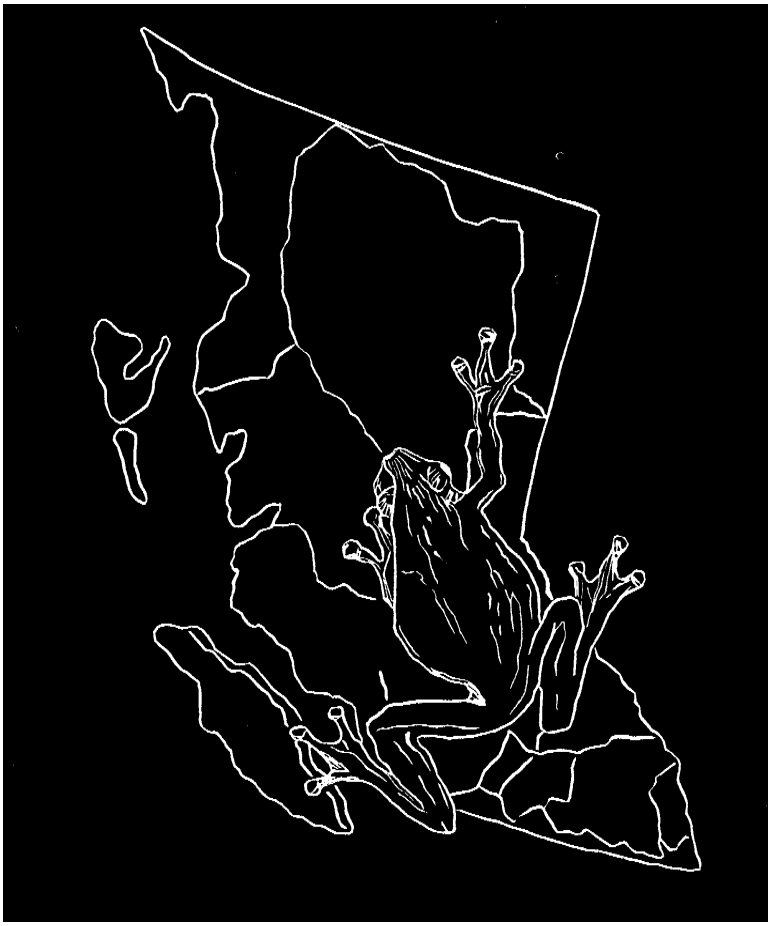
Do you think there are any connections between your past experiences and your present interests, likes and dislikes?

Add pictures, drawings, poems, or music references if you like.

Enjoy the journey into your environmental past!

Quick Notes

Student Worksheet



"We abuse land because we regard it as a commodity belonging to us. When we see land as a community to which we belong, we may begin to use it with love and respect."

Aldo Leopold

"Study Nature, not books"

Louis Aggassiz, Swiss biologist

Section IV: Exploring and Mapping Special Places

This section focuses on BC's biodiversity, biogeoclimatic zones and students' mapping skills. It targets Science and Social Studies learning outcomes for intermediate and secondary students. Postcards from the Zone has students researching and developing postcards from selected biogeoclimatic zones. An activity on biodiversity encourages students to explore a special local place to become aware of the rich variety of its species and to understand what comprises an organism's habitat. The last activity centres on mapping: Your Community Map has students exploring their immediate community, developing map keys and adding elements to a base map. An extension activity teaches compass skills. Student worksheets and backgrounders support student-directed learning.

In this Section- Activities:

Activity 16

Postcards from the Zone! BC's Biogeoclimatic Zones

Materials:
- copies of "BC's Biogeoclimatic Zones: Plants & Animals" list, cut into strips
- BC Biogeoclimatic Zone map (see Resources Section)
- A hat, small bits of paper, pencils, resource books on BC plants and animals (Resources Section)
- Class copies of Student Worksheet
- Materials for making postcards (e.g., big index cards)

Time required:
One period
Plus research time

Audience:
Grades 7 – 12

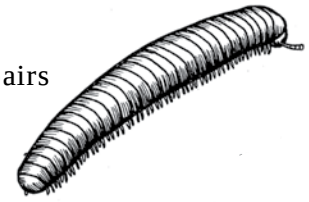
Students select a specific BC animal or plant, research its biogeoclimatic zone, and design and present postcards that illustrate the species and its zone.

Procedure:

1. Review the plants and animals list (p.74) and pick one species per student, ensuring you have good representation from all 14 zones. Make some copies, cut out the "zone" strips, and use a highlighter to mark the selected species on each one. Fold the strips and toss them into a hat for students to choose one each (this way they'll know who else lives in their "zone"!) OR have students choose their own species off their chosen "zone strip" or from the original list, using it as a signup sheet.

2. Discuss the map of British Columbia's biogeoclimatic zones as a class. Explain that all areas of the province have been divided into 14 zones, based on their characteristic climate, plant life and soil type.

3. Hand out the student worksheets (p.72-73) and resource books, and ask students to find out as many details about their animal or plant and its habitat as they can. The goal is to create a postcard from their animal, complete with picture.



4. Have students review the completed postcards in pairs and guess the zones. Has enough information been included to identify the biogeoclimatic zone? What could be included or taken out?

Critical Question: Why might the discovery of a unique plant or animal in a biogeoclimatic zone be important in making decisions about protecting natural areas in that zone? Explain your reasons.

***Extensions:* Get Out in the Zone!** Plan a field trip to a park or site that has some representative characteristics of your local biogeoclimatic zone, and have the students develop a tour guide itinerary including all the highlights.

What Zone am I? Collect the completed postcards and clip one (not their own!) to each student's back. Students mingle and figure out by asking each other yes/no questions what zone they're in (display a list or map of the zones to refer to). Have students get into their "zone" group, and present an activity based on it (such as a role-play, charades, or a class game of jeopardy using trivia questions they have brainstormed).

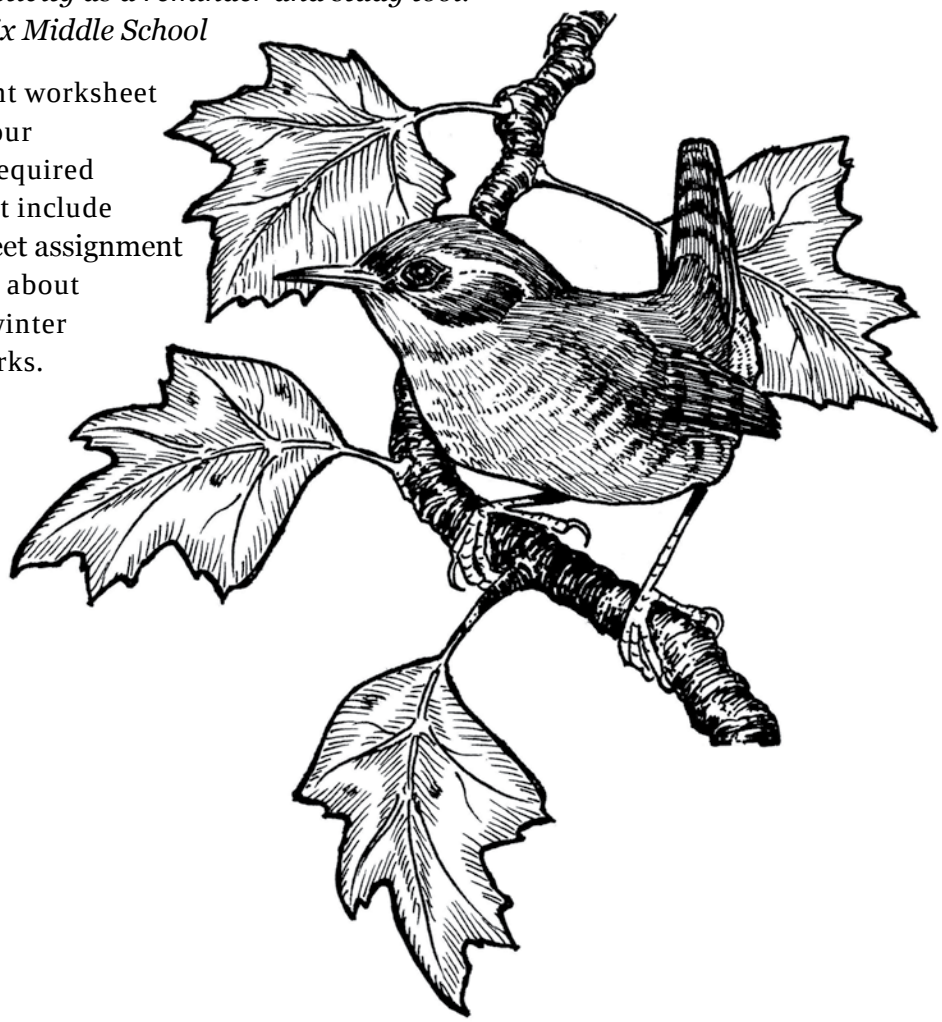
Mail from the Zone! *"Students could prepare postcards from their own zone and exchange with a class in a different zone. I did a shoebox activity (we gathered materials from our zone – natural, cultural and economic icons) where we exchanged shoeboxes with schools in other provinces, and the excitement generated by sending and receiving work made the whole project. I just went on-line to find some schools in areas that were intriguing and then e-mailed the idea to the principal with the request he/she pass it on to someone who might be interested." – Susan Underwood, Frank Hobbs Elementary School (retired)*

The plants and animals selected for this activity have been chosen to represent the 14 zones in British Columbia and provide an interesting mix of species.

Assessment Suggestions: Set the Criteria Together

An effective way to review assignment expectations with your students is to build the evaluation criteria together through a class brainstorm activity. This helps students understand exactly what is required of them and increases their buy-in. Post the agreed-upon list of criteria in class for the duration of the activity as a reminder and study tool.
- Drew Williams, Phoenix Middle School

Use the list on the student worksheet ("Things to include on your postcard") to check the required categories: postcards that include the first five elements meet assignment expectations, while clues about shelter, movement and winter behaviour earn extra marks.



Postcards from the Zone
Guess the Biogeoclimatic Zone!

For this activity, you'll be choosing a BC plant or animal and designing a postcard showing it hanging out in its biogeoclimatic zone!

Background on the Zones

British Columbia has it all! There are more species of living things here than in any other province. From our wet coastal rain forests to our dry interior grasslands, to some of the world's highest mountains, British Columbia has an amazing diversity of habitats, plants and animals. To help ensure that we protect these habitats and the species that live here, scientists classify areas according to their natural features and ecological processes. Several classification schemes are used in BC.

The *Biogeoclimatic Zone System*, developed by the late Dr. Vladimar Krajina at the University of British Columbia, is one such system. It divides the province into 14 biogeoclimatic zones. As the name implies, this classification system integrates three distinct features. "Bio" denotes the biological nature of the ecosystem, while "geo" refers to soil and geological data. Finally, "climatic" denotes climatic factors; for example, many of us have experienced that the coast of BC is wetter, the northern interior is drier and colder and the southern interior is hotter. This combination of geology, vegetation and climate data forms the basis for BC's Biogeoclimatic Zones.

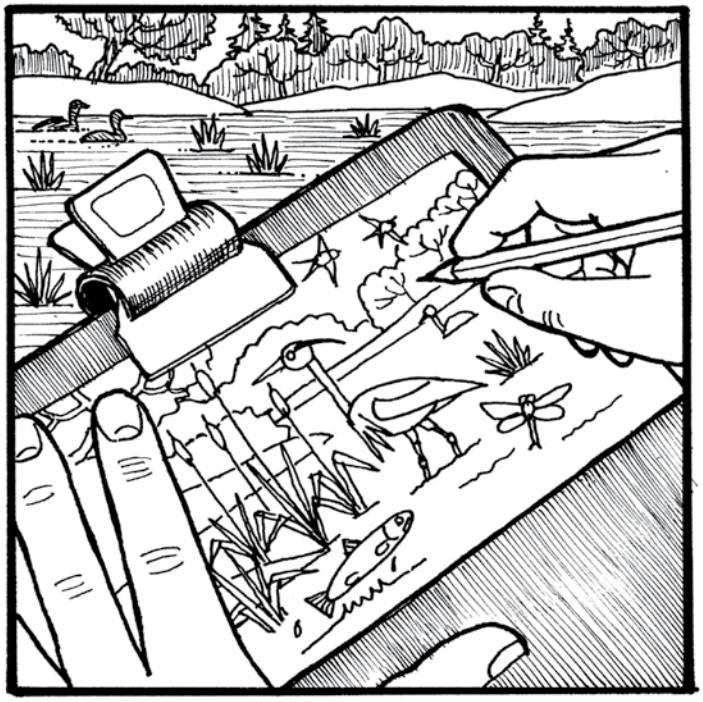
For biogeoclimatic maps, classification information, slide shows and study guides, check out these sites:

www.bcbiodiversity.homestead.com/bcecosystemclassification.html
www.for.gov.bc.ca/hre/becweb/resources/maps/map_download.html

Postcards from the Zone: Making the Cards

Select a BC plant or animal to research, and design a postcard as if that plant or animal had sent it to you. Do some research and get creative – draw, paint or make a collage of pictures of your species hanging out in its "zone". On the back, write a note as if your species was describing its biogeoclimatic zone to you – where it lives, what it does, favourite foods, neighbours, whatever! ***Don't*** write the zone's name on the card though: the object is for someone to try and guess the zone from your information!

Student Worksheet



Bio *biological nature of the ecosystem*

geo *refers to soil and geological data*

climatic *denotes climatic factors*

INFORMATION TO INCLUDE ON YOUR POSTCARD
(on the front or back):

- Scientific and common names of your plant or animal
- Size of the animal or plant and what it looks like
- What it eats, what eats it, and how it gets its food
- Names of some of its neighbours
- Where it finds shelter
- What it does in the winter
- If it is an animal, how it gets around and the size of its home range or territory
- How it finds a mate
- Some interesting or unique things about it

In total, include **at least three good clues** to the zone, such as its temperature, landscape, vegetation, and animal life, but remember - don't name the zone. Your information and drawing should allow someone to guess the zone your species lives in.

Biogeoclimatic

This combination of geology, vegetation and climate data forms the basis for BC's Biogeoclimatic Zones

Student Worksheet

BC's Biogeoclimatic Zones	Some Plants & Animals
Coastal Douglas-fir	Anna's hummingbird, Brandt's cormorant, western red-backed salamander, Townsend's big-eared bat, red honeysuckle, Indian-plum, arbutus, Garry oak
Coastal Western Hemlock	marbled murrelet, Sitka spruce, salal, Steller's jay, black-tailed deer, northern sea lion, Pacific tree frog, spotted owl, mountain beaver, winter wren, Indian pipe, western hemlock, western redcedar, twinflower
Mountain Hemlock	black bear, Vancouver Island marmot, cougar, snowshoe hare, Clark's nutcracker, white-tailed ptarmigan, blue grouse, common raven, yellow-cedar, amabilis fir
Bunchgrass	coyote, western meadowlark, western yellow-bellied racer, canyon wren, Great Basin spadefoot toad, sharp-tailed grouse, Lewis' woodpecker, sagebrush, prickly-pear cactus
Ponderosa Pine	badger, little brown myotis, black-billed magpie, Rocky Mountain elk, western rattlesnake, California bighorn sheep, pygmy nuthatch, white-headed woodpecker, yellow bell, ponderosa pine
Interior Douglas-fir	white-tailed deer, black bear, northern pygmy-owl, yellow-bellied marmot, painted turtle, Williamson's sapsucker, northern pocket gopher, balsam-root, lodgepole pine
Interior Cedar-Hemlock	mountain caribou (southern mountain population), southern red-backed vole, golden eagle, downy woodpecker, wolverine, wild ginger, grand fir
Montane Spruce	caribou (boreal population), three-toed woodpecker, fisher, porcupine, black huckleberry, bunchberry
Sub-Boreal Pine-Spruce	sandhill crane, trumpeter swan, red fox, wood frog, sundew, white spruce, kinnikinnick, red crossbill
Sub-Boreal Spruce	deer mouse, grey wolf, lodgepole pine, marten, great gray owl, subalpine fir, soopolallie, grizzly bear
Engelmann Spruce	lynx, mule deer, northern flying squirrel, red crossbill, glacier lily, Engelmann spruce, Cascade mantled ground squirrel
Boreal White & Black Spruce	mountain goat, grizzly bear, wood bison, trembling aspen, tamarack, blue jay, broad-winged hawk, gray wolf caribou (boreal population)
Spruce-Willow-Birch	Stone sheep, spruce grouse, red squirrel, least weasel, pink mountain-heather, willow, willow ptarmigan, northern hawk owl
Alpine Tundra	gyrfalcon, pika, golden eagle, white-tailed ptarmigan, hoary marmot, arctic ground squirrel, arctic willow, scrub birch, arctic lupine

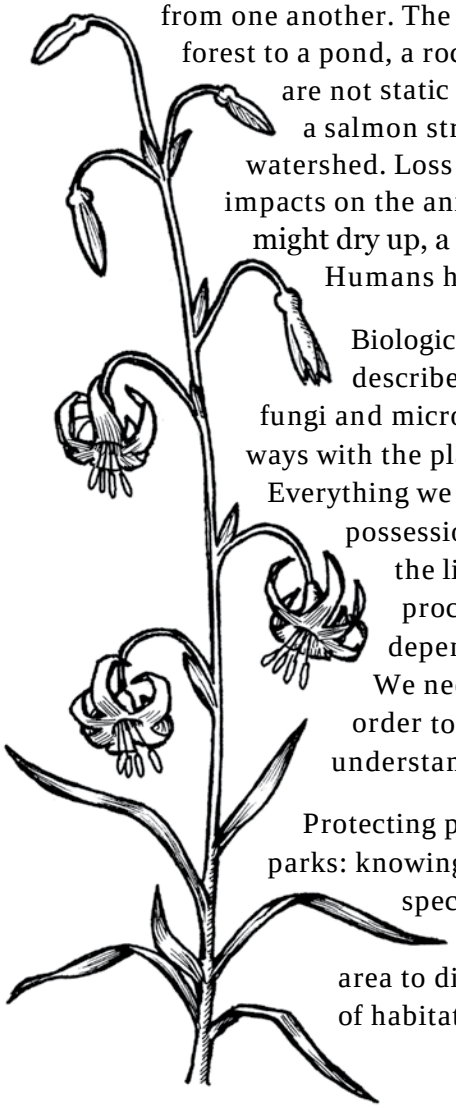
Activity 17

Who Lives Here? Habitat Biodiversity

Students participate in a hands-on exploration of a local natural area to gain an awareness of the number and variety of species present, and understand what makes up an organism's habitat.

Background - Habitat and Biodiversity:

Whether you live in a house, apartment building, trailer, condo or some other style of home, you need air to breathe, a source of water nearby, food, safe shelter, and enough space to live and grow. Other living things in our neighbourhoods share these same basic needs. A plant or animal's home is its habitat - this is where it finds sufficient food, water, shelter and enough space to live and move. If any one of these is inadequate – for instance, a place has food and shelter, but no water close by - it's not a suitable habitat for that species. Within any area there may be many habitats, all slightly different from one another. The size of a habitat varies widely, from an entire forest to a pond, a rock or a patch of grass. Habitats, like our homes, are not static places and are always changing. For example, a salmon stream is affected by what happens within its watershed. Loss of any of the elements of habitat will have serious impacts on the animals living there – for instance, a water source might dry up, a tree is cut down, or a field is sprayed with pesticide. Humans have choice in how we impact the planet's habitats.



Biological diversity - *or biodiversity* - is a term used to describe the variety of life on the planet: plants, animals, fungi and micro-organisms. Our lives connect in thousands of ways with the plants and animals we share the earth with. Everything we eat, our homes, our running water and our possessions were all once living things, or connected with the lives and habitats of other species by some natural process. Our health, cultural vitality and very survival depend on conserving the variety of life on earth. We need to care about the living things in our world in order to protect them. To care about them, we need to understand them.

Protecting plants and animals is one of the reasons for creating parks: knowing where different plants and animals live, and the special habitats they need, informs the decision-making process. In this activity, students explore a natural area to discover and document its biodiversity and range of habitats.

continued on next page. . .

Materials:

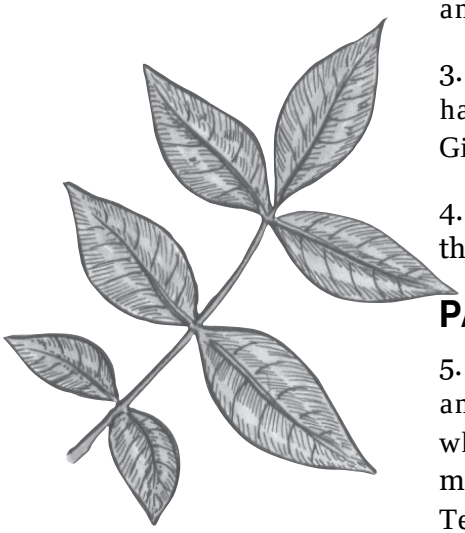
- Clipboards (see Materials tip sheet)
- Pencils
- Habitat Data Sheets for student teams
- Tools for exploring: trowels, buckets, plastic containers, hand lenses, small collecting nets, bug jars, binoculars, various field guides (see Resources section), art supplies

Time required:

One or two periods outdoors, in-class time to create posters and/or a habitat mural

Audience:

Grades 3 – 10



Procedure

Part One: Biodiversity Explorers

1. Discuss the Conservation Ethic with students (p. 30), and invite them to develop their own rules for outdoor exploration. Pair students up, and give each team a clipboard, pencil and a Habitat Data Sheet. Define and discuss the terms 'biodiversity' and 'habitat' with the class. Explain that they will be honing their observation skills by looking for examples of biodiversity and habitat.

2. Head outside to a local green space that has a few trees and plants - your school grounds or a local park (you don't need a large natural area). Do one or two sensory awareness activities such as Sensory Wakeup Circle and Rainbow Chips, to tune everyone in to their surroundings.

3. Have teams work to find examples of all the biodiversity clues on the habitat data sheet (p. 78), taking turns locating and drawing their discoveries. Give them about 10 - 15 minutes.

4. Have some field guides available to look up any insects, birds or plants that students find.

Part Two: Habitat Hunting

5. Next, have the teams choose a specific habitat: tell them to focus on one animal or plant and describe where it lives, some of its neighbours, and where gets its food and water. They should choose a name for their habitat, make a sketch of the components and record their findings on the data sheet. Tell students they'll be making a poster or mural with their information and drawings, so it's important to capture as many details about colours, shapes and sizes as they can.

Part Three: Habitat Diversity Mural

6. Once back in class, give students art supplies and paper, and have teams create a colour representation of the species and habitat they studied, with its name and specific components illustrated. Have teams present their habitats to the class, and then create a *Habitat Biodiversity Mural* in a hallway with the completed posters.

Discussion might include:

- How many different types and numbers of habitats were found?
- What are some of the significant differences?
- Why is the diversity of habitats important?
- What are some ways they can be damaged by people?
- Are any of these habitats in danger of disappearing? Why?
- How could they be protected or enhanced?
- If you had to choose one of these to protect, which one would you choose and why?

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Assessment

Data sheets are complete with sketches and adequate descriptive detail. Habitat posters include references to an organism's food source (photosynthesis for a plant!), water (e.g., rain, a puddle, a nearby creek), shelter or home (e.g., an ant hill, hole in a tree, patch of earth to grow in), and space to live and move (e.g., evidence of sufficient space for a tree to grow or enough area close by for caterpillars or pill bugs to collect food).

Critical Questions:

Most humans use resources far beyond the boundaries of our "habitats". Where does your food and water come from? Research what you had for lunch today, and refer to an atlas to explore the habitats of some of the things you and your family buy.

Protecting habitat for wildlife is one reason why parks are created. What are some other reasons?

Teacher Notes

Habitat Data Sheet

Biodiversity: or biological diversity is the term used to describe the variety of life on earth – plants, animals, fungi and micro-organisms.

Habitat: the place where an organism lives and can find accessible food, water, shelter and living space and varying in size from an ocean to a rotten log to a puddle.

Date: _____

Name(s): _____

I. Evidence of biodiversity

<u>Find all these clues, then draw one of each</u>.

Find three different sized leaves from the same plant.

Find at least three different kinds of leaves.

Find at least three different kinds of plant "skins" or surfaces.

Find a plant which has three different colours.

Find at least three different kinds of seeds.

Find at least three leaves with different textures.

Find at least five different kinds of plants.

Find at least three different kinds of plants growing under a tree.

Student Worksheet

continued on next page. . .

Find at least three different holes made by animals.

Find three different signs of an animal having eaten something.

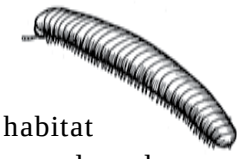
Find three different consumers (animals) or evidence of them.

Find three different kinds of decomposers (e.g., slugs, snails, bacteria, fungi, earthworms, insects).

Find at least three plants with different odours.

Find at least three different kinds of leaf stalks.

Find at least three different insects.



II. Habitat Hunting!

Now that you've explored the area's biodiversity, choose one habitat and describe it on the back of this sheet, or in your journal, in words and drawings, using the following items for a guide.

1. Habitat name (make up your own!) and description.
2. Plants you find here.
3. Birds or mammals, or their signs, that you see here.
4. Insects you see.
5. What else might live in this habitat?
6. Why would an animal or plant live here?
7. What are the signs of human influence?
8. Why would you choose to protect this habitat?
9. Make a rough sketch of the habitat you are visiting: include the food sources, water, shelter and living space for a chosen animal or plant.

Student Worksheet

Activity 18

Your Community Map!

Materials:
A variety of maps

Class copies of the school community base map and Student Worksheet

Measuring tape

Masking tape

Lots of string – enough for 10 metres per student or pair

Felt markers and other art supplies

Time required:
One period to make the base map, key, and measurement string plus a community field trip OR some out-of-class ground-truthing research time, and one period for creating final maps

Audience:
Grade 5 – 12

Students interpret and create neighbourhood maps to develop mapping skills including knowledge of scales, keys and ground truthing, to increase awareness of their natural and built communities, and to identify sites that are important to them. This is a good activity for intermediate and secondary students: Grades 6 – 10 Social Studies and Geography 12 are obvious subject areas, but maps also make wonderful arts and writing projects.

Mapping is a powerful tool for exploring the many connections between ourselves and places, and to observe and document things that make a place special. Maps tell stories: we tend to think of maps as tools to get around, but maps can also be used to show the potential of a place, to celebrate special places, and plan for the future. Maps are also useful for understanding different sets of values and perceptions that people hold about a place. Things get added to or left off maps depending on the maps' purpose and the map-makers' perspectives. Mapping also develops many skills including orienteering, navigating with a compass, estimating distance, height and diameter, and interpreting and classifying information. Mapping activities are multidisciplinary, with learning outcomes for social studies, math, art and language arts. In this activity, students explore a variety of maps and work with map keys and scales to create a map of their own community.

Note: This is an introductory mapping activity. There are many excellent mapping resources and organizations to refer to for detailed activities, including the Common Ground Community Mapping project **www.commongroundproject.ca/** and the Sierra Club of BC's Barefoot Mapping Handbook (2001). See the Resources section for more information.

I like doing mapping without getting too technical...the big idea for me is that kids are choosing a special place to map...a backyard or a schoolyard or a meadow close by. Somewhere that matters to them, somewhere within the neighbourhood that they can visit and observe and connect with. – Susan Underwood, Frank Hobbs Elementary School (retired)

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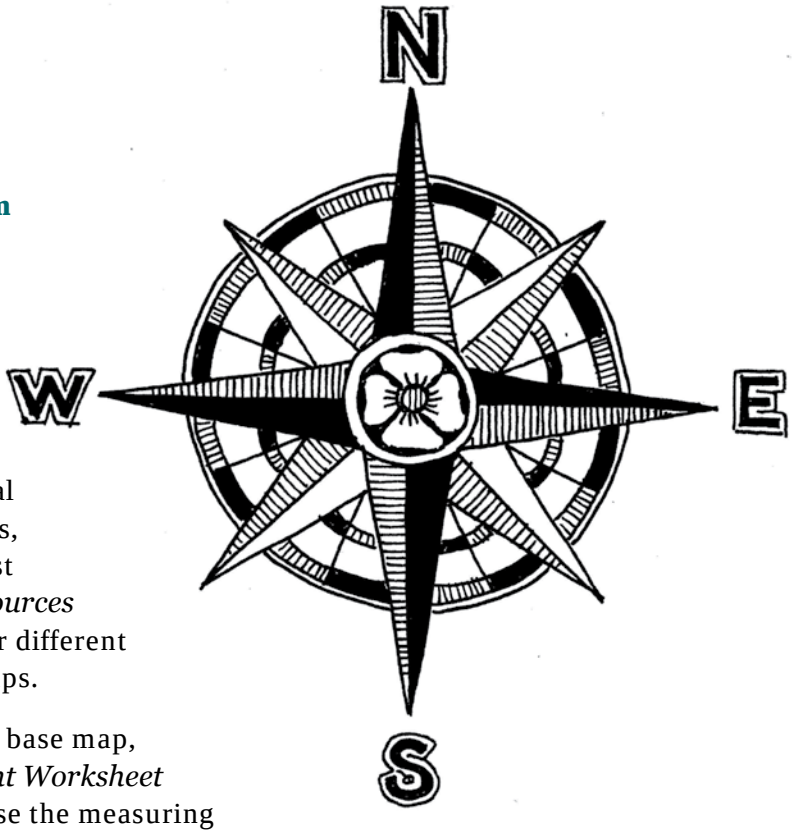
TIP: *Vancouver, Victoria, Kamloops, Williams Lake and the Kootenay region have local Orienteering Clubs that would be willing to make schoolyard maps, or may already have them! Check out the website:* **www.orienteeringbc.ca/** *Frances Vyse*

PROCEDURE:

1. First class period: Obtain a municipal planning map (available from your municipal hall or their website) or a street map of your community (check out **www.mapquest.com** or **www.find-our-community.net/**). Enlarge the map section around your school community so students can add to it. If possible, include the key, scale and directional arrow (compass rose).



2. Bring in a wide variety of maps to share with the class, including satellite images, aerial photos, community maps, road and park maps, and cultural maps that depict art, history, First Nations settlements and ecosystems (*see Resources section*). This will give students some ideas for different and creative ways to depict things on their maps.

3. Give each student a copy of the community base map, including the map key and scale, and a *Student Worksheet* (p.86-89). Discuss the concept of scale, and use the measuring tape to demonstrate a map scale measurement in the classroom (e.g., 1 metre = 1 cm). Tell students they will be adding to their map to document places and things that are important to them. Have students work in groups to review all the map samples.

4. After students have reviewed the map examples, work together to list the things students want to add to their maps. Have them think about their own community priorities and any specific purposes they might have for their map. For example, do they want to show the best bike routes to school? Or highlight ball fields, stream protection projects, cheap clothing stores, or tastiest bakeries?

Develop a map key with the class, with some examples of symbols and colours to represent the list of things they want to add. Also ask the class to suggest a list of criteria for what makes a great map. Post the map key and the assessment criteria in the classroom.

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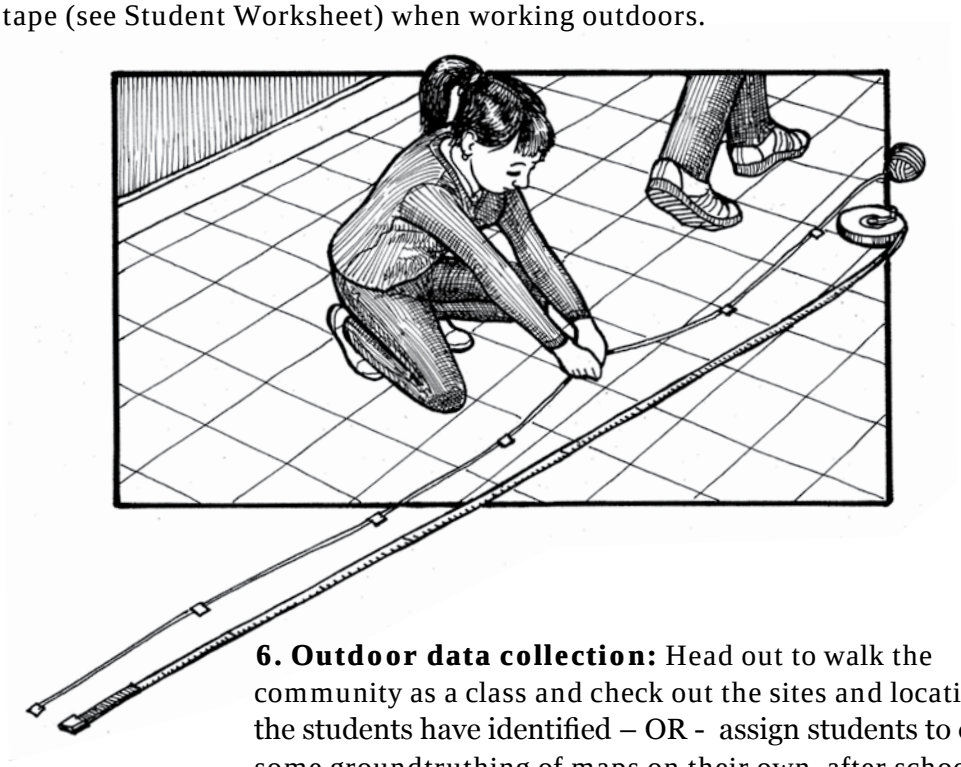
5. Making measuring "tapes": Have students work in pairs in the school hallway or gym to measure off pieces of 10 m string to use as their measuring tape (see Student Worksheet) when working outdoors.



6. Outdoor data collection: Head out to walk the community as a class and check out the sites and locations the students have identified – OR - assign students to do some groundtruthing of maps on their own, after school hours. (For an explanation of ground truthing, see the Student Worksheet on page 88.)

7. Second class period: Back in class, have students finish their personal community maps, adding the drawings, photos and research they have gathered (provide clean copies of the base map if necessary). Get students to share their maps in small groups, noting similarities and differences. Many issues can arise when exploring maps: land claims, development decisions, food production, historical changes, etc.

Maps Matter - Show them Off!

Groups such as Lifecycles in Victoria show us that maps do matter: their fruit-tree mapping project provides fresh fruit for food banks
www.lifecyclesproject.ca/

Providing residents with a unique student perspective of their community is empowering and exciting. Plan to exhibit student maps at a specific event: e.g., Earth week celebrations, safe routes to school events, school meetings, community planning sessions. Approach the local library, city hall, art gallery or mall.

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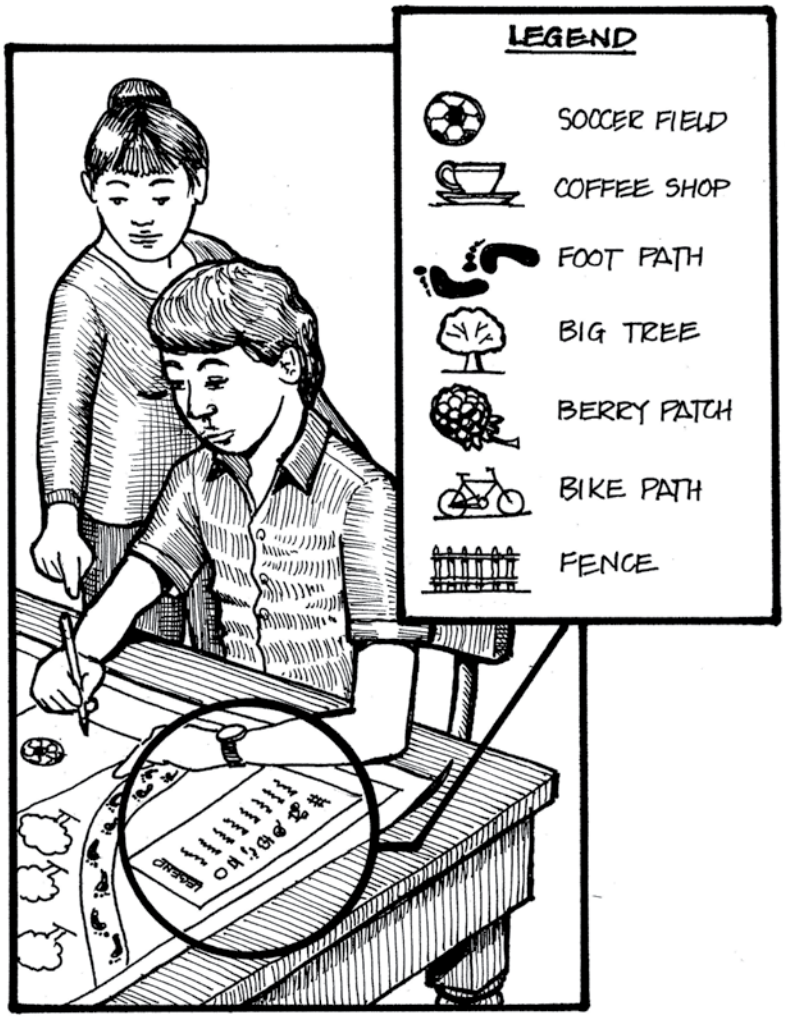
Assessment Ideas: Create the Criteria as a Class

Have the class brainstorm the criteria for a great community map. Include things that are important to them, as well as an easily readable map key, drawings or photos of highlights and information in text boxes such as washroom locations.



"I find that building the criteria together helps with clarity and student buy-in. I do it on a piece of poster paper so I can post it and leave it for the duration of the activity. Peer and self- assessment should be encouraged too".
- Drew Williams, Phoenix Middle School

Group Work Student Self-Assessment

- What did you accomplish in class today?
- What did your group accomplish today?
- What is your group's plan for tomorrow?
- Give yourself a score out of 5 (5 being the highest) for your participation and effort.
- Why did you give yourself this score?

Mapping a Field Trip

Maps also work well as a type of assessment. Students can map their experiences of a field trip by tracking where they went, what they saw, learned and did, and adding specific details about how the trip was meaningful to them.

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"I got students to map their field trip to Goldstream.... they quickly showed their understanding of what they learned, put more details into their drawings than they would have into their writing, and thought it was fun! And I had fun looking at their maps!" – Susan Underwood, Frank Hobbs Elementary

Map Assessment Rubric

	Expert	Practitioner	Novice
Content	All labels are clear and accurately placed; good use of diagrams/text boxes/ photos, accurate descriptions and some measurements included	All labels are included and most are accurately placed, some text boxes and diagrams used	Several labels are not included and many are not accurately or carefully placed
Visual Appeal	Very colourful and clean looking, labels are very easy to read, some personal graphics and/ or photos added, lots of personal detail that is accurate and creatively presented	Some colour and graphics; a few labels are not easy to read	Limited or no use of colour; labels are very difficult to read
Map Elements	Includes clearly labeled title, date, directional arrow, scale, correct use of map key, and all added symbols. All approximate distances noted for additions.	Includes most standard map elements and distances; most are accurate and easy to read	Missing most standard map elements

Extension Activities

Geocaching

Geocaching is a treasure hunting activity where you use a GPS (global positioning system) to both find and hide containers, along with other participants. Individuals and organizations have set up caches all over the world and share the locations of these caches on the internet. Once found, the visitor can take something from the cache and is asked to leave something behind as well. Many educators are using geocaching by purchasing GPS units for use throughout their district – check out www.geocaching.com/ and look at the teacher comments and resources at www.groundspeak.com/.

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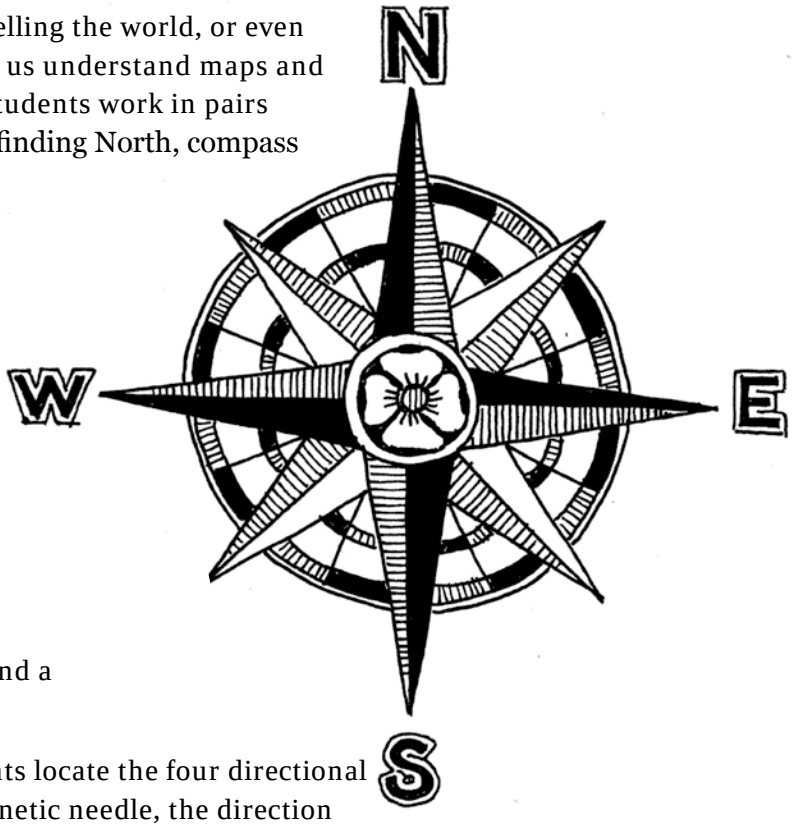
Compass Skills – Extend Your Mapping Know-How!



Compass skills are useful to have – for camping, travelling the world, or even getting around town or the local mall. They also help us understand maps and map making in a more applied way. In this activity, students work in pairs to learn and practise using compasses. Skills include finding North, compass reading, dialing courses and walking in directions.

Materials:

Compasses - one for every 2-3 students

Clipboards - one for every 2-3 students (make your own: see Materials section)

Local maps and aerial photos -if possible

Copies of Student Worksheet - Getting Started (p.90-91): Compass 101

Base map of your area

Procedure

1. Give each pair of students a compass, a clipboard and a Student Worksheet (p.90-91).

2. Draw a compass face on the board and have students locate the four directional markers of North, South, East and West, the red magnetic needle, the direction arrow on the compass base plate and the moveable ring that is used to dial direction.

3. Explain the Compass mantra: "*Put Red in the Shed!*" "Red" is the magnetic needle. The "shed" is the two white lines on either side of "N" or North on the dial.

4. Have students practise using compasses, following the directions on the Student Worksheets. Practise dialing North and then some other directions in the classroom or gym.

5. Head outside to the schoolyard to practice dialing directions and walking towards specific landmarks such as trees or fences.

6. Students can use their new compass skills to extend their mapping activities: set up a North-South transect grid to map a park or school ground, and have teams of students map 10 metre sections.

Building Your Community Map!

In this activity, you'll be creating a personal map of your community, by adding places and things you think are important.

Maps are great! They help you get around and tell you a lot about a place. Mapping is a powerful tool for exploring the many connections between ourselves and a place, and to observe and document things that make it special. Maps are also interesting tools for understanding different values that can be held about a place. Things get added to, or taken off maps depending on the maps' purpose and the map-makers' perspective. A map is a partial representation of the surface of the earth to a given scale.

Most maps represent information in three ways:

- A point on the map on an x/y coordinate (e.g., a place such as Prince George)
- A line on the map (e.g., a river, a highway, a trail)
- An area on the map (e.g,. a park, a reserve)

Part One: Research

Check out a copy of your community map and find your school, homes, local parks, community centres, bus stops and any other places you think are important. Note the scale of the map: what measurement corresponds to what distance on the ground?

Choose Things to Add

As a class, brainstorm what is missing – what else could go on the map? Are trails marked? What about favourite places to hang out, big trees, playing fields, historical names, stores and coffee bars? Make a list of things you would like to include on your own map: some people might focus on favourite dog-walking trails or good berry patches, while others may want to add soccer fields, bakeries, or skateboard parks.

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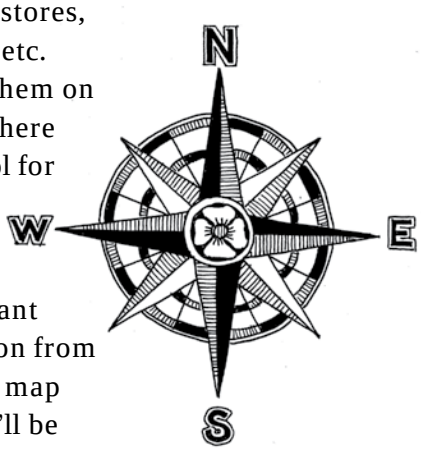
Student Worksheet

Symbols and Keys

Take a look at the map key or legend, and note the symbols and colours that mean specific things on the map. Discuss with classmates what colours and shapes you'll use for the things you want to add: e.g., yellow boxes for stores, a maple leaf shape for maple trees, blue footprints for favourite trails, etc. As a class, agree upon the key symbols and colours you will use, post them on the board, and copy the new map key on a separate piece of paper. If there are other things you want to add later, make sure you include a symbol for them in the key!

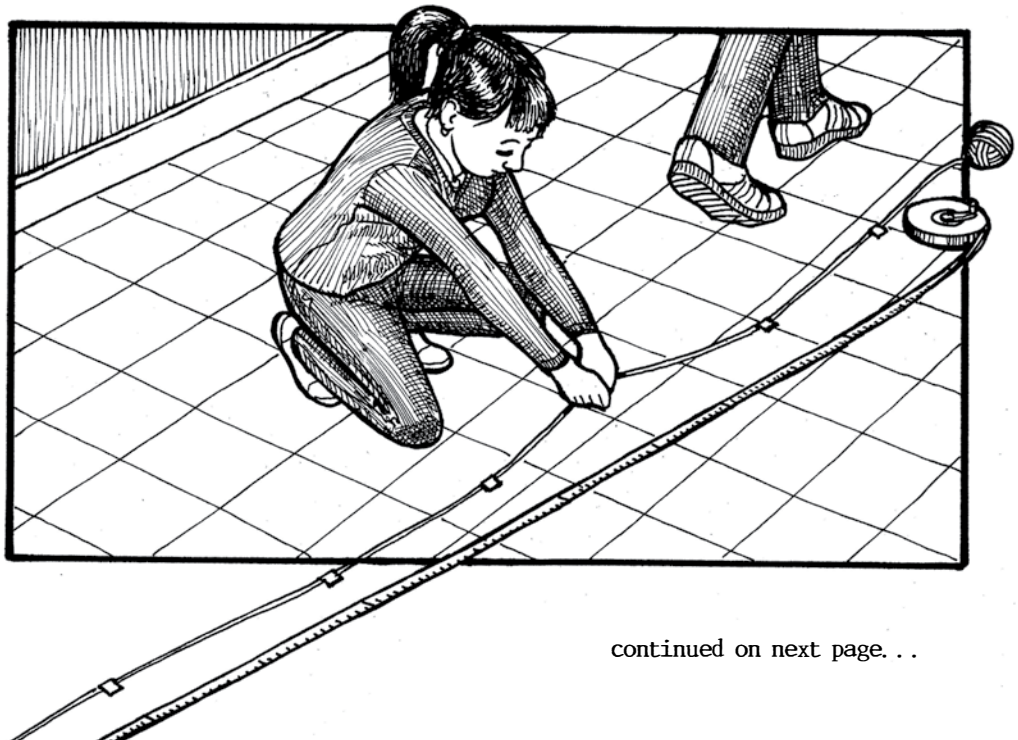


First Draft: Add your Features

Using your map key, draw the approximate location of the sites you want to add on the base map in pencil. Use a ruler and estimate their location from known points on the map using the map scale. Label each site with its map key symbol, and add some descriptive text, to remind you of what you'll be looking for when you go out to find the site.

Measure Your Pace for GroundTruthing

Groundtruthing means going to the places you have identified on the base map to check how accurate your maps are, and to add any other features that you see on the way. First you need to measure your pace so you can tell the distance you walk. Stretch a tape measure in the school hallway or gym, and mark off one-metre intervals with masking tape up to 10 metres. Using your natural stride, **walk to the 10 metre mark 3 times**, counting the number of steps each time. Figure out the average number of paces you walked for the 10 metre stretch: this is your walking pace. Now you know about how many steps you walk to equal 10 metres. Measure off a 10 metre piece of string along the floor, and mark it with a felt marker at every one-metre interval. This will be your measuring tape.



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Scale: the relationship between the distances on a map and the corresponding actual distances on the ground.

Part Two:
Get Outside in the Real World: GroundTruthing

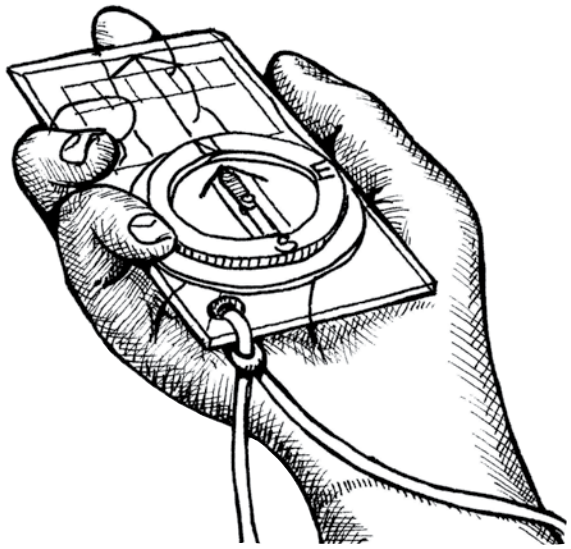
What You'll Need:

- base map
- clipboard and pencil
- 10-metre string
- blank paper for drawing
- camera (optional)
- a partner

Get Walking! Walk around your neighbourhood with your base map and string, and go to the sites you want to add to your map. Measure the distances between sites on the map and the things you added by pacing out the distances using your stride length, or using your string measuring tape. Make any changes on the map to the location of the sites you added. Look around – are there other things you'd like to include?

Get Writing! Take notes about what you want to add, so a newcomer could find the site and know more about it. For instance, describe the best bike or bus route to school or the mall. Name and describe the cheapest places for good food, ice cream or coffee!

Get Creative! Make some drawings to capture the details, or take pictures if you have a camera.



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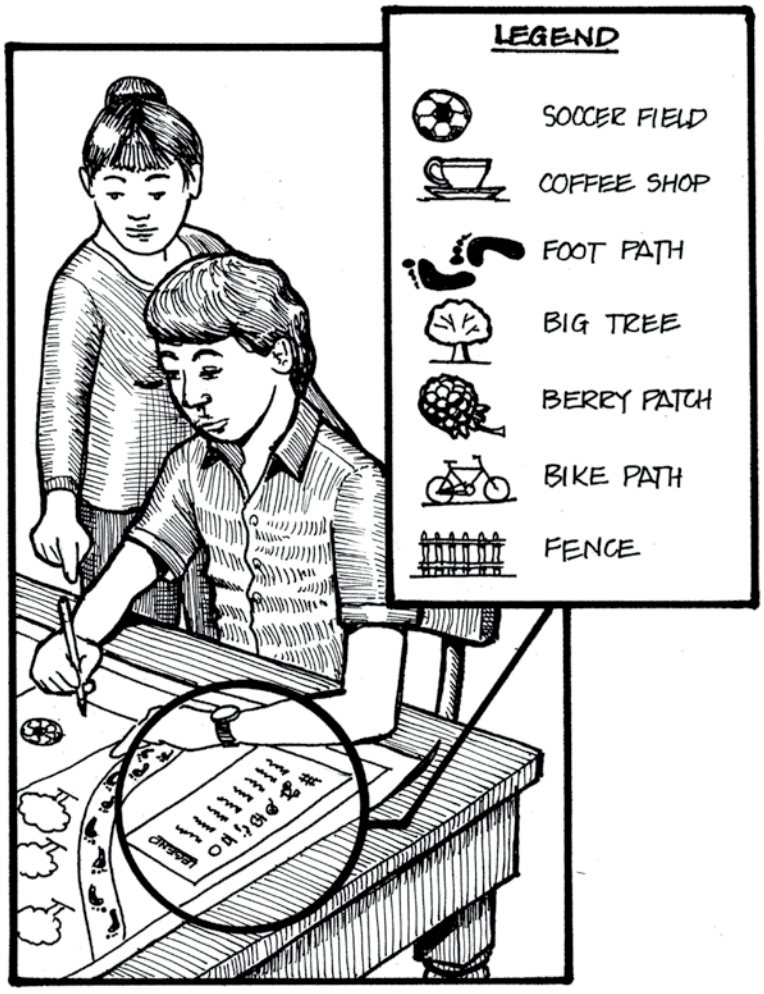
Part Three: Creating Your Map Masterpiece

Now you are ready for your final creation. Draw and colour the things you've added to your map and finish any notes and sketches. Check the map key for symbols and colour choices for specific sites. You might want to mount your map on some poster board. Text boxes, drawings or photos can be attached to the sides of your map using arrows or string "connectors". Write the approximate distances you measured between sites. Compare your map with others, and note the similarities and differences. Display your masterpieces for the school to admire. If possible, display your map for the community, and to decision-makers such as municipal politicians and developers. Your map can be used over time to monitor changes to the area such as restoration efforts or development impacts and to note other changes.



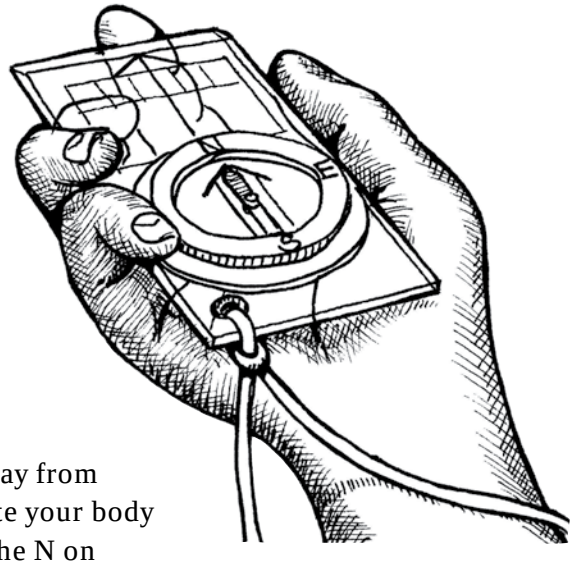
Student Worksheet

Getting Started Compass 101

Compass skills are cool and useful to have – for camping, travelling the world, or even getting around town or the local mall. Try it out! Work in pairs to practise the Compass Basics, taking turns setting courses and directions.

Remember Your Compass mantra: "Put red in the shed!"

I. Compass Basics: Find North!



1. Hold your compass in front of you, and set the dial so that the "N" on the dial matches the direction arrow on the base plate. Find "red" – it's the magnetic needle. The "shed" is the two white lines on either side of "N" or North on the dial. Find the directional arrow as well – it's printed on the compass base plate.

2. Now hold the compass in front of your chest with the direction arrow pointing away from your body. Keeping the compass still, rotate your body so that the red magnetic needle points to the N on the compass dial. You are now facing North – and ***red is in the shed!*** Mark your starting point with your partner; use tape on the floor, or a rock or a scratch in the dirt if you are outside.

3. Look along the needle and the direction arrow and find a landmark in the distance. Walk 15 paces in the direction of the chosen landmark. To check how accurate your direction is, turn around 180 degrees – the white "South" needle should be pointing back to your starting point.

II. Dialing Directions

OK – so now you can find north and south – so what about all the other directions?

4. Hold the compass with "red in the shed" (the red North-seeking needle matches the N on the dial) pointing away from you, so that you are facing north. If you want to travel west, rotate the compass dial so that the **W** is lined up with the **direction arrow on the base plate**. Now turn your body so that **"red is in the shed"** again (the needle is pointing North).

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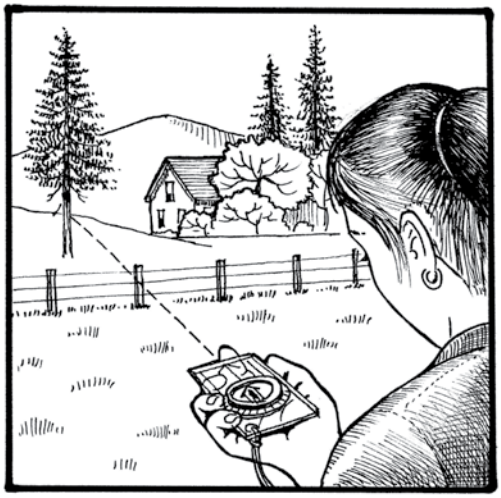
Student Worksheet

5. Now comes the tricky part – look along the direction arrow to see what direction "west" is and travel along that direction. ***Walk in the direction of the direction arrow!*** Keep the compass flat on your hand and out in front of you so you can see it – because you have to keep checking that **"red is in the shed"** every once in a while as you walk to the west. Got it?

6. A trick of experienced compass users is to find something in the distance that is in the same direction they are travelling – say, a tall tree, lamp post or building – and use that as a guide to help keep them in a straight line.

Practice some other directions: dial up 120 degrees and 50 degrees on your base plate with the direction arrow and head on out! *Just remember your mantra....!*



Put Red in the Shed

Quick Notes

Student Worksheet

" In the end, we will conserve only what we love, we will love only what we understand, we will understand only what we are taught."

Baba Dioum

Appendices

1 Prescribed Learning Outcome Connections

A table highlighting activity links to grade and subject learning outcomes for K – 12.

2 Just Do It! Action Projects

Apply your students' enthusiasm and interest through active projects; things they can do at school, at home, and with the community.

3 Get Active in Parks: Visit your Local Green Space

Specific information to help you plan a trip to provincial, regional and national parks around the province. Park Planner Template examples are included with web links to specific parks by region.

4 Resources for the Outdoor Classroom

A list of written and electronic resources, articles and teaching tools.

Appendix 1

Prescribed Learning Outcome Connections

Prescribed Learning Outcomes by Grade and Subject

See the table below for specific grade level curriculum links to activities. Note to secondary teachers: the sensory awareness activities in Section II are excellent transition and warm-up activities for use with any age level. The following are prescribed learning outcomes from the Ministry of Education. For more information please visit **www.bced.gov.bc.ca/irp/.**

Grade	Learning Outcomes	Activities
K	**Science**	
	Use the five sense to make observations	Sensory Wakeup Circle Rainbow Chips Touchstone Sound Mapping Forest Cologne Transition Activities Instant Cameras
	Share with others information obtained by observing	
	Describe features of local plants and animals	
	Demonstrate the ability to observe their surroundings	
	Describe features of their immediate environment	
	Describe ways to rethink, refuse, reduce, reuse, and recycle	
	Compare local plants	
	Compare common animals	
	Social Studies	
	Demonstrate an awareness of the concept of change	Sound Mapping Make a Mini-Park! Walk Softly: A Footprint Activity My Special Place
	Identify groups and places that are part of their lives	
	Identify characteristics of different local environments	
	Demonstrate responsible behaviour in caring for their immediate environment	
	Fine Arts	
	Tell a story that engages more than one of the senses	Stories of Special Places

Grade	Learning Outcomes	Activities
1	**SCIENCE** Communicate their observations, experiences and thinking in a variety of ways Classify objects, events and organisms Describe changes that occur in daily and seasonal cycles and their effects on living things Describe how the basic needs of plants and animals are met in their environment	Sensory Wakeup Circle Rainbow Chips Touchstone Energy Burners Sound Mapping Forest Cologne Transition Activities
	SOCIAL STUDIES Use picture maps to identify familiar locations in the school or community Identify characteristics of different environments Demonstrate responsible behaviour in caring for their immediate and school environments	My Special Place Make a Mini-Park! Walk Softly: A Footprint Activity Instant Cameras
	FINE ARTS Tell a story that engages more than one of the senses	Make a Mini-Park! Stories of Special Places
2	**SCIENCE** Use their senses to interpret observations Describe some changes that affect animals (e.g hibernation, migration, decline in population) Describe ways in which animals are important to other living things and the environment Distinguish ways in which air, water, and soil interact Explain why air, water, and soil are important for living things	Sensory Wakeup Circle Rainbow Chips Touchstone Who Lives Here? Habitat Biodiversity Walk Softly: A Footprint Activity Energy Burners Sound Mapping Forest Cologne Transition Activities

Grade	Learning Outcomes	Activities
2	**Fine Arts** Create images based on objects, places, events, or issues in their classroom, school and community Communicate experiences, moods, and stories that engage more than one of the senses	Instant Cameras Make a Mini-Park! My Special Place
	Social Studies Describe their responsibility to the local environment Describe how the physical environment influences human activities	Walk Softly: A Footprint Activity Stories of Special Places Adjectives Scavenger Hunt
3	**Science** Describe ways in which plants are important to other living things and the environment Ask questions that foster investigations and explorations relevant to the content	Who Lives Here? Habitat Biodiversity Adjectives Scavenger Hunt Walk Softly: A Footprint Activity Transition Activities
	Fine Arts Create images based on objects, places, events, or issues in their classroom, school and community Communicate experiences, moods and stories that engage more than one of the senses	Instant Cameras Sensory Wakeup Circle Rainbow Chips Touchstone Sound Mapping Forest Cologne
	Social Studies Demonstrate a sense of responsibility for the local environment Describe how the physical environment influenced early settlement	Walk Softly: A Footprint Activity Make a Mini-Park! My Special Place Stories of Special Places

Grade	Learning Outcomes	Activities
4	**SCIENCE** Compare the structures and behaviours of local animals and plants in different habitats and communities Analyse simple food chains Determine how personal choices and actions have environmental consequences	Who Lives Here? Habitat Biodiversity Sensory Wakeup Circle Walk Softly: A Footprint Activity Choices – A Guided Imagery Make a Mini-Park!
	FINE ARTS Draft ideas for images using feelings, observation, memory and imagination Communicate ideas, experiences and stories that engage more than one of the senses	Energy Burners Rainbow Chips Touchstone Sound Mapping Forest Cologne Adjectives Scavenger Hunt Transition Activities Instant Cameras
5	**LANGUAGE ARTS** Write a variety of clear, focussed personal writing for a range of purposes and audiences that: - Demonstrates connections to personal experiences, ideas and opinions - Create meaningful visual representations for a variety of purposes and audiences that communicate personal response, information and ideas relevant to the topic - Use writing and representing to express personal responses and relevant opinions about experiences and texts - Respond to selections they read or view, by identifying personally meaningful selections, passages and images	Choices - A Guided Imagery Family Treasures Stories of Special Places Who Lives Here? Habitat Biodiversity Sensory Wakeup Circle My Special Place Your Community Map Family Treasures Rainbow Chips Adjective Scavenger Hunt Forest Cologne Transition Activities

Grade	Learning Outcomes	Activities
5	**Visual Arts** Make 2-D and 3-D images for specific purposes that solve complex design problems, considering form and function (maps) Create images that that engage more than one of the senses Create images that convey beliefs and values Create images that express personal identity Demonstrate the ability to collaborate to develop a group display for the school or community	Touchstone Sound Mapping Forest Cologne Your Community Map
	Science Analyze how the Aboriginal concept of interconnectedness of the environment is reflected in responsibility for and caretaking of resources Describe potential environmental impacts of using BC's living and non-living resources	Walk Softly: A Footprint Activity Who Lives Here? Habitat Biodiversity
6	**Science** Analyze how different organisms adapt to their environments Distinguish between life forms as single or multi-celled organisms and belonging to one of five kingdoms: Plantae, Animalia, Monera, Protista, Fungi	Who Lives Here? Habitat Biodiversity Walk Softly: A Footprint Activity My Special Place
	Social Studies Interpret graphs, tables, aerial photos and various types of maps Assess the relationship between cultures and their environments Assess diverse concepts of Canadian identity Compare Canadian society with the society of another country Relate a society's artistic expression to its culture	Your Community Map Family Treasures

Grade	Learning Outcomes	Activities
6	**LANGUAGE ARTS** Respond to selections they read or view, by: - Expressing opinions and making judgments supported by explanations and evidence - Explaining connections (text-to-self, text-to-text and text-to-world) - Identifying personally meaningful selections, passages and images Write a variety of clear, focussed personal writing for a range of purposes and audiences that demonstrates connections to personal experiences, ideas and opinions Create meaningful visual representations for a variety of purposes and audiences that communicate personal response, information and ideas relevant to the topic Use writing and representing to express personal responses and relevant opinions about experiences and texts	Choices - A Guided Imagery Stories of Special Places Family Treasures Choices - A Guided Imagery Your Community Map My Special Place Sensory Wakeup Circle Rainbow Chips Touchstone Sound Mapping Forest Cologne
	FINE ARTS Identify images that emphasize particular elements (including space)	Stories of Special Places
	VISUAL ARTS Make 2-D and 3-D images for specific purposes that solve complex design problems, considering form and function (maps) Create images that that engage more than one of the senses Create images that convey beliefs and values Describe individual opportunities for visual arts in the local community Create images that express personal identity Demonstrate the ability to collaborate to develop a group display for the school or community	Your Community Map Sensory Wakeup Circle Rainbow Chips Touchstone Sound Mapping Forest Cologne My Special Place

Grade	Learning Outcomes	Activities
7	**SCIENCE** Analyze the roles of organisms as part of interconnected food webs, populations, communities and ecosystems Assess survival needs and interactions between organisms and the environment Assess the requirements for sustaining healthy local ecosystems Evaluate human impacts on local ecosystems	Who Lives Here? Habitat Biodiversity Walk Softly: A Footprint Activity Postcards from the Zone! BC's Biogeoclimatic Zones Make a Mini-Park!
	LANGUAGE ARTS Listen critically to understand and analyse ideas and information, by: - Summarizing and synthesizing - Generating questions - Visualizing and sharing Respond to selections they read or view, by: - Expressing opinions and making judgments supported by reasons, explanations and evidence - Explaining connections (text-to-self, text-to-text, and text-to-world) - Identifying personally meaningful selections, passages and images Write a variety of imaginative writing for a range of purposes and audiences, including short stories, passages and poems modelled from literature, featuring: - Strategically developed ideas by using interesting sensory detail	Family Treasures Choices- A Guided Imagery My Special Place Stories of Special Places Sensory Wakeup Circle Rainbow Chips Sound Mapping Family Treasures
	SOCIAL STUDIES Use various types of graphs, tables, timelines and maps to obtain or communicate information Assess how physical environments affected ancient civilizations	My Special Place Your Community Map Postcards from the Zone! BC's Biogeoclimatic Zones

Grade	Learning Outcomes	Activities
7	**Visual Arts** It is expected that students will: - Make 2-D and 3-D images for specific purposes that solve complex design problems, considering form and function (maps) - Create images that that engage more than one of the senses. - Create images that convey beliefs and values - Describe individual opportunities for visual arts in the local community - Create images that express personal identity - Demonstrate the ability to collaborate to develop a group display for the school or community	My Special Place Family Treasures Choices- A Guided Imagery Your Community Map
8	**Social Studies** Construct, interpret and use graphs, tables, grids, scales, legends and various types of maps	Your Community Map My Special Place
	Language Arts Identify and explain connections between new ideas and information and their previous beliefs, values and experiences Describe and give examples to explain their personal criteria for assessing and responding to what they view, read or hear	Choices- A Guided Imagery Stories of Special Places
	Math Draw and interpret scale diagrams	Your Community Map
	Science Represent and interpret information in graphic form Perform experiments using the scientific method	Postcards from the Zone! BC's Biogeoclimatic Zones Who Lives Here? Habitat Biodiversity

Grade	Learning Outcomes	Activities
9	**Language Arts** Identify and explain connections between what they read, hear and view and their personal ideas and beliefs Use information that they have read, heard or viewed to develop research questions or creative works or to complete response activities Develop focused inquiry questions related to concrete or personal topics for specific audiences and purposes Analyse the influence of language and cultural diversity on themselves and their communities	Stories of Special Places Family Treasures Choices- A Guided Imagery Postcards from the Zone! BC's Biogeoclimatic Zones
	Social Studies: Construct, interpret and use graphs, tables, grids, scales, legends, contours and various types of maps Describe and compare North America's diverse geographical regions	Your Community Map Postcards from the Zone! BC's Biogeoclimatic Zones
	Science Evaluate the use of data when considering scientific claims Debate a variety of socio-scientific issues	Your Community Map Family Treasures Choices- A Guided Imagery Postcards from the Zone! BC's Biogeoclimatic Zones
10	**Language Arts** Identify and explain connections between what they read, hear and view and their personal ideas and beliefs Consistently consider more than one interpretation of the communications that they read, view and listen to Develop focused inquiry questions related to increasingly complex topics Demonstrate an awareness of the characteristics, needs and preferences of specific audiences Demonstrate respect for cultural differences	Stories of Special Places Family Treasures Choices- A Guided Imagery

Grade	Learning Outcomes	Activities
10	**Social Studies** Apply critical thinking skills, including questioning, comparing, summarizing, drawing conclusions Demonstrate effective research skills, including accessing information, assessing information, collecting data, evaluating data, organizing information, presenting information, citing sources Describe the physiographic regions of Canada and the geological processes that formed these regions	Your Community Map Postcards from the Zone! BC's Biogeoclimatic Zones Who Lives Here? Habitat Biodiversity
	Science Explain the interaction of abiotic and biotic factors within an ecosystem Describe the interactions between scientific developments and the beliefs and values of society Analyse costs and benefits of alternatives to resolving socioscientific issues	Postcards from the Zone! BC's Biogeoclimatic Zones Walk Softly: A Footprint Activity Choices- A Guided Imagery
11	**English** Identify connections between their own ideas, experiences, and knowledge and a variety of literary and mass media works created by classroom, local, British Columbian, Canadian and international authors and developers from various cultural communities Develop focussed inquiry questions with specific purposes and audiences in mind	Family Treasures Stories of Special Places Your Community Map
	Biology Ecology: Analyse the functional inter-relationships of organisms within an ecosystem	Postcards from the Zone! BC's Biogeoclimatic Zones

Grade	Learning Outcomes	Activities
11	**SOCIAL STUDIES** Apply critical thinking—including questioning, comparing, summarizing, drawing conclusions and defending a position—to make reasoned judgments about a range of issues, situations and topics Demonstrate effective written, oral and graphic communication skills Demonstrate skills and attitudes of active citizenship, including ethical behaviour, open-mindedness,respect for diversity and collaboration	Who Lives Here? Habitat Biodiversity Stories of Special Places Your Community Map Family Treasures
12	**GEOGRAPHY** Explain the following five themes of geography: location, place, movement, regions, human and physical interaction Demonstrate geographic literacy through: - Analysis of geographic data or information to assess reliability and identify trends and relationships -Interpretation of topographic maps and aerial and satellite images Apply effective written, oral, and graphic communication skills to geography topics Describe the geographic applications of current information and imaging technologies Outline characteristics of the Earth's major biomes	Your Community Map Postcards from the Zone! BC's Biogeoclimatic Zones Stories of Special Places
	ENGLISH It is expected that students will use language to explore thoughts, ideas, feelings and experiences to prepare for their roles in the world	Stories of Special Places Family Treasures

Appendix 2 Just Do It! Action Projects

Apply your students' enthusiasm and interest through action projects: things they can do at school, at home, and with the community. This section links to the resource "Leap into Action: Simple Steps to Environmental Action" (Staniforth (2004), BC Conservation Foundation and WildBC), an educator's guide that provides tools, a simple step by step planning process for carrying out an action project with your class, case studies of action projects plus lots of suggestions and resources.

See WildBC **www.wildbc.org** for more information on teacher workshops or to download the Leap into Action guide.

Appendix 3 Get Active in Parks: Visit your local green space

Park Planner Templates

Specific information to help you plan a trip to provincial, regional and national parks around the province. BC's provincial, national and regional parks have provided the following information for their parks, available through web links to WildBC's web site **www. wildbc.org**.

The Park Planner Templates include up-to-date details on **Park Features** such as space for large group activities, rest and lunch spots, brief descriptions of main trails, special features to look for, visitor requirements, and site-specific emergency contact numbers.

Examples for one Regional, one Provincial, and one National Park follow, check out the rest online:

- Greater Vancouver/Sea-to-Sky: Deas Island Regional Park
- Southern Vancouver Island: Goldstream Provincial Park
- Vancouver Island / Sunshine Coast: Pacific Rim National Park Reserve

Greater Vancouver/Sea-to-Sky: Deas Island Regional Park

Phone number: 604-224-5739
Email: **programs.info@metrovancouver.org**
Website to contact for information: **www.metrovancouver.org**
Website link to park map: **www.metrovancouver.org/about/maps/Maps/Deasmap.pdf**

Driving Directions:

New Westminster, Burnaby, Port Coquitlam, Maple Ridge: Travel on Hwy. 91A and cross the Alex Fraser Bridge. Take the River Rd. exit and travel westbound along River Rd. about 8km. Look for Deas Island Regional Park Signs.

North Delta, Surrey, Abbottsford, Langley: Travel north on Hwy. 91 towards the Alex Fraser Bridge. Take the River Rd. Exit and travel west on River Rd. for about 8 km. Look for Deas Island Regional Park Signs on your right.

Vancouver, Richmond, North Vancouver, Tsawwassen, Ladner: From Hwy. 99 take the River Rd. exit (#28) at the south end of the George Massey tunnel, and travel 2.5 km east to the park. Look for Park signs, turn left.

Description of the park – its ecosystems / highlights:

Deas Island's rich riparian areas, heritage buildings, dune ecosystem and early successional forest provide great opportunities for stepping back in time to when settlers first moved to the Lower Mainland.

Check this link for current update bulletins:

www.metrovancouver.org/services/parks_lscr/Pages/default.aspx

Features of the park:

Space For Large Group Activity:	*Yes*
Access for groups: areas they can go and cannot go	*Please stay on designated trails*
Washrooms/Water:	*Yes*
Rest and Lunch spots:	*Yes*
Brief description of main trails:	*Trails are all flat and easily walkable*

Special Features of the site to look for: Look for coyotes, moles, crickets, snakes and evening primrose in the dunes. Deas Slough is a good site for canoeing during paddlesport times. The many heritage buildings tell of the history of the Delta area, as well as, house a Yuma bat maternity colony in the summer. Several raptors nest at Deas Island, including Bald eagles and Great Horned owls. There is a group campsite available for overnight trips as well as heritage buildings that can be rented for indoor space.

Handicapped access on any trails? The Inverholme Schoolhouse, Riverside Picnic Area toilets and picnic shelter tables are all wheelchair accessible. There is also a paved path to the viewpoint at the Riverside Picnic Area. However, trails are subject to use and weathering which may degrade them to the point where their original accessible design has been compromised. It is advisable to take an able-bodied person with you.

Any Potential Hazards/Precautions: This is an exposed site so it is recommended that all visitors come prepared with adequate water and sun, wind and rain protection.

Visitor Requirements:

Permits or registration required? To avoid potential conflicts with other groups please call 604-224-5739 before bringing a group to the park. Interpreter led programs are also available. If you have a group of over 30 people, a special use permit is required. If you choose to use any of the reservable sites (Inverholme school house and Muskrat Meadows Group Camp) reservations are required and there is a fee.

Park fees required? No

Contact/Emergency Information:

Site Specific Emergency Contact Number(s):	*911*
Is the site within Cell phone range?	*Patchy*
Cell phone contact number(s):	
Nearest Land Phone location:	*Shell gas station at the Hwy 99 on ramp*
Nearest Medical Facility:	*Richmond Hospital 7000 Westminster Highway* *Richmond, BC, V6X 1A2* *Tel: 604.278.9711*

Southern Vancouver Island: Goldstream Provincial Park

R.L.C. Enterprize Ltd.
Phone number: 250-474-1336
Email: **office@rlcenterprize.com**
Website: **www.bcparks.ca**
Website: **www.env.gov.bc.ca/bcparks/explore/parkpgs/goldstream/**

Driving Directions:

Goldstream Provincial Park is located 16 km northwest of Victoria on southern Vancouver Island on the Trans Canada Hwy (Hwy #1). There are separate entrances for the main campground, group campsite and day use area:

Visitors coming to the campground now must use Amy Road via Westshore Parkway to get to the campground. The Westshore Parkway intersection is just south of the old (now closed) Sooke Lake Road intersection and the first traffic signal after the Spencer Road intersection on Trans Canada Hwy #1.

The entrance to the day-use area is at the junction of Trans Canada Hwy #1 and Finlayson Arm Road.

The entrance to the group campsite is off the Trans Canada Hwy #1 opposite the now closed Sooke Lake Road intersection.

Description of the park – its ecosystems / highlights:

Goldstream's numerous trails criss-cross through the dramatically different terrain of two distinct vegetation zones. The park is home to 600-year-old Douglas fir trees and western red cedar, mixed with western yew and hemlock, red alder, big leaf maple and black cottonwood. On the drier ridges visitors can find flowering dogwood, lodgepole pine and arbutus. The arbutus, with its thick leathery evergreen leaves, red-dish trunk and peeling bark, is Canada's only broad-leafed evergreen and is found exclusively on Vancouver Island and on the southwest coast of British Columbia. In the spring and early summer, Goldstream overflows with colourful wildflowers, including the shade-loving western trillium and the calypso, a delicate orchid of the mossy forest glades.

Check this link for current update bulletins:

www.env.gov.bc.ca/bcparks/explore/parkpgs/goldstream/

Features of the park:

Space For Large Group Activity:	*Yes*
Access for groups: areas they can go and cannot go	*Please stay on designated trails*
Washrooms/Water:	*Yes*
Rest and Lunch spots:	*Yes*
Brief description of main trails:	*Trails vary from flat to steep switchbacks and rocky scrambles. Refer to trail maps for more detailed descriptions*

Special Features of the site to look for: Trails range from easy, wheelchair accessible walks to strenuous hikes and track along creeks, through forested uplands and past abandoned gold diggings from the days of the Gold Rush. More adventurous hikers can climb to the top of one of the highest points in Greater Victoria - Mt Finlayson, a recent addition to the park in 1994. Another trail leads you to stunning Niagara Falls, which cascades 47.5 meters down a rock cliff into a crystal clear canyon pool below.

The park is also the site of an annual chum salmon spawning run, which draws thousands of salmon – and visitors - every year. Riverside trails and observation platforms provide extraordinary opportunities to view this natural phenomenon, which also attracts Bald eagles, who swoop down to devour the bodies of the spawned out salmon.

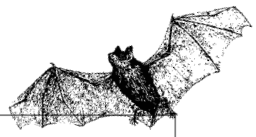
Handicapped access on any trails? Some facilities and the trail from the parking lot to the Nature House are wheelchair accessible.

Any Potential Hazards/Precautions: Backcountry areas do experience rapid weather changes, be fully prepared for mountain conditions when going in these areas. Rocky areas and bridges can be slippery when wet.

Visitor Requirements:

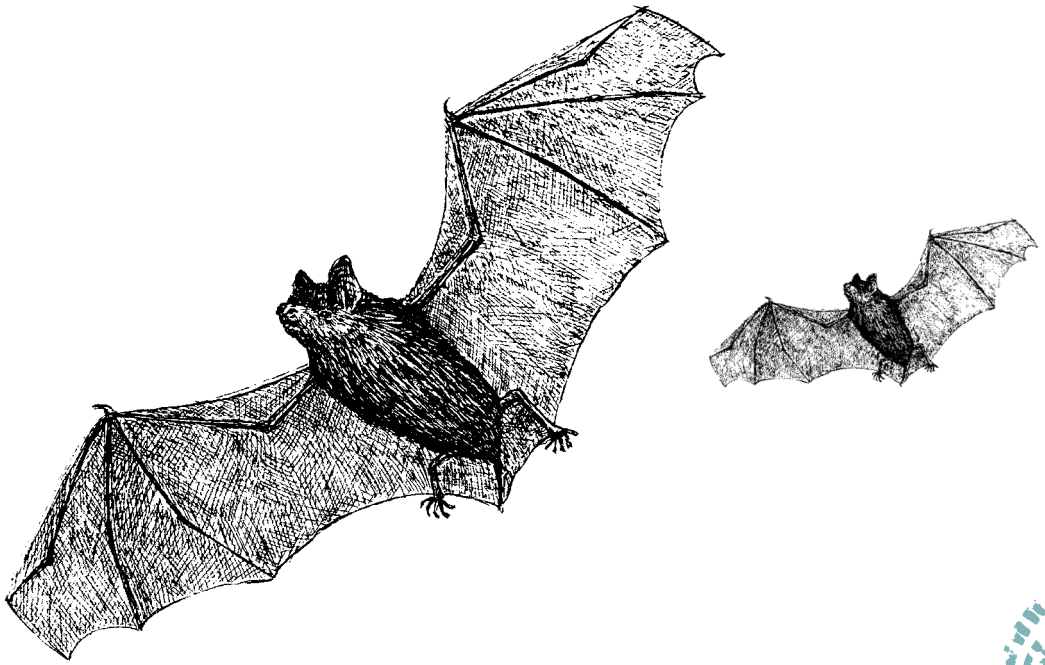
Permits or registration required? Yes

Park fees required? Yes



Contact/Emergency Information:

Site Specific Emergency Contact Number(s):	*911*
Is the site within Cell phone range?	*No*
Cell phone contact number(s):	
Nearest Land Phone location:	*Goldstream Provincial Park Campground* *940 Goldstream Avenue,Victoria, BC, V9B 2Y4* *Tel: 250-391-4743*
Nearest Medical Facility:	Victoria General Hospital Tel: 250-727-4212



Vancouver Island / Sunshine Coast: Pacific Rim National Park Reserve

PO Box 280
Ucluelet, BC V0R 3A0 Canada
Phone number: Administration office 250-726-3500, Visitor Centre 250-726-4212
Email:
Website: **www.pc.gc.ca/pn-np/bc/pacificrim/lg/visit/visit12_e.asp**
Current update bulletins: problem animal areas, trail closures, avalanche warnings, fires, road closures, etc., call the Pacific Rim Visitor Centre 250-726-4212 or Admin office 250-726-3500

Description of the park – its ecosystems / highlights:

Pacific Rim presents the rich natural and cultural heritage of Canada's west coast. Its cool and wet maritime climate produces an abundance of life in the water and on land. Lush coastal temperate rainforest gives way to bountiful and diverse intertidal and subtidal areas. These natural wonders are interwoven with the long and dynamic history of the Nuu-chah-nulth First Nations and European explorers and settlers.

The Park is in 3 geographically separate units: Long Beach, Broken Group Islands, West Coast Trail

Long Beach

Preparation guide is available at: **www.pc.gc.ca/pn-np/bc/pacificrim/lg/images/lgprep_e.pdf**

Features of Long Beach:

Space For Large Group Activity:	*Depends—beaches, interp centre, trails*
Access for groups:	*Areas they can go and cannot go*
Covered area/ picnic area:	*Yes*
Washrooms/Water:	*Yes*
Handicapped access on any trails?:	*Yes*
Brief description of main trails:	*Trails are all flat and easily walkable*

Visitor Requirements:

Permits or registration required? Permits (park pass)
Park fees required? Yes

Contact/Emergency Information:

Site Specific Emergency Contact Number(s):	*911, 250-726-7165*
Is the site within Cell phone range?	*Yes, but service coverage may depend on your provider.*
Cell phone contact number(s):	
Nearest Land Phone location:	*Some payphones in parking lots and at visitor centres*
Nearest Medical Facility:	*Tofino General Hospital*

Broken Group Islands

Preparation guide is available at: **www.pc.gc.ca/pn-np/bc/pacificrim/bg/images/bgprep_e.pdf**

Features of the Broken Group Islands:

Space For Large Group Activity:	*Depends—water access only*
Access for groups:	*Areas they can go and cannot go, group limit of 10*
Covered area/ picnic area:	*No*
Washrooms/Water:	*Yes, at camping islands*
Handicapped access on any trails?:	*No*
Any Potential Hazards/ Precautions:	*See Prep Guide*

Visitor Requirements:

Permits or registration required? Permits (park pass)
Park fees required? Yes

Contact/Emergency Information:

Site Specific Emergency Contact Number(s):	*"Broken Group Warden" on Marine VHF channel 16*
Is the site within Cell phone range?	*Yes, with exceptions, service coverage may depend on your provider.*
Cell phone contact number(s):	
Nearest Land Phone location:	*Ucluelet, Bamfield, Port Alberni*
Nearest Medical Facility:	*Port Alberni, Nanaimo (med evac)*

West Coast Trail Unit

Preparation guide is available at: **www.pc.gc.ca/pn-np/bc/pacificrim/co/images/wctprep_e.pdf**

Features of the West Coast Trail:

Space For Large Group Activity:	*Depends—multi-day hiking trail*
Access for groups:	*Areas they can go and cannot go, group limit (different for school groups) see www.pc.gc.ca/pn-np/bc/pacificrim/co/activ/activ6av_E.asp of 10*
Covered area/ picnic area:	*No*
Washrooms/Water:	*Yes, at camp sites*
Handicapped access on any trails?:	*No*
Any Potential Hazards/ Precautions:	*See Prep Guide*

Visitor Requirements:

Permits or registration required? Both required
Park fees required? Yes

Contact/Emergency Information:

Site Specific Emergency Contact Number(s):	
Is the site within Cell phone range?	*Yes, with exceptions, service coverage may depend on your provider.*
Cell phone contact number(s):	
Nearest Land Phone location:	*Port Renfrew, Bamfield*
Nearest Medical Facility:	*Victoria (med evac)*

Appendix 4

Resources for the Outdoor Classroom

A LIST OF WRITTEN AND ELECTRONIC RESOURCES, ARTICLES, AND SOURCES FOR TEACHING TOOLS.

Resources: Get Outdoors

Bell, Anne C.; and Janet E. Dyment. **"Grounds for Action: Promoting Physical Activity through School Ground Greening in Canada."** © 2006 Evergreen. **www.evergreen.ca**

Cohen, Michael J. (1989). **A Field Guide to Connecting with Nature.** World Peace University, Eugene, Oregon.

Cornell, Joseph. (1979) **Sharing Nature with Children.** Dawn Publications, Nevada City, CA.

Cornell, Joseph. (1989) **Sharing the Joy of Nature.** Dawn Publications, Nevada City, CA.

Henley, Thom. (1989) **Rediscovery Ancient Pathways – New Directions. A Guidebook to Outdoor Education.** Western Canada Wilderness Society.

Louv, Richard. (2006). **Last Child in the Woods. Saving Our Children from Nature Deficit Disorder.** Algonquin Books of Chapel Hill.

Project WILD, Project WET, Backyard Biodiversity and Beyond, Wildlife Trees, Water Stewardship, Garry Oak Ecosystems, Protected Areas: Preserving our Future... and many others: Curriculum Resources available from WildBC. **www.wildbc.org**

Sobel, David. (2004). **Place-based Education. Connecting Classrooms and Communities.** The Orion Society.

Staniforth, Sue & Leesa Fawcett. (1994) **Metamorphosis For Environmental Education: A Core Course Guide for Primary / Elementary Teacher Training.** The Commonwealth of Learning, Vancouver, BC.

Young, Jon; Haas, Ellen and; McGowan, Evan (2008) **Coyote's Guide to Connecting with Nature. For Kids of All Ages and their Mentors.** OWLink Media, Shelton, WA.

Articles on Doing Field Trips

"A Recipe for Outdoor Classroom Management" By Darius Kalvaitis. Green Teacher No. 81 Summer 2007.

"Field Trips: The Good, Bad and Ugly" by Laura Woolf. Green Teacher No. 78, Spring 2006.

" The Field of Dreams (and other Outdoor Classroom Myths)" by Karan Wood. Green Teacher No. 79, Summer 2006.

Children and Nature Web sites

www.naturechildreunion.ca/
All relevant organizations and initiatives are highlighted, upcoming events and conferences, and resources are listed. Download articles and resources.

Website of the Children and Nature network: lists organizations, events and conferences, downloadable PdF resources include: Children and Nature 2008: A Report on the Movement to Reconnect Children to the Natural World, and Community Action Guide: Building the Children & Nature Movement from the Ground Up **www.childrenandnature.org/**

Leave No Child Inside: Grow Outside: A Guide to Outdoor Play. Download this resource free from **www.LNCIgc.org**

Visit the Association for Environmental and Outdoor Education for a good resource list and resources **www.aeoe.org/**

Education Mapping Resources

Harrington, Sheila (Ed.) **Giving the Land a Voice – Mapping Our Home Places.** An excellent mapping resource that provides detailed mapping techniques, methods for field surveys, community mapping and resources, as well as full colour examples of a variety of artistic, historical and bioregional community maps. Saltspring Island Community Services Society

Hoffman, J and Kari Jones (2001) **Barefoot Mapping – a Teachers Guide.** Sierra Club of BC. An interdisciplinary workbook that provides detailed step-by-step instructions and worksheets on how to map with your class.

Aspen Global Change Institute (1994) **Ground Truth Studies – BC Edition.** An interdisciplinary activity-based resource that explores, remote sensing, satellite and aerial images, mapping and ground-truthing. Available from WildBC.

Lydon, Maeve (2007). **Mapping Our Common Ground.** Common Ground Mapping Project, with Green Map System and Mapas Verdas Americas. Community mapping stories, methodologies and tools from around the world, many community map samples available on-line (see below).

Mapping and Maps On-Line

Common Ground Community Mapping project, tip sheets and Guide **www.commongroundproject.ca/**

Green Maps **www.greenmap.org/**

Map Quest **www.mapquest.com**

Find Our Community **www.find-our-community.net/**

References: Children and Nature

American Institutes for Research: Palo Alto, CA: (2005). **"Effects of Outdoor Education Programs for Children in California."** **www.air.org/**

Burdette, Hillary L., M.D., M.S.; and Robert C. Whitaker, M.D, M.P.H. **"Resurrecting Free Play in Young Children: Looking Beyond Fitness and Fatness to Attention, Affiliation and Affect."** © 2005 American Medical Association.

Caracas International Congress on National parks (1992) World Conservation Monitoring Centre: Find information on protected areas worldwide, status updates, maps and International Congress reports at this site, a collaborative initiative between UNEP and the IUCN. **www.unep-wcmc.org/**

Cobb, Edith (1977) **The Ecology of Imagination in Childhood.** New York: Columbia University Press.

Chawla, Louise. **"Learning to Love the Natural World Enough to Protect It,"** in Barn nr. 2 2006:57-58. © 2006 Norsk senter for barneforskning. Barn is a quarterly published by the Norwegian Centre for Child Research at the Norwegian University of Science and Technology, Trondheim, Norway. This article was written for a special issue in honour of the Norwegian child psychologist, Per Olav Tiller.

Hart, Roger (1997). **Children's Participation: The theory and practice of involving young citizens in community development and environmental care,** Earthscan Publications Limited, UK

Kals, E., Schumacher, D., & Montada, L. (1999). "**Emotional affinity towards nature as a motivational basis to protect nature."** Environment & Behavior, 31(2), 178-202.

Kellert, Stephen R. **"Nature and Childhood Development."** **In Building for Life: Designing and Understanding the Human-Nature Connection.** Washington, D.C.: Island Press, 2005.

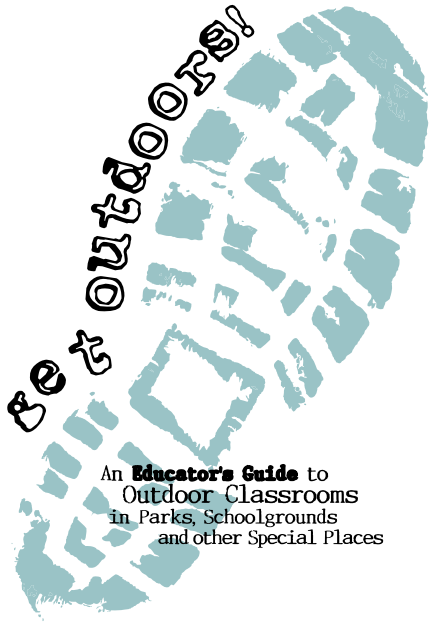
Lieberman, Gerald A.; and Linda L. Hoody. **"Closing the Achievement Gap: Using the Environment as an Integrating Context for Learning."** SEER: Poway, CA, 1998. **"California Student Assessment Project."** SEER: Poway, CA, 2000. Both of these studies are available at **www.seer.org**. The third and most recent of the SEER studies.

Sobel, David. (1996) **Beyond Ecophobia: Reclaiming the Heart in Nature Education.** Great Barrington, MA: The Orion Society.

Taylor, Andrea Faber; and Frances E. Kuo. **"Is Contact with Nature Important for Healthy Child Development? State of the Evidence."** In Spencer, C. & Blades, M. (Eds.), **Children and Their Environments: Learning, Using and Designing Spaces.** Cambridge, UK: Cambridge University Press, 2006.

Wells, N.M., and Evans, G.W. **"Nearby Nature: A Buffer of Life Stress Among Rural Children."** Environment and Behaviour. Vol. 35:3, 311-330. This study is not available online without purchase; it can be obtained by contacting Sage Publications.

White, Randy. **"Young Children's Relationship with Nature: Its Importance to Children's Development & the Earth's Future."**(2004) **www.whitehutchinson.com**



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