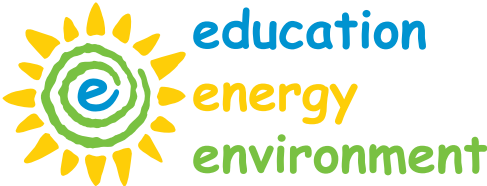


EDUCATION * ENERGY * ENVIRONMENT

BIGGEST CLASSROOM OF THEM ALL

Integrating Naturalization Areas Across the Curriculum



Calgary Board of Education

Table of Contents

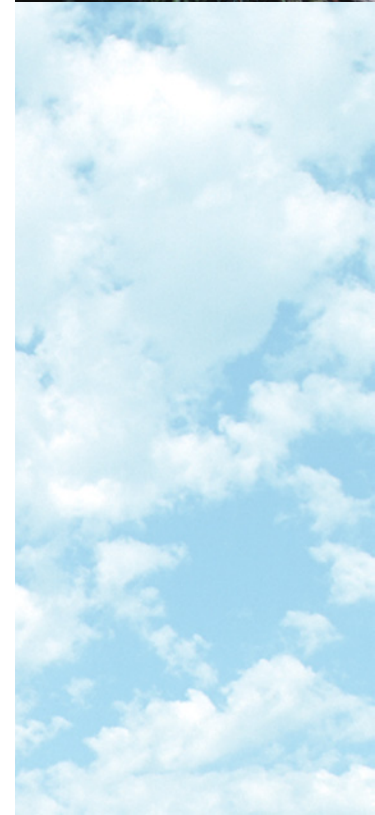
Using this Resource.....	3
Vision.....	3
Mission.....	3
Philosophy.....	3
Curriculum Connections.....	5
Outdoor Classroom Management.....	11
New Activity Invitation.....	13
Resources.....	14

Division One Activity Ideas

Colour – The First Red Maple Leaf.....	18
Shades of Colour Counting & Colour Matching.....	19
Habitat Building – grade 2.....	20
Mapping Outdoor Area.....	21
Rock and Log Habitats.....	22
Creature Creation.....	25
Framing Nature.....	26
Habitat Building - grade 3.....	27
Orienteering In A Natural Area.....	28
Abiotic Changes.....	30
Grab Bag.....	31
Seasonal Change.....	32
Get to Know Your Neighbour.....	34

Division Two Activities

Earth Tones.....	35
Framing Nature.....	36
If You're Not From The Prairie.....	37
Indian Paintbrush – Use of plants by the native people of Alberta.....	38
Framing Nature – grade 5.....	39
Scavenge or Steal.....	40
Using Trees to find Perimeter and Area, follow up to Tree Identification – grade 5.....	41
Be A Tree.....	42
Framing Nature – grade 6.....	43
Solitude Thought Spot.....	44
Tree Identification using Dichotomous Key.....	46
Using Trees to find Perimeter and Area, follow up to Tree Identification – grade 6.....	47
Treasure Hunt.....	48
Guide Book.....	49
What's in a picture?.....	50
Snow Fossils.....	51
Letter to Self.....	52



Introduction

Naturalization areas are a wonderful vehicle for increasing people's connections with the environment. Indeed, close to seventy Calgary Board of Education schools now have a naturalization area to support the delivery of the program of studies and improve the environmental quality of their community. With close to 85% of Canadians now living in urban settings, the costs and challenges associated with taking students off site and the ever decreasing amount of time people spend in nature, outdoor classrooms offer an excellent opportunity to educate and interact with the environment on a consistent and regular basis.

Acknowledgements

The project is the result of the efforts of Laurelle Edmiston and Debra Shaw, teachers at Ecole Sam Livingston School, where their naturalization area is an integrated part of the school learning and teaching strategies and Sonia Law, of the Grounds For Change program at the Calgary Zoo, who efforts support to naturalization area efforts in the Calgary area. Jeff Reading served as editor and the project was desktopped and prepared for the internet by Vern Akitt and Leslie Miller of CBE's Media Services. We would like to recognize all the teachers, community members and organizations that participated in the think tanks that occurred through the past year that also contributed to the development of this resource.

Using this Resource

This project is designed as an online resource for people who want to use naturalization areas as a venue for delivering the program of studies. It is not intended to be printed, although a PDF is available. Instead the intent for this project is to provide an online resource that people will regularly contribute ideas and thoughts to, so that it grows and develops over time.

The project is linked and anchored in an effort to connect you with as many resources that support the use of naturalization areas as a curriculum tool as possible.

Each activity description contains a grade level focus, although with some creativity these activities will work with a variety of grade levels, so take a look at all the activities for potential fit with the grade you teach.

Please contribute ideas and activities! If you have a good activity, complete the blank activity template. If you discover a good resource (website, publication, service provider) please send them along. All information and requests can be emailed to info@ecoTeam.cbe.ab.ca

Vision

"The Biggest Classroom Of Them All" is a CBE project in conjunction with the Education Department at the Calgary Zoo. Outdoor classrooms help develop natural curiosity through authentic interdisciplinary hands-on learning. By providing opportunities to interact with the outdoors on a regular basis, the classroom connects to the natural world. Lifelong stewardship for natural areas will be developed through meaningful connections between the outdoors, the curriculum and the CBE Ends.

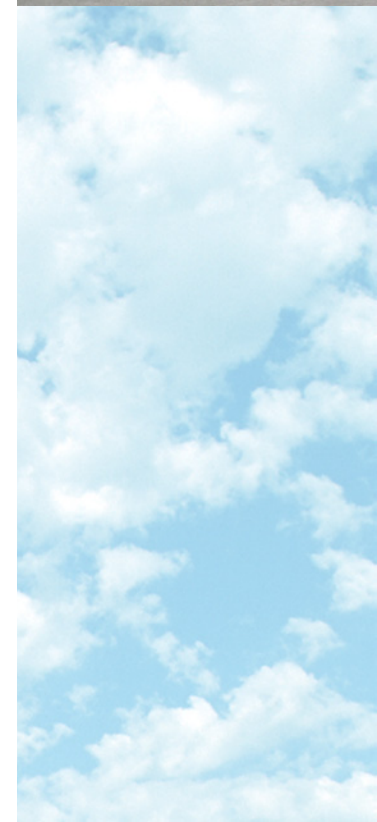
Mission

To provide teachers in grades 1 through 6 with tools that will support opportunities to access and incorporate well-developed, meaningful lesson plans connecting the outdoor environment to all areas of the curriculum.

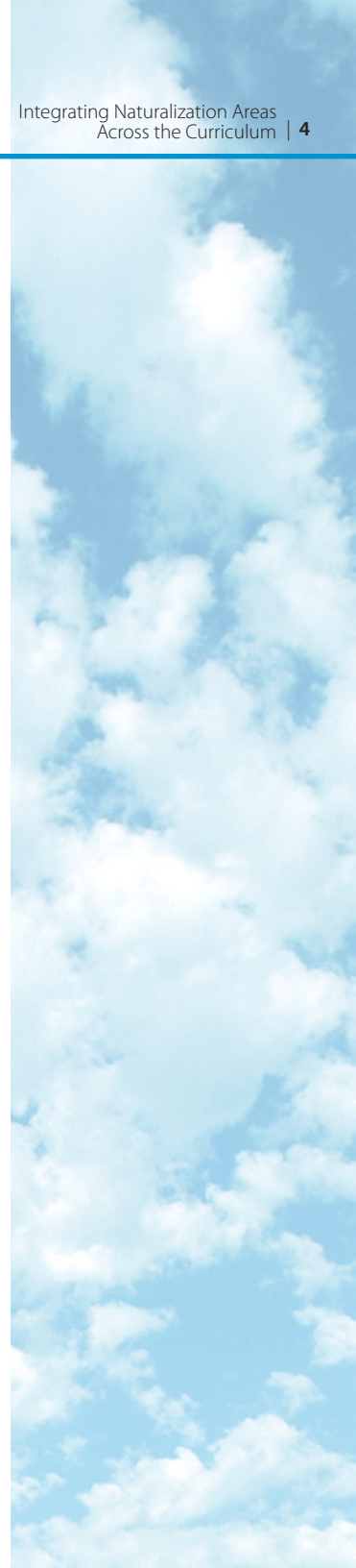
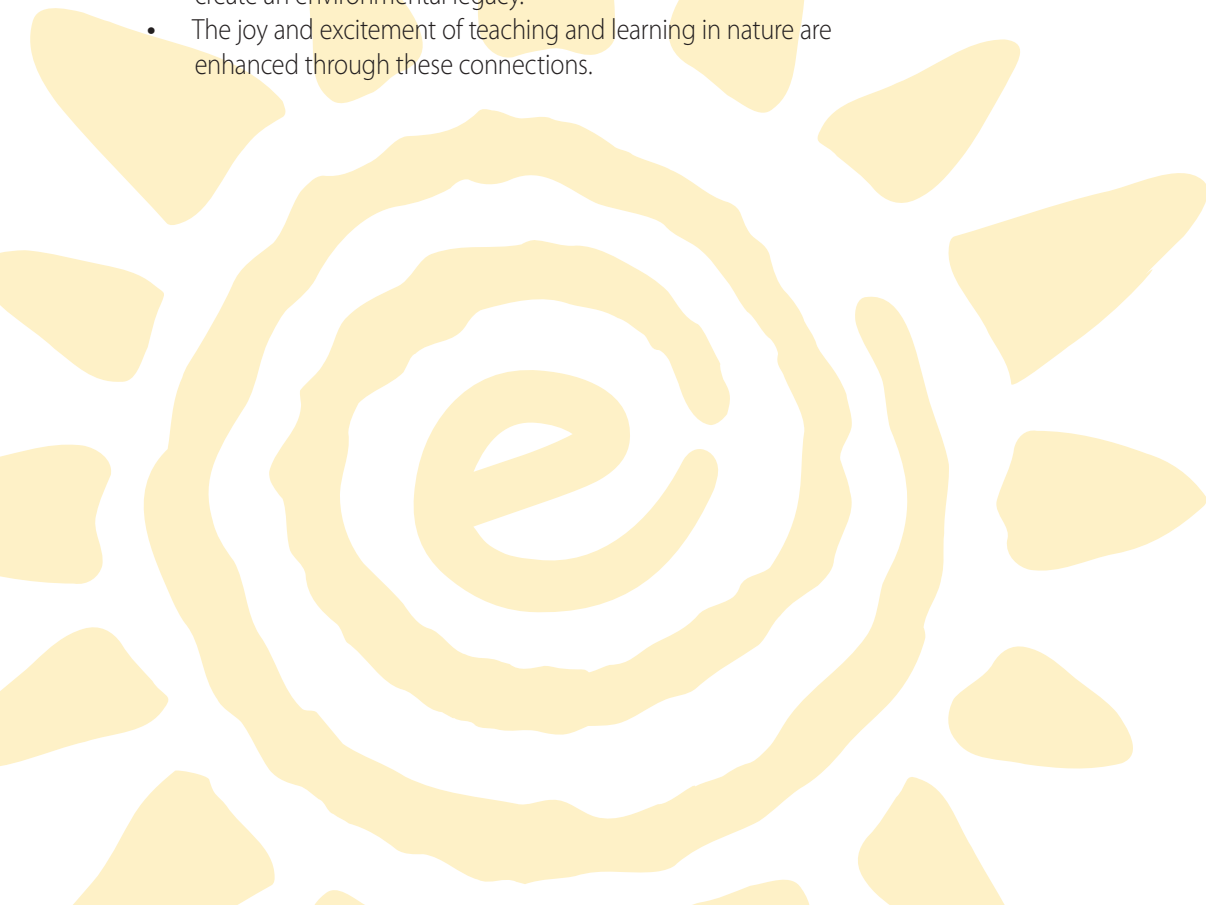
Philosophy

Naturalization areas provide a relevant, cost effective and exciting venue for delivering the Program of Studies:

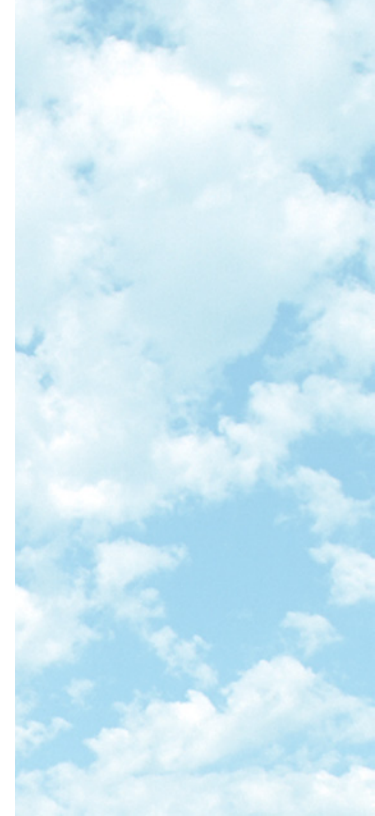
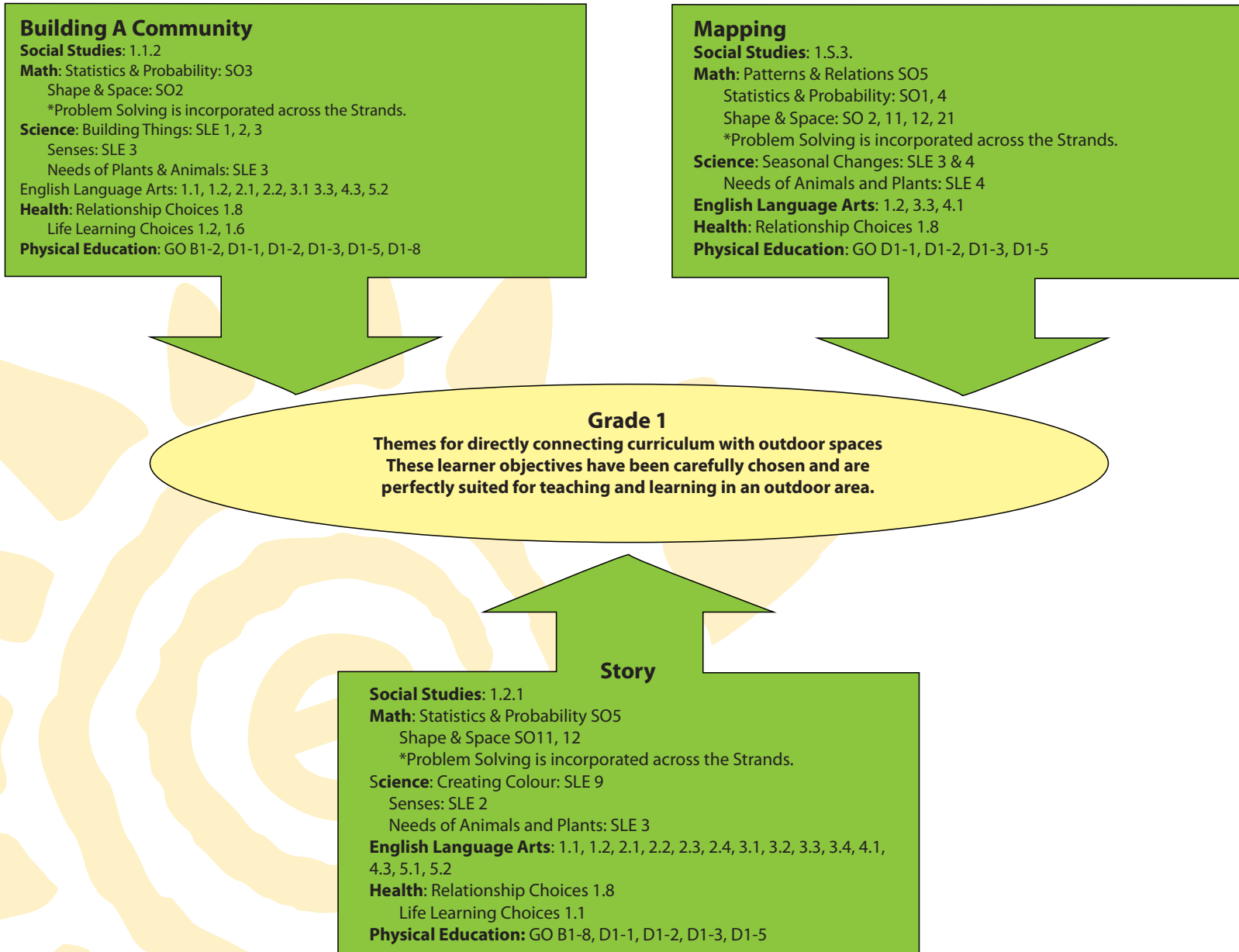
- Teachers become more enthusiastic and confident incorporating their classrooms into the outdoors when they have access to well developed, pedagogically sound lesson plans.
- Teachers do not have to be biologists or environmental experts to utilize the outdoor classroom. They do need enthusiasm and a desire to create learning situations that can be connected with the outdoor environment.
- Outdoor classrooms connect directly to the curriculum in all subject areas and all grade levels. Activities developed to successfully meet the Program of Studies should not be "add-ons", but a unique approach to meet the curricular requirements.
- Daily Physical Activity can be easily integrated to the outdoor classroom to enhance student's quality of learning and quality of life.
- Naturalized areas promote lifelong learning and stewardship.



- Hands-on activities help to solidify skills and knowledge and make learning more interesting and diverse.
- A variety of learning and teaching styles (e.g.: inquiry based, experiential, project-based, multiple intelligences, differentiation, brain-based research) are directly connected to the use of an outdoor classroom.
- There are many accessible city parks, green spaces and other outdoor areas and can be utilized to build on the education experiences that occur in schoolyard naturalization areas
- Naturalized areas promote calmness, positive group dynamics and a feeling of well-being.
- Communities participating in naturalization projects increase community satisfaction, are actively involved in their schools and create environmental citizenship. They have the opportunity to create an environmental legacy.
- The joy and excitement of teaching and learning in nature are enhanced through these connections.



Naturalization areas connect to the Alberta Program of Studies as follows:



Community Interactions

Social Studies: 2.1.2

Math: Statistics & Probability: SO7

Shape & Space: SO20

*Problem Solving is incorporated across the Strands.

Science: Small Crawling and Flying Animals: SLE 2, 3 & 5

English Language Arts: 5.1, 5.2

Health: Relationship Choices 2.8, 2.9

Life Learning Choices 2.5, 2.7, 2.8

Physical Education: GO A2-3, B2-8, D2-5, D2-8, D2-9



Grade 2

Themes for directly connecting curriculum with outdoor spaces
These learner objectives have been carefully chosen and are perfectly suited for teaching and learning in an outdoor area.



Questioning for Inquiry

Social Studies: 2.2.7

Math: Statistics & Probability: SO1, 5 & 6

*Problem Solving is incorporated across the Strands.

Science: Topics A, B, C, D & E.

GLE 2-1, 2-2, 2-3

SLE: Focus, Explore & Investigate, Reflect & Interpret

English Language Arts: 1.1, 2.1, 3.1, 3.2, 4.3, 5.1, 5.2

Health: Life Learning Choices 2.2, 2.3, 2.5

Physical Education: GO C2-1

Community Needs and Connections

Social Studies: 3.1.1, 3.2.2, 3.S.5, 3.S.6

Math: Shape & Space: SO15

*Problem Solving is incorporated across the Strands.

Science: Rocks & Minerals: SLE 7

Animal Lifecycles: SLE 4, 6, 7, 8, 9 & 10

English Language Arts: 2.2, 4.1, 5.1

Health: Relationship Choices 3.3, 3.8

Life Learning Choices 3.2, 3.7, 3.8

Wellness Choices 3.9

Physical Education: GO C3-4, C3-5, D3-3, D3-8



Grade 3

Themes for directly connecting curriculum with outdoor spaces
These learner objectives have been carefully chosen and are perfectly suited for teaching and learning in an outdoor area.



Communication & Application of Understanding

Social Studies: 3.1.3, 3.S.3, 3.S.5, 3.S.7

Math: Number Operations: SO14

Statistics & Probability: SO6

Shape & Space: SO3, 5, 29

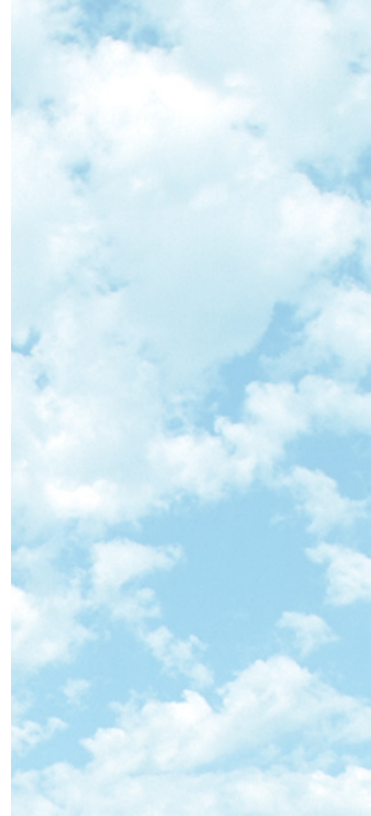
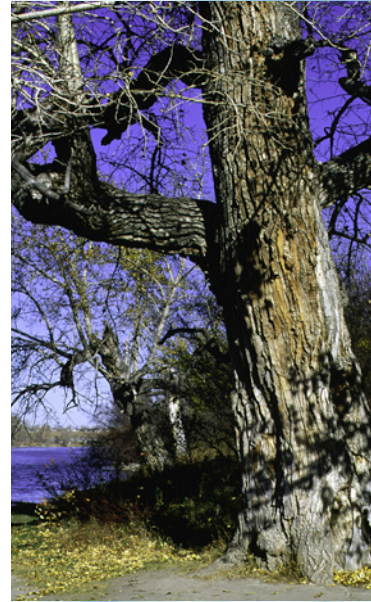
*Problem Solving is incorporated across the Strands.

Science: Rocks & Minerals: SLE 5 & 6

Hearing & Sound: SLE 1, 2 & 5

English Language Arts: 1.1, 1.2, 2.1, 3.1, 3.3, 4.3

Physical Education: GO A3-7, B3-2, B3-6, B3-8, D3-6



Grade 4

Themes for directly connecting curriculum with outdoor spaces
These learner objectives have been carefully chosen and are perfectly suited for teaching and learning in an outdoor area.

Strengthening Communities Through Environmental Literacy

Social Studies: GLE 4.1 – SLE4.1.1., 4.1.2, 4.1.4

GLE 4.2 – SLE 4.2.1

SLE 4.3.1, 4.3.4, 4.S.4, 4.S.5, 4.S.6

Math: Number Operations: SO12

Statistics & Probability: SO5, 6 & 7

Shape & Space: SO23 & 25

Patterns & Relations: SO 1 & 2

*Problem Solving is incorporated across the Strands.

Science: Waste In our World: SLE 1, 2, 3, 4, 5, 6 & 11

Plant Growth and Changes: SLE 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 & 11

English Language Arts: 1.1, 1.2, 2.1, 2.2, 2.4, 3.1, 3.3, 3.4, 4.1, 5.1, 5.2

Health: Relationship Choices 4.3, 4.8, 4.9

Life Learning Choices 4.3, 4.5

Wellness Choices 4.1, 4.2

Physical Education: GO B4-8, C4-5, C4-6, D4-5, D4-8

Grade 5

Themes for directly connecting curriculum with outdoor spaces
These learner objectives have been carefully chosen and are perfectly suited for teaching and learning in an outdoor area.

Citizenship and Identity Within a Diverse Community

Social Studies: GLE 5.1 – SLE 5.1.1, 5.1.3

GLE 5.2 – SLE 5.2.1, 5.2.2

GLE 5.3 – SLE 5.3.1

SLE 5.S.1, 5.S.2, 5.S.3, 5.S.4, 5.S.5, 5.S.8

Math: Statistics & Probability: SO2, 3, 4, 5, 6, 7, 8, 10, 11 & 12

*Problem Solving is incorporated across the Strands.

Science: *Weather Watch:* SLE 6, 11 & 12

Wetland Ecosystems: SLE 2, 5, 9, 10 & 11

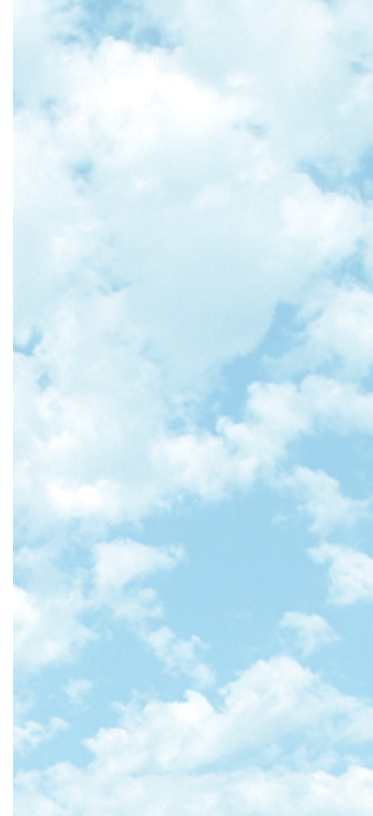
English Language Arts: 1.2, 2.1, 2.2, 2.4, 3.1, 3.4, 4.3, 5.1, 5.2

Health: Relationship Choices 5.4, 5.8, 5.9

Life Learning Choices 5.3, 5.4

Wellness Choices 5.7

Physical Education: GO B5-8, C5-1, C5-3, C5-5, C5-6, D5-8



Grade 6

Themes for directly connecting curriculum with outdoor spaces
These learner objectives have been carefully chosen and are perfectly suited for teaching and learning in an outdoor area.

Environmental Democracy? (Identification & Decision Making)

Social Studies: GLE 6.1 – SLE 6.1.6
SLE 6.S.5, 6.S.6

Math: Statistics & Probability: SO 2, 3, 4, 5, 6, 7, 8, 9, 10, 13,14
Patterns & Relations: SO 2, 4
*Problem Solving is incorporated across the Strands.

Science: Evidence & Investigation: SLE 1
Trees & Forests: SLE 1, 2, 3, 8, 9, 10

English Language Arts: 1.1, 1.2, 2.1, 2.2, 2.4, 3.1, 3.4, 3.4, 4.1, 4.3, 5.1, 5.2

Health: Relationship Choices 6.1, 6.3, 6.6, 6.9
Life Learning Choices 6.3, 6.7, 6.8
Wellness Choices 6.1, 6.10

Physical Education: GO B6-4, B6-8, C6-1, C6-3, C6-4, C6-5, C6-6, D6-2, D6-5, D6-8

Before even going out to your naturalization classroom, here are a few tips for a successful activity session.

Pre-planning

- Identify curriculum objectives and plan activities accordingly (aim for covering all seasons and possibly weather!)
- Identify and anticipate rules and regulations regarding supervision, volunteers, and weather restrictions.
- Know any issues related to the group of students (i.e. allergies, asthma, behavioural concerns) and plan accordingly
- Know your site! Be familiar with any hazards, as well as opportunities. Create a map that identifies features, boundaries, etc. to review with students (naming areas can really help). Discuss these hazards with students and help them to be able to make good choices when presented with varying circumstances.
- Communicate with the school office and let the school know where you are when you go outside – even when you stay on school property.
- Early in the school year consider going outside for short periods of time when it is inclement. This will reinforce the notion that it is okay to be outside when it's raining or snowing. This will help with delivering activities throughout the year.
- After all efforts to determine who owns lost and found items have been exhausted, consider laundering them and developing a class set of outdoor clothing that could be used by students who are not properly prepared for the outdoor weather conditions

Before Going Outside

For teacher:

- Plan specific activities and outcomes.
- Consider time management, equipment, resources, etc.
- Develop a clear supervision plan that considers the site and the uniqueness your students offer
- Have a "Plan B" for inclement weather or students who are unprepared.

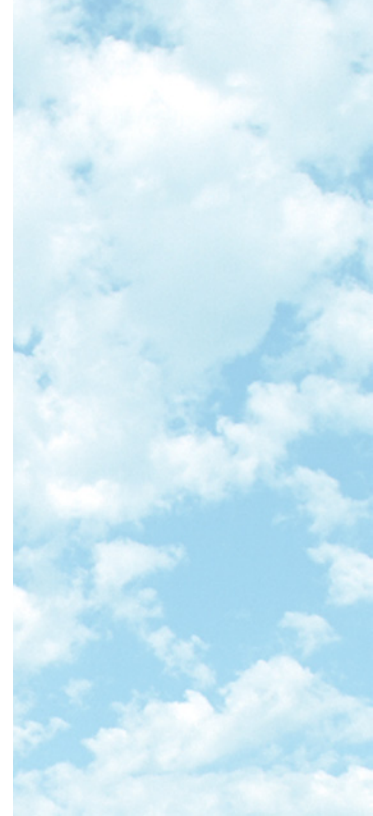
- Recognize immediate weather conditions (i.e. wind, sun in your eyes) and plan accordingly.
- Communicate that you are in this area. Do you need to book the space?

With Students:

- Set-up expectations for behaviour outdoors: what is different from when you are inside, what is the same).
- Explain the activities they will be engaging in outdoors on that specific occasion.
- Plan for students to have appropriate seasonal clothing on hand (i.e. gloves, jackets, hats for sun, insect repellent, etc...)
- Identify and practice gathering signals.
- Identify working groups and/or pairs ahead of time.
- Discuss travel directions, instructions, and a meeting place on the site.
- Plan for students to bring equipment and materials they will need. You may want to create kits for outdoor class activities. Small whiteboards with bulldog clips are fabulous if you do not have clipboards!

Once You Are Outside

- Give any direction or instructions without sunglasses on, students listen more and will listen/watch more intently.
- Reinforce the boundaries.
- Practice gathering signals.
- Start with activities for the whole group before breaking into smaller groups.
- Model the activity, if appropriate.
- Keep checking in with groups.
- Allow time to reflect and report on what the activity uncovers

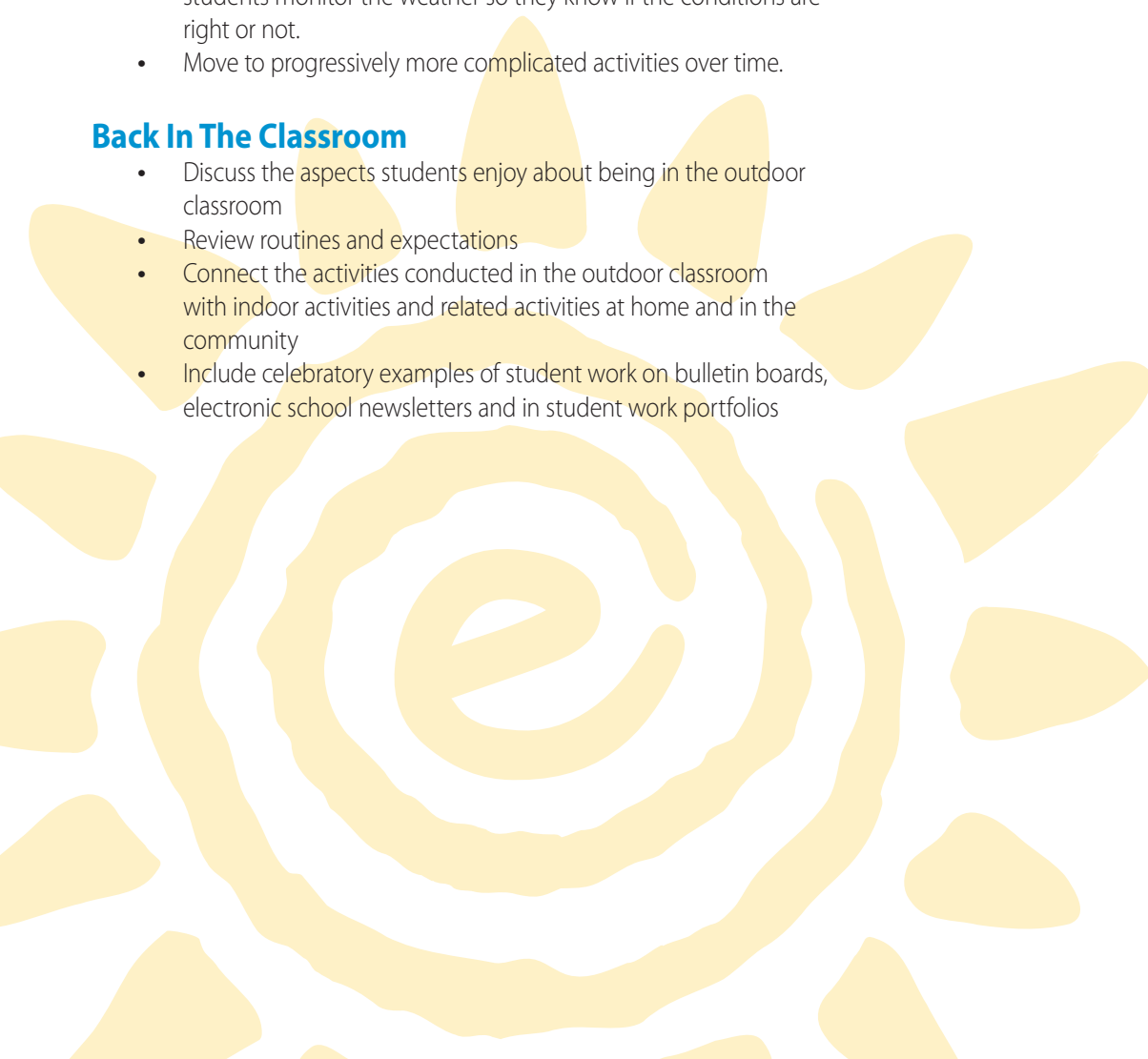


Overall Strategies

- Create a routine or ritual that students follow when going outside for class activities.
- Make this a special privilege, but something that happens often enough that the novelty wears off a bit.
- Spread the visits outdoors as evenly as possible over the school year.
- Create guidelines for when the class can or can't go outside. Have students monitor the weather so they know if the conditions are right or not.
- Move to progressively more complicated activities over time.

Back In The Classroom

- Discuss the aspects students enjoy about being in the outdoor classroom
- Review routines and expectations
- Connect the activities conducted in the outdoor classroom with indoor activities and related activities at home and in the community
- Include celebratory examples of student work on bulletin boards, electronic school newsletters and in student work portfolios



New Activity Invitation

The intent of the document is for it to grow and people contribute new activities. Please take a few minutes and complete this blank activity template for one of your good ideas and email it to ecoteam@cbe.ab.ca. Send in as many activities as you wish. These will be formatted and posted on the EcoTeam website. Thank you for your contributions of time and expertise.

Contributors name:

School:

Activity name:

Grade level:

Subject/curriculum objectives (GLE & SLE):

Time suggestion:

Materials/preparation:

Suggested teacher resources:

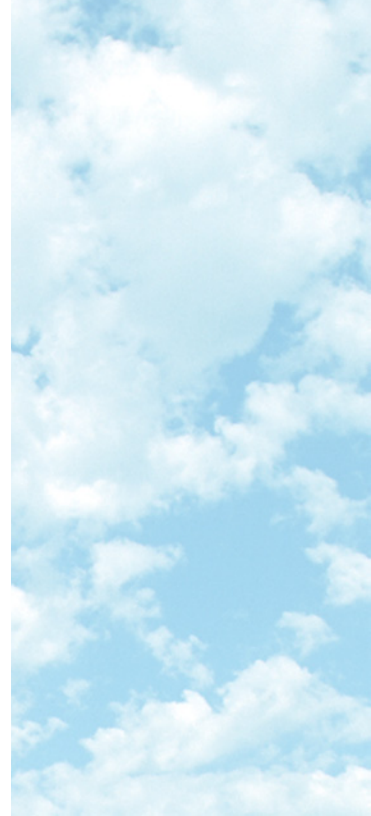
Internet links:

Teacher Activity Information:

Community Involvement ideas:

Take Home Actions:

Please include copies of student worksheets, pictures of students learning in a naturalization area or any relevant resources to consider.



Resources

The following are some of the resources that are available that could be used to augment the activities in an outdoor setting.

Publications

Applehof, Mary. Worms Eat My Garbage. Flower Press, Kalamazoo, MI, 1997.

Applehof, Mary, Mary Frances Fenton & Barbara Loss Harris. Worms Eat Our Garbage: Classroom Activities for a Better Environment. Flower Press, Kalamazoo, MI, 1997.

Arlidge, Sue and Gareth Thomson. Five Minute Field Trips. Global Environmental and Outdoor Education Council of the Alberta Teachers' Association with the Calgary Zoo, Calgary, Alberta, 2000. Available for downloading: <http://www.geoec.org/lessons/index.html>

Bubar, Carl J, McColl, Susan J. and Hall, Linda M. Weeds of The Prairies. Edmonton, AB: Alberta Agriculture, Food and Rural Development Publishing Branch, 2000.

Caduto, Michael J. and Joseph Bruchac. Keepers of Life: Discovering Plants Through Native American Stories and Earth Activities for Children. Fulcrum Publishing Golden, CO, 1998.

Cornell, Joseph and Michael Deranja. Journey to the Heart: A Guided Exploration. Nevada City, CA: Dawn Publications, 1994.

Cornell, Joseph Bharat. Sharing Nature with Children. Nevada City, CA: Ananda Publications, 1979.

Edmonton Public Schools. Edmonton Public Schools Science Units. Edmonton, AB. Edmonton Public Schools, 1996.

The Evergreen Foundation. Nature Nurtures: Investigating the Potential of School Grounds. Evergreen, Toronto, ON, 2000.

The Evergreen Foundation. A Guide to School Ground Naturalization: Welcoming Back the Wilderness. Prentice Hall Canada, Scarborough, ON, 1994.

Flanagan, Tom and the Los Angeles City School Instructional Planning Division. The Butterfly Curriculum (4 volumes, K-2,3-6, Jr. High and High School). Insect Lore Products, Shafter, CA.

GEMS. Schoolyard Ecology. Lawrence Hall of Science, University of California at Berkeley, CA. 1998.

Green Teacher. Greening School Grounds. Tim Grant and Gail Littlejohn, editors. New Society Publishers, Gabriola Island, B.C., 2001.

Grounds for Change - A User's Guide to Schoolyard Naturalization. Publication of the Calgary Zoo, 2002.

Hare, R., C. Attenborough and T. Day. Geography in the School Grounds. Learning Through Landscapes Trust, Southgate Publishers Ltd., Exmouth, Devon, 1996.

Hayley, Diane and Pat Wishart. Knee High Nature: Fall in Alberta, Knee High Nature, Sherwood Park, AB, 1989.

Hayley, Diane and Pat Wishart. Knee High Nature: Spring in Alberta, Knee High Nature, Sherwood Park, AB, 1991.

Hayley, Diane and Pat Wishart. Knee High Nature: Summer in Alberta, Knee High Nature, Sherwood Park, AB, 1990.

Hayley, Diane and Pat Wishart. Knee High Nature: Winter in Alberta, Knee High Nature, Sherwood Park, AB, 1988.

Hickman, Pamela. The Jumbo Book of Nature Science. Kids Can Press Ltd., Toronto, ON. 1996.

Hogan, Kathleen. Eco-Inquiry: A Guide to Ecological Learning Experiences for the Upper Elementary/Middle Grades, Institute of Ecosystem Studies Eco-Inquiry Project, Kendall/Hunt, Dubuque, Iowa, 1994.

Hunken, Jorie and The New England Wild Flower Society. Botany for all Ages: Discovering Nature Through Activities for Children and Adults. The Globe Pequot Press, Chester, CT, 1993.

- Inkpen, Wayne and Van Eyk, Rob. Guide to Common Native Trees and Shrubs of Alberta. Edmonton, AB: Alberta Environment. (Inside-Education (FEESA) resource.)
- Jaffe, Roberta and Gary Appel. The Growing Classroom. Addison-Wesley Publishing Company, Menlo Park, CA. 1990.
- Jurenka, Nancy Allen and Rosanne J. Blass. Beyond the Bean Seed. Libraries Unlimited, Inc. Englewood, CO. 1996.
- Keaney, Brian. Arts in the School Grounds. Learning Through Landscapes Trust, Southgate Publishers Ltd., Exmouth, Devon, 1996.
- Keaney, Brian. English in the School Grounds. Learning Through Landscapes Trust, Southgate Publishers Ltd., Exmouth, Devon, 1993.
- Kerik, Joan. Living With The Land: Use of Plants by the Native People of Alberta. Edmonton, AB: Alberta Culture.
- Kiefer, Joseph and Martin Kemple. Digging Deeper. Common Roots Press, Montpelier, VT. 1998.
- Kirker, Jill and Diana Kary. Exploring Nose Hill. Grassroots N.W., Calgary, AB. 1996 Available by contacting: Jill Kirker, 209-2245
- Kriesberg, Daniel A. A Sense of Place: Teaching Children about the Environment with Picture Books. Teacher Ideas Press, Englewood, CO, 1999.
- Johns, Frank A., Kurt Allen Liske and Amy L. Evans. Education Goes Outdoors. Binghamton, NY: Addison - Wesley, 1986.
- Tim Grant and Gail Littlejohn, editors, Green Teacher. Greening School Grounds. New Society Publishers, Gabriola Island, B.C., 2001. Also Green Teacher magazine, especially vols. 47, 49, 50, 51, 53
- Lachecki Herman, Marina et al. Teaching Kids to Love the Earth. Duluth, MN: Pfeifer-Hamilton, 1985.
- Lingelbach, Jennifer ed. Hands-On Nature: Information and Activities for Exploring the Environment With Children. Woodstock, VT: Vermont Institute of Natural Science, 1996.
- Lott, Steve. Patterns, Plants and Playgrounds: Educational Activities for B.C. School Grounds. TD Evergreen, Toronto ON. 2001.
- MacGreenler, Robin. Prairie Restoration for Wisconsin Schools. University of Wisconsin Press, Madison, WI, 1988.
- Midland Public Garden Collaborative. Interdependence: Links Between Plants & Animals.
- National Wildlife Federation. Access Nature, 2001. (<http://www.nwf.org/schoolyard/>)
- Orion Society. Bringing the World Alive - A Bibliography of Nature Stories for Children. New York, NY, 1995.
- Pearce, Tony. Butterflies: A Practical Guide to their Study in School Grounds. Permagon Press Canada Ltd., Willowdale, ON, 1990.
- Pearce, Tony. Exploring Woodlands: A Cross-Curricular Approach to Investigations of the Woodland Environment. Permagon Press Canada Ltd., Willowdale, ON; 1990.
- Pevec, Illene. Ethnobotany: Patterns in Relationships. TD Evergreen, Vancouver, B.C., 2002.
- Pranis, Eve and Joy Cohen. GrowLab: Activities for Growing Mind. National Gardening Association, Burlington, Vermont, 1990.
- Pranis, Eve and Jack Hale. GrowLab: A complete guide to gardening in the classroom. National Gardening Association, Burlington, Vermont, 1988.
- Rhyyech-Evans, Zoe. Mathematics in the School Grounds. Learning Through Landscapes Trust, Southgate Publishers Ltd., Exmouth, Devon, 1993.
- Reuf, Kerry. The Private Eye: (5x) Looking / Thinking by Analogy. Seattle, WA: The Private Eye Project, 1998.
- Roberts, Janet Wier and Carol Huelbig. City Kids, City Critters, McGraw-Hill/Contemporary Books, Blacklick, OH, 1996.
- Robertson, Anne. Fish Creek Provincial Park, A Guide To Canada's Largest Urban Park, Rocky Mountain Books, Calgary, 1991



Sheehan, Kathryn and Mary Waidner. *Earth Child – Games, Stories, Activities, Experiments and Ideas About Living Lightly on Planet Earth*. Council Oak Books, Tulsa, OK, 1991.

Seabury, Debra L. *Ready to Use Environmental Science Activities for the Elementary Classroom*. The Centre for Applied Research In Education., New York, 1994.

Sobel, David. *Mapmaking With Children: Sense of Place Education for the Elementary Years*. Heinemann Portsmouth, NH, 1998.

Stoner, Darlene. *TAKING ACTION: An Educator's Guide to Involving Students in Environmental Action Projects*. Council for Environmental Education, Bethesda, MA, 1991.

Weir, Janet. *City Kids and City Critters: Activities for Urban Explorers*. Houston Arboretum and Nature Center, Learning Triangle Press, Houston, TX, 1996.

Guidebooks to such things as plants, animals, birds, insects, etc that suit your grade level

Websites

Awesome Library – Education Resources
www.awesomelibrary.org/

Discovery Channel – Lesson Plans
<http://school.discovery.com/>

EELink
<http://eelink.net/pages/EE-Link+Introduction>

Gander Academy – Weather Theme
<http://www.stemnet.nf.ca/CITE/weather.htm>

Global, Environmental & Outdoor Education Council
www.geoec.org

The Greater Victoria Compost Education Center
www.compost.bc.ca/index.html

The Green Brick Road
www.gbr.org

Green Teacher
<http://www.greenteacher.com/>

LifeLab Science Program
<http://www.lifelab.org/>

Plant Watch (Canada)
<http://www.naturewatch.ca/english/plantwatch/>

Soil Science Basics
<http://soil.gsfc.nasa.gov/basics.htm>

Students in a Project-based Learning Approach to Schoolyard Habitat Development
<http://web.stclair.k12.il.us/splashd/schlyrd.htm>

Schoolyard Ecosystems – for Gr. Science
<http://www.kfs.ucalgary.ca/schoolyard.php>

Tuckahoe Discovery Schoolyard
<http://www.arlington.k12.va.us/schools/tuckahoe/schoolyard/>

Videos

The Evergreen Foundation. *Grounds For Change*. Toronto, ON, 2001.

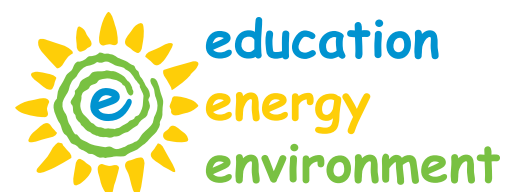
National Film Board of Canada. *A Crack in the Pavement: Digging In and Growing Dreams*. Montreal, QC, 2000.

Van Matre, Steve & Hosessle, Kirk. *Earthwalks*. Institute for Earth Education, Greenville, WV, 1984.

BIGGEST CLASSROOM OF THEM ALL

Integrating Naturalization Areas Across the Curriculum

DIVISION ONE ACTIVITY IDEAS





Biggest Classroom of Them All

Activity name:

Colour – The First Red Maple Leaf

Grade level: Grade 1

Subject/Curriculum Objectives (GLE & SLE):

- Science: Creating Colour Topic A: SLE 1, 2
- Social Studies: 1.1.1, 1.1.2, 1.1.3
- ELA: 1.1, 1.2, 2.1, 2.2, 3.1, 4.1, 4.3
- PE: A1-1, C1-1, C1-3 if students are role-playing, C1-5, D1-2, D1-3, D1-5.

Time suggestion:

- 30 minutes

Materials/Preparation:

- Possible follow up to activity: Shades of Colour Counting & Colour Matching
- Book: The First Red Maple Leaf, by Ludmila Zeman
- Discuss the maple leaf as the symbol of Canada

Teacher Resources:

- None

Activity Sheet or Internet link:

- None

Teacher Activity Information:

This can be a follow-up to the activity: Shades of Colour Counting & Colour Matching.

Before reading, students can share experiences regarding leaves changing colour and falling. Predict story from title page, notice the different shades

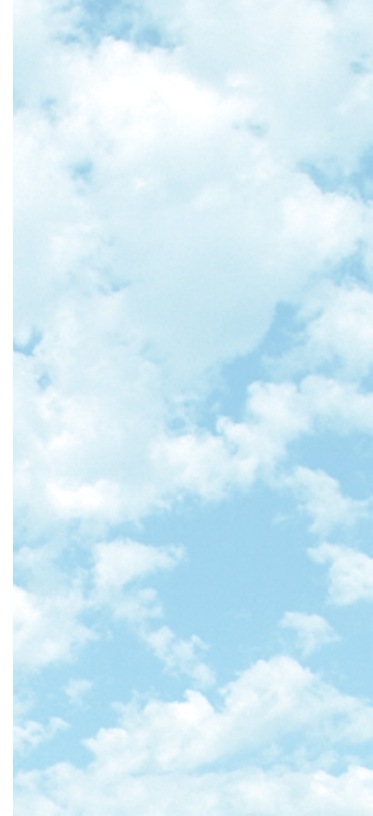
of colours. Teacher reads story. Story can be read in the Naturalized area or in the classroom. Have students retell story in own words to a partner or buddy class. Another possibility is to act out the story outside. The Social Studies discussion should include how belonging to groups and communities enriches an individual's identity.

Community Involvement:

- None. However, could be shared with a Senior's Home.

Take Home Actions:

- Collect leaves of different shades of colours.
- Retell story to parents.





Biggest Classroom of Them All

Adapted by:
Debbie Shaw & Laurelle Edmiston, Ecole Sam
Livingston School School

Activity name:

Shades of Colour Counting & Colour Matching

Grade level: Grade 1

Subject/Curriculum Objectives (GLE & SLE):

- Science: Creating Colour Topic A: SLE 1, 2

Time suggestion:

- 30 minutes

Materials/Preparation:

- 6cm x 6cm construction paper (different colours) or paint swatches

Teacher Resources:

- SAM – Science Assessment Manual Grade 1

Activity Sheet or Internet link:

- None

Teacher Activity Information:

Shades of Colour

- Have students hold up hands in a fist by their shoulders. Have them put up one finger for each different shade of green that they see (or any colour that you choose). Stop after 1 minute. Ask them to share the number of fingers they have up with the person next to them. Have them use their vocabulary e.g.: “The leaf is a lighter shade of green than the grass.” Discuss whether colours are manufactured or natural.

Colour matching

- Give students 2 colours of construction paper or paint swatches. Have them work with a partner and look for 3 similar objects the same size or smaller than the paper. 2 objects match each of the colours and 1 object has both colours in it. If possible, have the students bring back objects to share in-group.
- Discussion: comparing and contrasting, manmade vs. manufactured objects
- Follow up activity is Colour: The First Red Maple Leaf

Vocabulary

- Brighter, darker than, lighter than, manufactured, more blue (more green, etc), natural

Community Involvement:

- Students can look in the distance to see if any other colours match their swatch. Possible with a neighborhood walk.

Take Home Actions:

- Share activity and vocabulary with their family, possibly a walk around their community.



Biggest Classroom of Them All

Adapted by: Debbie Shaw & Laurelle Edmiston,
Ecole Sam Livingston School

Activity name:
Habitat Building

Grade level: Grade 2

Subject/Curriculum Objectives (GLE & SLE):

- Science: Small, Crawling & Flying Animals Topic E:
SLE 1, 2, 3, 6

Time suggestion:

- 30 minutes - 1 hour

Materials/Preparation:

- Sample habitats (pictures, books, etc)

Teacher Resources:

- None required. Perhaps some books and pictures of habitats.

Activity Sheet or Internet link:

- None required

Teacher Activity Information:

- Divide the students into small groups of 2-3 people. Show the sample habitats. Challenge the groups to replicate a habitat using only available natural materials. Once they are finished ask the following questions:

1. How did your group work together to build the habitat?
2. What were the different strategies that you used?
3. Did everyone in your group contribute, how?

4. How does your nest compare to the sample habitat?

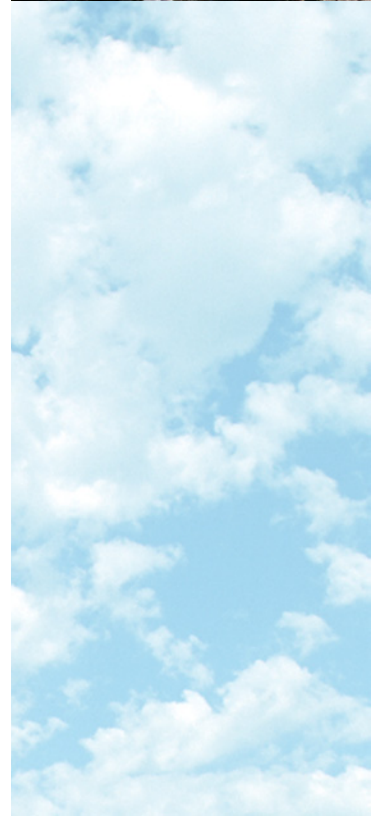
NOTE: Be sure to return any "natural" materials back to the natural world. Creatures might actually need these materials.

Vocabulary:

- Habitat, natural materials

Community Involvement:

- none





Biggest Classroom of Them All

Take Home Actions:

- none

Adapted by: Laurelle Edmiston & Debbie Shaw

Activity name:

Mapping Outdoor Area

Grade level: Grade 2

Subject/Curriculum Objectives (GLE & SLE):

- Social Studies: 2.1.1, 2.S.3
- Math: Shape and Space SLE 19, 20, Statistics and Probability SLE 3
- Art

Time suggestion:

- 1 hour to map outside. Other class sessions to complete 3D plan of natural area using geometric shapes.

Materials/Preparation:

- Grid paper (1cm x 1cm), pencils, clipboards
- If wanted, could start with a lesson on compasses and students could have these on hand for the activity.
- Copies of 3D geometric shapes for students to colour, cut and paste on to 3D map.

Teacher Resources:

- Math to the Max for grid paper and nets.

Activity Sheet or Internet link:

- Copy grid sheet paper from any Math resource.
- 3D math geometric shapes (Net) from any Math resource (e.g.: Math to the Max – Shape and Space).

Teacher Activity Information:

- Discuss compass rose and have students place cardinal directions on grid paper. Find the four directions outside as a class. Students then draw on their grid paper rocks, trees, logs, plants and any other significant objects from natural area. Could be done in colour or in pencil.
- Students could then develop a 3D plan of the Natural area by cutting, colouring and pasting 3D shapes (Nets) on to the grid paper. Or teacher could increase the size of the grid paper and have students try to build their plan from the 8.5 x 11 drawing on to 11 x 14 sheet. Students could sketch first then use shapes on top.

Vocabulary

- Compass rose, north, south, east, west. If doing 3D plan – cube, sphere, cone, cylinder, pyramid, 3D.

Community Involvement:

- Take a field trip to somewhere else in the community and repeat activity. Extend knowledge of Compass Rose by walking around the community and using compasses.

Take Home Actions:

- Students could make a map at home of their own backyard or a nearby outdoor area.



Biggest Classroom of Them All

Adapted by: Debbie Shaw & Laurelle Edmiston, Sam Livingston

Activity name:

Rock and Log Habitats

Grade level: Grade 2

Subject/Curriculum Objectives (GLE & SLE):

- Science: Small, Crawling and Flying Animals, Topic E: SLE 1, 2
- Math: Number Concepts SLE 2, Shape and Space SLE 2, Statistics and Probability SLE 3

Time suggestion:

- 1 hour or more

Materials/Preparation:

- Bug viewers, magnify lenses, meter sticks or measuring tape
- Pencil, clipboard and worksheets if wanted – see attached

Teacher Resources:

- Edmonton Unit, Topic E Small, Crawling and Flying Animals

Activity Sheet or Internet link:

- See 2 attached sheets

Teacher Activity Information:

- Discuss an “environment” and “habitat” before this activity. Brainstorm the question either inside or outside “What small, crawling and flying animals might be found in different areas of the school yard?” Remind students to treat the environment carefully, what they move they need to out back. Students work with a partner, find a rock and measure it. Then they turn it over carefully.

Students need to identify the creatures, plants, soil and any other findings from under the rock. If any animals scurry out, where do they go? Students record their information on the rock/log sheet. Repeat the same steps but using a log or piece of wood. Look on the outside of the bark and the inside if it is hollow. Underneath the log, it may be turning to soil. Have students notice differences in the log such as decaying portions and tunnels made by small creatures. Record the information on sheet. Students return to class or stay outside and can complete second worksheet with similarities and differences – Venn diagram.

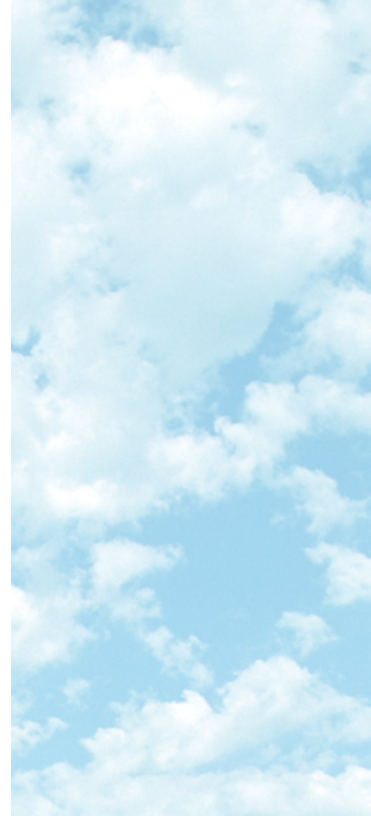
Vocabulary

- Environment, entomologist, ecosystem, habitat, insect, community

Community Involvement:

- Could go to a community park and compare with schoolyard findings.

Take Home Actions:





Biggest Classroom of Them All

- Take sheet home and explain to parents. Possibility repeat activity at home. Compare and discuss back in class.

Adapted by: Debbie Shaw & Laurelle Edmiston, Sam Livingston

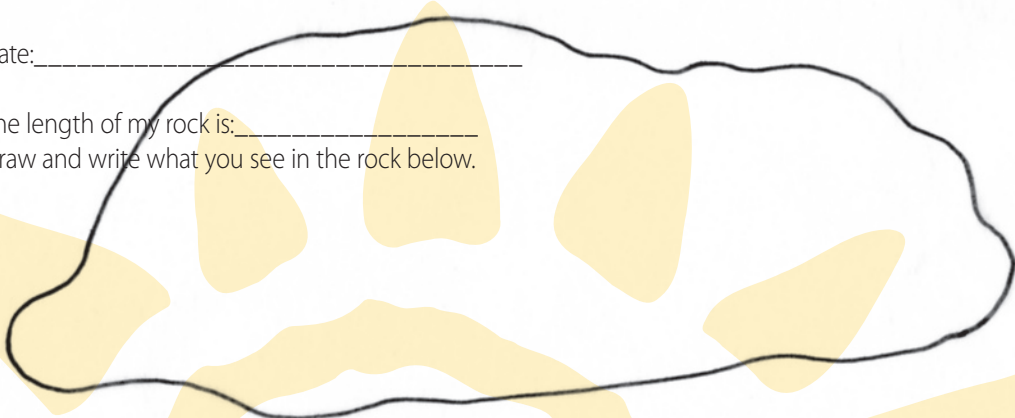
Rock and Log Habitats

Name: _____

Date: _____

The length of my rock is: _____

Draw and write what you see in the rock below.



The length of my log or piece of wood is: _____

Draw and write what you see in the log below.





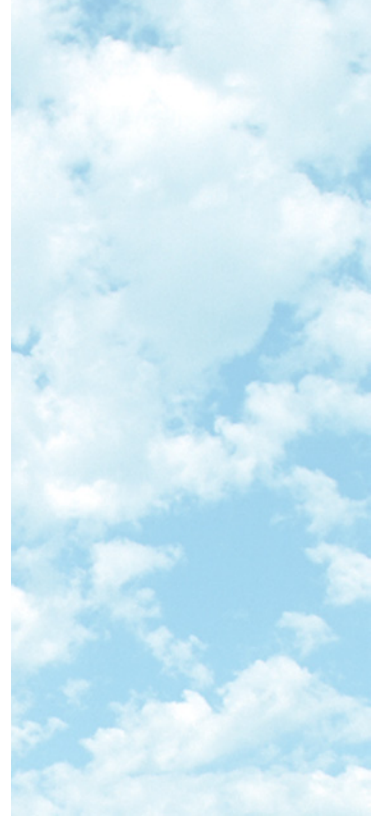
Biggest Classroom of Them All

Rock and Log Habitats – Venn diagram

Name: _____

Date: _____

Write or draw what you saw just under the rock, just under the log and then what you saw under both the rock and the log.





Biggest Classroom of Them All

Activity name:

Creature Creation

Grade level: Grade 3

Subject/Curriculum Objectives (GLE & SLE):

- Science: Animal Lifecycles Topic E: SLE 4, 6, 7, 8, 10.

Time suggestion:

- 1 hour

Materials/Preparation:

- Not required

Teacher Resources:

- Not required

Activity Sheet or Internet link:

- Not required

Teacher Activity Information:

- Divide the participants into small groups and ask them to create an imaginary creature using natural materials from an outdoor environment.
- Once they are finished have each group decide the following questions:
 1. What is your creature's name?
 2. Where does it live? What features does it have to create it's home?
 3. What does it eat? Is it a herbivore, carnivore or omnivore?
 4. Is it a producer, consumer, or decomposer? A predator or scavenger?
 5. What kind of sound does it make?
 6. What type of tracks does it leave?
 7. Does your creature migrate or hibernate and where?
 8. Any other details that you would like to add.

9. Have the groups present their creatures to the other participants. Have the participants discuss different adaptations for their creatures.
 - Ask each person to create another animal while focusing on animal adaptations. Students must include 3 to 5 different adaptations in this process.

Vocabulary:

- Migrate, hibernate, predator, scavenger, consumer, producer, decomposer, herbivore, carnivore, omnivore.

Community Involvement:

- None

Take Home Actions:

- None

Adapted by: Laurelle Edmiston and Debbie Shaw, Ecole Sam Livingston SchoolSchool



Biggest Classroom of Them All

Activity name:

Framing Nature

Grade level: Grade 3

Subject/Curriculum Objectives (GLE & SLE):

- ELA: SLE 4.1, 4.3, 5.2

Time suggestion:

- 30 minutes to 1 hour, if students already know different forms of poetry

Materials/Preparation:

- Frames – to make these use a piece of cardboard and cut out the middle to act as a frame for observing Nature.
- Journal or paper to write poem, pencil

Teacher Resources:

- Poetry samples and resources

Activity Sheet or Internet link:

- None required

Teacher Activity Information:

- Give students a frame and have them choose a quiet place to “frame nature”. Students should have their journal/paper with them. Have them write their phone number vertically down the side of the page. Ask them to write a poem about what they see through their frame. For each line of the poem there should be a phrase with a corresponding number of words to the number of their phone number. Be cautious if displaying these in the hallways due to the phone number! FOIP!

4 - The wind blows softly

9 - I feel it's crisp, cool touch on my skin

2 - Blue sky

3 - Clouds high above

6 - Letting the wind lead the way

8 - to their unknown destiny, moving free among birds

5 - and neighboring the sun.

- Once the students write their poems, encourage them to share them with others. Ask participants to listen carefully and respect the other group members.
- You may wish to have participants study a specific type of poetry and then ask them to write the poem in that format. (ie. Haiku)
- Completed poems could be hung on a POETREE – a dead branch standing in a vase that looks like a small tree. Use paper clips to hang poems from the branches for all to see

Vocabulary:

- Review the words that are used in poems and develop student specific vocabulary lists

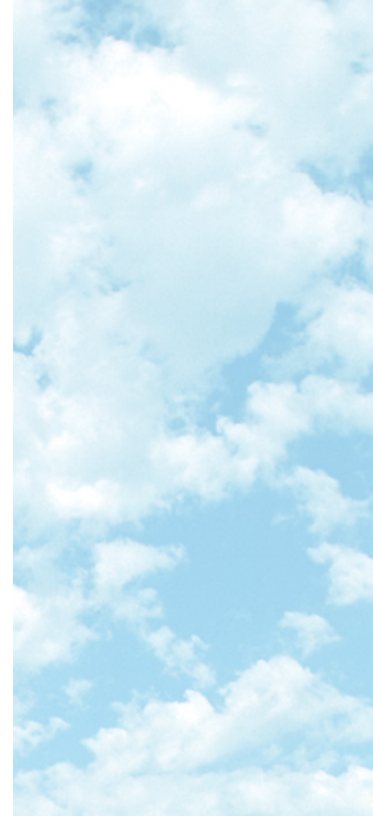
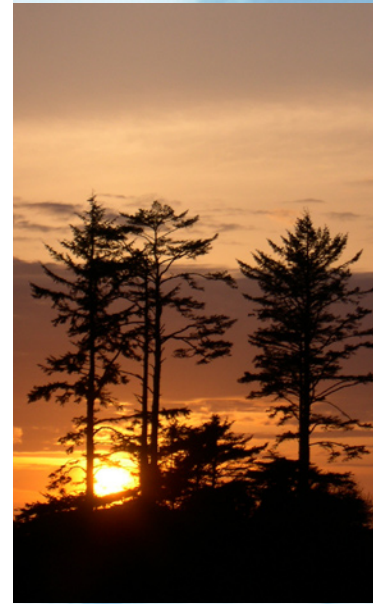
Community Involvement:

- Students could ask their parent or family members to write their own poems that could be displayed on the poetree

Take Home Actions:

- None

Adapted by: Laurelle Edmiston & Debbie Shaw, Ecole Sam Livingston School





Biggest Classroom of Them All

Activity name:

Habitat Building

Grade level: Grade 3

Subject/Curriculum Objectives (GLE & SLE):

- Science: Animal Lifecycles Topic E: SLE 6, 7, 8, 9, 10

Vocabulary:

- Habitat, natural materials

Community Involvement:

- None

Take Home Actions:

- None

Adapted by: Laurelle Edmiston & Debbie Shaw

Time suggestion:

- 30 minutes - 1 hour

Materials/Preparation:

- Sample habitats (pictures, books, etc)

Teacher Resources:

- None required. Perhaps some books and pictures of habitats.

Activity Sheet or Internet link:

- None required

Teacher Activity Information:

- Divide the students into small groups of 2-3 people. Show the sample habitats. Challenge the groups to replicate a habitat using only available natural materials.
 1. Once they are finished ask the following questions:
 2. How did your group work together to build the habitat?
 3. What were the different strategies that you used?
 4. Did everyone in your group contribute, how?
 5. How does your nest compare to the sample habitat?
- NOTE: Be sure to return any "natural" materials back to the natural world. Creatures might actually need these materials.



Biggest Classroom of Them All

Activity name:

Orienteering In A Natural Area

Grade level: Grade 3

Subject/Curriculum Objectives (GLE & SLE):

- Social Studies: 3.1.3, 3.S.3
- Science: Rocks and Minerals, Hearing and Sound
- Math: Shape and Space SLE 1, 2, 3, 4, 5, 29, 31

Time suggestion:

- 1 hour

Materials/Preparation:

- Compasses and review of compass rose with cardinal and intermediate directions
- Review measurements on tape measure
- Work sheet (see attached, p.2)
- Pencil and clipboard

Teacher Resources:

- For more information and ideas refer to Edmonton Public Science Units

Activity Sheet or Internet link:

- See attached. Sheet can be adapted to your needs.

Teacher Activity Information:

- Have students practice using compass before beginning activity. Discuss appropriate non-standard units of measurement. Decide on a general orienteering area and the boundaries should be clear based on natural features, or indicators such as pylons. Have students collect one interesting rock while completing this activity. At the end the students will compare and contrast the rocks orally. Examples could include colour, size, shape, feel, etc. Read and discuss directions of the activity before students

start independently. In partners, students follow directions on sheet. Debrief activity after while still outside, including rock characteristics.

Vocabulary:

- Measurement – cm, dm, m, paces, cardinal directions, intermediate directions

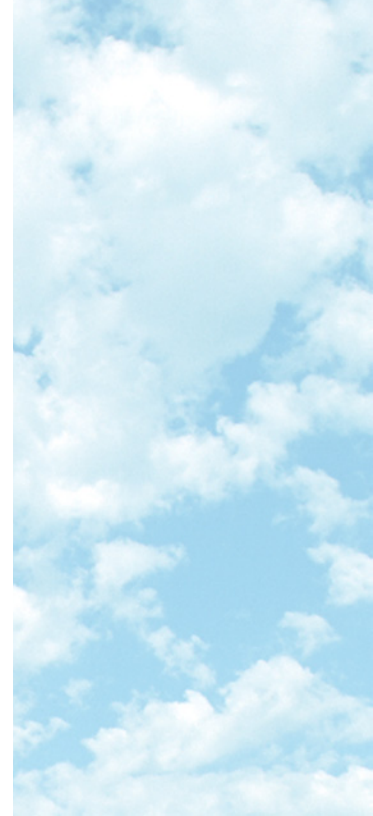
Community Involvement:

- None

Take Home Actions:

- None

Adapted by: Debbie Shaw & Laurelle Edmiston, Sam Livingston





Biggest Classroom of Them All

Activity name:

Orienteering In A Natural Area

Name(s): _____

Date: _____

To start you must have a pencil, sheet of paper, clipboard, measuring tape and two small coloured

pylons.

Choose a spot somewhere in this marked area with your partner, and set your red pylon down here. This is your starting spot. Make sure your compass is around your neck! Draw your route and what you have heard or found on the map below. Be sure to draw your compass rose on the map. As you travel, look for an interesting rock and pick it up along the way

Go North 20 paces, put your blue pylon down. Use your tape measure to find the distance you have traveled.

Did you use cm, dm or m? I just traveled _____

Why? _____

What sounds do you hear at this location? Draw them on your map. Go get your red pylon.

Now go due East 12 paces, put your red pylon down. Use your tape measure to find the distance you have traveled.

Did you use cm, dm or m? I just traveled _____

What kind of soil, grass or rocks are here? Draw them on your map. Go get your blue pylon.

Now go South West 100 paces, put your blue pylon down. Use your tape measure to find the distance you have traveled.

Did you use cm, dm or m? I just traveled _____

Are the sounds different here? Draw what you hear on your map. Go get your red pylon.

Now go directly South 1 pace, put your red pylon down. Use your tape measure to find the distance you have traveled.

Did you use cm, dm or m? I just traveled _____

Why? _____

What do you see on the ground here? Draw it on your map. Go get your blue pylon.

Now go 2 paces, put your blue pylon down. Use your tape measure to find the distance you have traveled.

Did you use cm, dm or m? I just traveled _____

Why? _____

Make sure you have found a rock by now. Finish your map. Go get your red pylon.





Biggest Classroom of Them All

Activity name:

Abiotic Changes

Grade level: Grade 3

Subject/Curriculum Objectives (GLE & SLE):

- Science
- Math
- Language arts

Vocabulary:

- Have a mechanism ready to record the vocabulary that emerges

Community Involvement:

- None

Take Home Actions:

- None

Adapted by: Jeff Reading, EcoTeam

Time suggestion:

- 45 minutes for an initial class followed by frequent visits throughout the year

Materials/Preparation:

- Journal
- Digital camera

Teacher Resources:

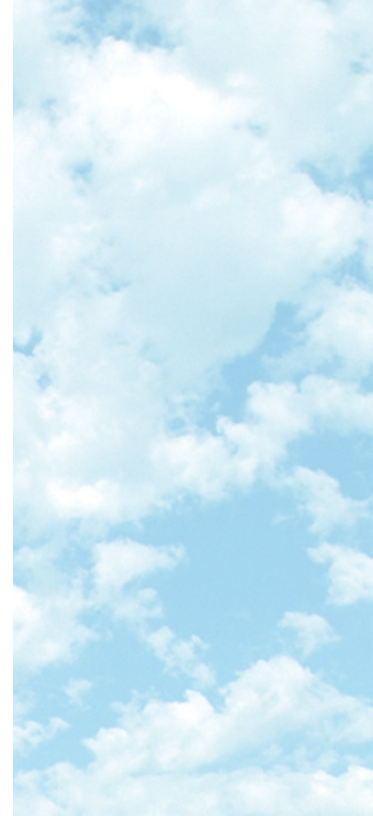
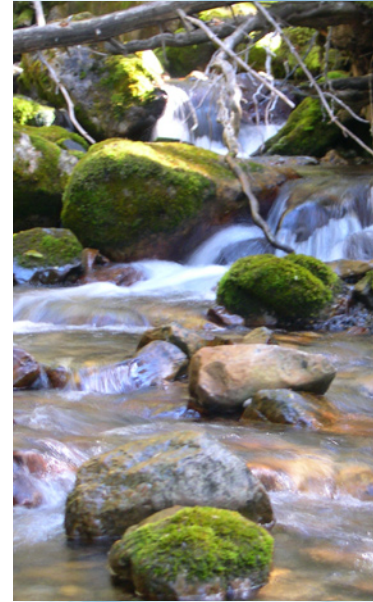
- None required

Activity Sheet or Internet link:

- None required

Teacher Activity Information:

- Review the abiotic factors (sunlight, wind, precipitation, aspect, etc) that influence what grows in any particular place
- Visit the outdoor classroom and record observations on these abiotic factors. Do they abiotic factors change over the course of the day? How will these changes be reflected in observations?
- Determine a schedule for when these abiotic factors will be monitored over time.
- Once some consistent data has been developed the results could be compared with the needs of different plants and animals that are found there.
- The results could be graphed and presented for all to see





Biggest Classroom of Them All

Activity name:

Grab Bag

Grade level: Grade 1-3

Subject/Curriculum Objectives (GLE & SLE):

- Language Arts – motivation to write
- Art – motivation for texture activity

Time suggestion:

- Begin and end any other activity

Materials/Preparation:

- Pillow cover or similar soft bag

Teacher Resources:

- None required

Activity Sheet or Internet link:

- None required

Teacher Activity Information:

- After entering a natural area ask each student to select a small item. Take a few minutes to get to know the item and ask them to place the item in the pillow case.
- Complete the other activities you had planned.
- Before heading back into the school, gather the group together and ask each student to reach into the bag – without looking – and retrieve the item they put in there at the beginning of the activity
- Return the item to its original outdoor location

Vocabulary:

- Texture terms

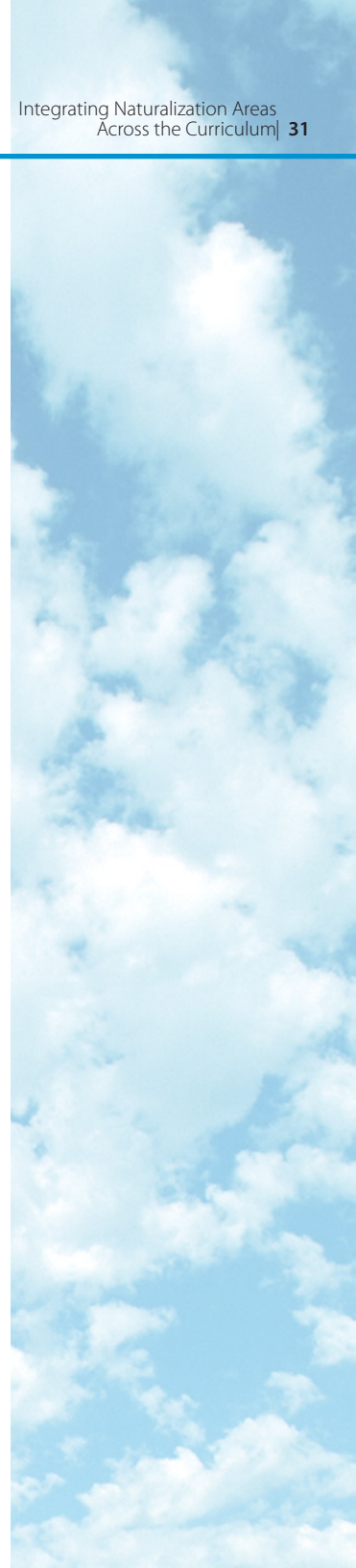
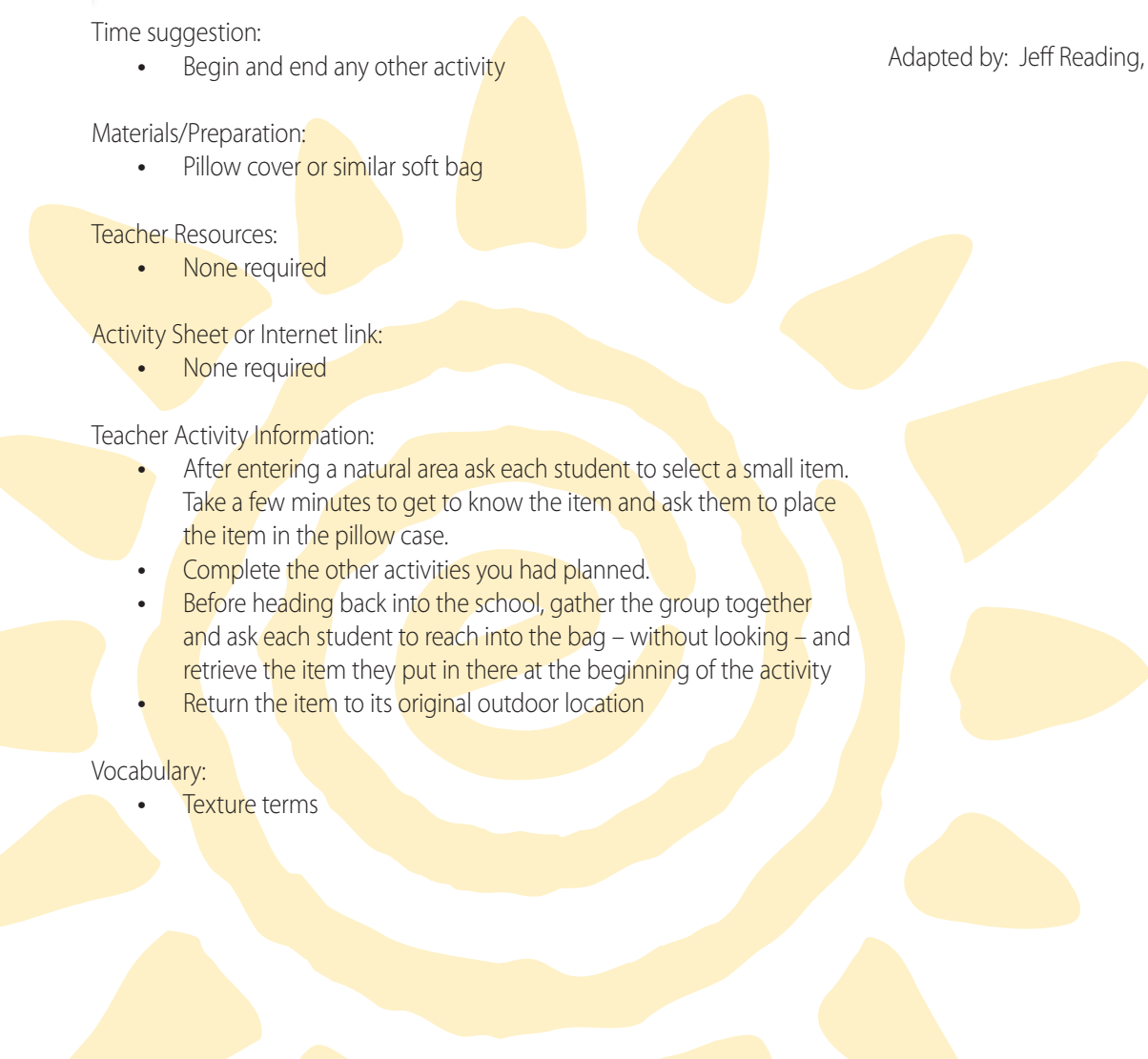
Community Involvement:

- None

Take Home Actions:

- Each student could select a small object that they carry around in their pocket to remind them to make good environmental choices
- Students could decorate small reminders (as above) to give to people they meet to prompt others to remember to make good environmental choices

Adapted by: Jeff Reading, EcoTeam





Biggest Classroom of Them All

Activity name:

Seasonal Change

Grade level: Grade 1-3

Subject/Curriculum Objectives (GLE & SLE):

- Language Arts – motivation to write
- Art – motivation to represent changes recorded
- Science – needs of a plant

- Towards the end of the school year ask each student to develop a project that portrays the changes that plant has undergone in a full year.

Vocabulary:

- Lots of possibilities

Community Involvement:

- None

Take Home Actions:

- None

Adapted by: Jeff Reading, EcoTeam

Time suggestion:

- A few minutes at frequent times throughout the year

Materials/Preparation:

- Logbook or journal
- Camera
- Art materials

Teacher Resources:

- None required

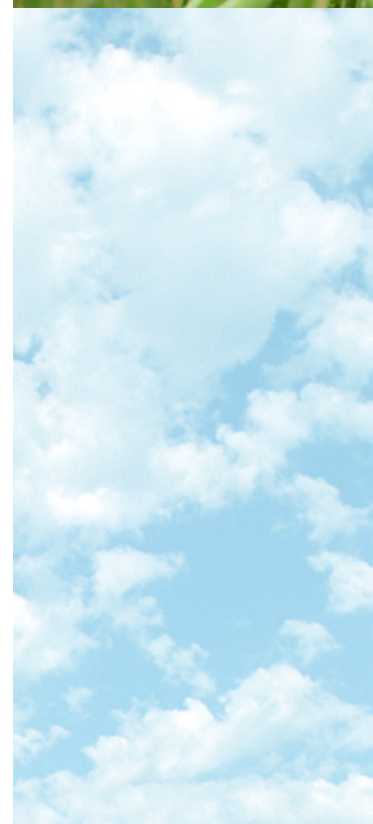
Activity Sheet or Internet link:

- None required

Teacher Activity Information:

- Ask each student to select a plant in the naturalization area
- Develop a list of observations to record over the course of the year. This could include, height, canopy size, colours, insects in the neighbourhood, textures, weather, etc
- Complete an initial set of observations
- Determine a frequency that these observations will be recorded throughout the year
- Determine a number of activities that could be used to represent what changes they see that could include powerpoint presentation, poetry, creative writing, art projects, etc

Activity name:





Biggest Classroom of Them All

Get to Know Your Neighbour

Grade level: Grade 1-3

Subject/Curriculum Objectives (GLE & SLE):

- Potential to connect with all areas

Time suggestion:

- 20 minutes

Materials/Preparation:

- Sense enhancers (blindfolds)

Teacher Resources:

- None required

Activity Sheet or Internet link:

- None required

Teacher Activity Information:

- Ask each student to find a partner (be creative in how you do this)
- Give each pair a sense enhancer (blindfold)
- Review safety concerns and role model how to escort their buddy around safely
- Blindfold one of the partners
- Ask the sighted student to safely lead their blindfolded partner to any natural object in the outdoor classroom
- Provide a few minutes for the blindfolded student to get to know the object using their senses.
- Return to the start point
- Take off the sense enhancer and see if they can find the object they visited while blindfolded.
- Switch partners so every student has a chance to participate in each role

Vocabulary:

- Lots of possibilities. Have a mechanism ready to record the

vocabulary that emerges

Community Involvement:

- None

Take Home Actions:

- None

Adapted by: Jeff Reading, EcoTeam

Activity name:

Earth Tones

BIGGEST CLASSROOM OF THEM ALL

Integrating Naturalization
Areas Across the Curriculum

DIVISION TWO
ACTIVITY IDEAS





Biggest Classroom of Them All

Grade level: Grade 4

Subject/Curriculum Objectives (GLE & SLE):

- Social Studies: SLE 4.1.1
- Art
- ELA could also be a possibility if students write about their piece after. It could be a story starter or even a poem.

2. What object that you found colour from was the most unusual?
3. You may also try ash drawings, where you dip a stick in ashes and draw a picture.
4. You may also encourage the participants to write a poem to accompany their drawing.

Vocabulary:

- Tones, shades

Community Involvement:

- None

Take Home Actions:

- None

Adapted by: Laurelle Edmiston & Debbie Shaw

Time suggestion:

- 1 hour or more

Materials/Preparation:

- Art paper and/or journals

Teacher Resources:

- None required

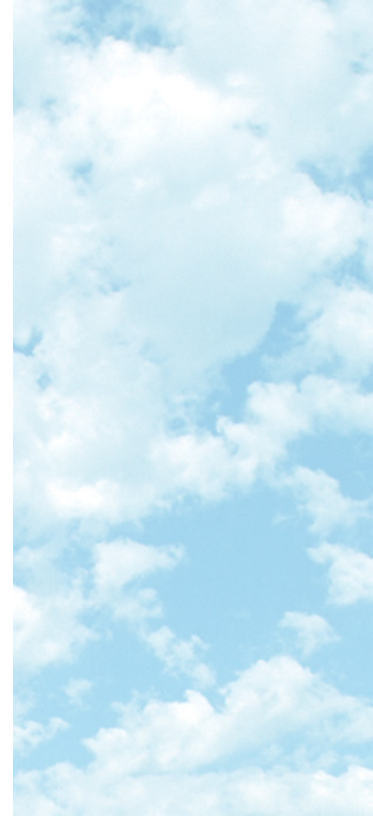
Activity Sheet or Internet link:

- None required

Teacher Activity Information:

- Explain the purpose of the activity is to challenge the students to find as many different tones, shades and colours as they can. Give a demonstration of how to paint naturally (ie. rub soil onto the paper). Distribute the paper and remind the students not to use any items that are still living, only those that can be returned to where they were found. Ask the students to share their creations; you may wish to put them on display.
- Ask the following questions:
 1. Where you surprised with the different colours that you were able to find?

Activity name:





Biggest Classroom of Them All

Framing Nature

Grade level: Grade 4

Subject/Curriculum Objectives (GLE & SLE):

- ELA: SLE 4.1, 4.3, 5.2

Time suggestion:

- 30 minutes to 1 hour, if students already know different forms of poetry

Materials/Preparation:

- Frames – to make these use a piece of cardboard and cut out the middle to act as a frame for observing Nature.
- Journal or paper to write poem, pencil

Teacher Resources:

- Poetry samples and resources

Activity Sheet or Internet link:

- None required

Teacher Activity Information:

- Give students a frame and have them choose a quiet place to "frame nature". Students should have their journal/paper with them. Have them write their phone number vertically down the side of the page. Ask them to write a poem about what they see through their frame. For each line of the poem there should be a phrase with a corresponding number of words to the number of their phone number. Be cautious if displaying these in the hallways due to the phone number! FOIP!
 4 - The wind blows softly
 9 - I feel it's crisp, cool touch on my skin
 2 - Blue sky
 3 - Clouds high above
 6 - Letting the wind lead the way

8 - to their unknown destiny, moving free among birds
 5 - and neighboring the sun.

- Once the students write their poems, encourage them to share them with others. Ask participants to listen carefully and respect the other group members.
- You may wish to have participants study a specific type of poetry and then ask them to write the poem in that format. (ie. Haiku)

Vocabulary:

- Tones, shades

Community Involvement:

- None

Take Home Actions:

- None

Adapted by: Laurelle Edmiston & Debbie Shaw, Ecole Sam Livingston School

Activity name:



Biggest Classroom of Them All

Plant Identification – If You're Not From The Prairie

Grade level: Grade 4

Subject/Curriculum Objectives (GLE & SLE):

- Science: Plant Growth and Change, Topic E SLE 3, 5, 6 (Could include others as well.)
- Social Studies: 4.1.1, 4.1.2
- Language Arts: 1.1, 1.2, 2.1, 2.2, 2.4, 3.1, 3.3, 3.4, 4.1, 5.1

Time suggestion:

- 1 hour at least. Most likely a week of lessons could be done with this.

Materials/Preparation:

- Book: [If You're Not From The Prairies](#), by David Bouchard
- Discuss poetry pattern used
- Discuss aspects of life on prairie that are relevant to Alberta
- Journal for sketching and writing

Teacher Resources:

- Knowledge of plants in the naturalized area.

Activity Sheet or Internet link:

- Students could work in journal.

Teacher Activity Information:

- This is a follow-up to the reading of the book [If You're Not From The Prairie](#). Before reading students can share experiences about living on the prairies, and other parts of Alberta. Read story in Naturalized area or in classroom. Then go out to the area and identify plants species in the area. Discuss poetry pattern used by the author and how it can relate to the community around them.
- Write a sample together as a class using this pattern, inside

or outside the classroom. Starting sentences could include: If you haven't been to our Naturalized Area, You don't know the lodgepole pines, you can't know the lodgepole pines. The way they sway in the breeze. The history of using them for teepees, etc...

- Students should be writing outside to be inspired by their natural surroundings. Once students have completed their own poems, the good copies could be combined into a classroom book.

Vocabulary:

- Plant species, adjectives to describe environment

Community Involvement:

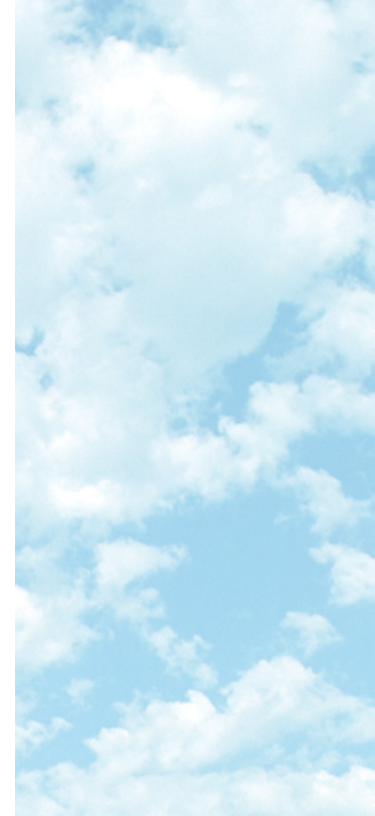
- None

Take Home Actions:

- Take classroom book home and share with family.

Adapted by: Debbie Shaw & Laurelle Edmiston, Sam Livingston

Activity name:





Biggest Classroom of Them All

Native Paintbrush – Use of plants by the native people of Alberta

Grade level: Grade 5

Subject/Curriculum Objectives (GLE & SLE):

- Social Studies: 5.2.1, 5.2.2
- ELA: 1.1, 2.2, 5.1

Time suggestion:

- If book is already read, 30 minutes or longer. If you need to read book, add 15 minutes.

Materials/Preparation:

- Pre-read book or read in Natural Area: The Legend of the Indian Paintbrush, Tomie dePaola
- Extra Resource for Extension activity: Living With The Land: Use of Plants by the Native People of Alberta, Joan Kerik

Teacher Resources:

- Illustration of Indian paintbrush if not in your natural area.

Activity Sheet or Internet link:

- Information and photo of Indian Paintbrush: <http://weaselhead.org/profile/?s=1245>
- Extra website for extension activity: <http://www.galileo.org/plants/kainai-html/index.html>

Teacher Activity Information:

- Story needs to be read to students before beginning the activity. (Review legends and what they represent in aboriginal culture.) At the end of the story, Indian Paintbrush is explained in the Author's Note. In the natural area, students examine plants and brainstorm what they think the plants' uses could have been in the past. Students can use their knowledge of Aboriginal/Native culture that they have acquired in class to date. If students keep a Journal, this

would be a great location for this information.

- A follow up activity could have the students research the actual use of plants by aboriginals by searching on-line. <http://www.galileo.org/plants/kainai-html/index.html>

Vocabulary:

- Indian, native plant use, buckskin – used in story

Community Involvement:

- Invite a native/aboriginal speaker to share information or stories about plant uses.

Take Home Actions:

- Students can investigate plants in their own yards and community.

Adapted by: Debbie Shaw & Laurelle Edmiston, Ecole Sam Livingston School

Activity name:

Framing Nature



Biggest Classroom of Them All

Grade level: Grade 5

Subject/Curriculum Objectives (GLE & SLE):

- ELA: SLE 4.1, 4.3, 5.2

Time suggestion:

- 30 minutes to 1 hour, if students already know different forms of poetry

Materials/Preparation:

- Frames – to make these use a piece of cardboard and cut out the middle to act as a frame for observing Nature.
- Journal or paper to write poem, pencil

Teacher Resources:

- Poetry samples and resources

Activity Sheet or Internet link:

- None required

Teacher Activity Information:

- Give students a frame and have them choose a quiet place to "frame nature". Students should have their journal/paper with them. Have them write their phone number vertically down the side of the page. Ask them to write a poem about what they see through their frame. For each line of the poem there should be a phrase with a corresponding number of words to the number of their phone number. Be cautious if displaying these in the hallways due to the phone number! FOIP!
 4 - The wind blows softly
 9 - I feel it's crisp, cool touch on my skin
 2 - Blue sky
 3 - Clouds high above
 6 - Letting the wind lead the way
 8 - to their unknown destiny, moving free among birds

5 - and neighboring the sun.

- Once the students write their poems, encourage them to share them with others. Ask participants to listen carefully and respect the other group members.
- You may wish to have participants study a specific type of poetry and then ask them to write the poem in that format. (ie. Haiku)

Vocabulary:

- Lots of possibilities

Community Involvement:

- None

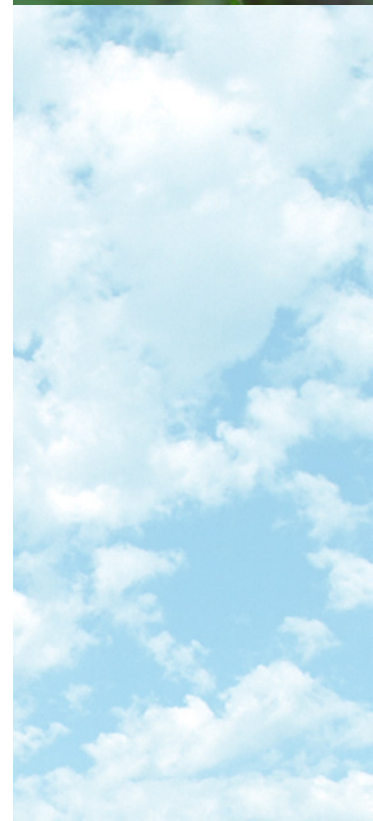
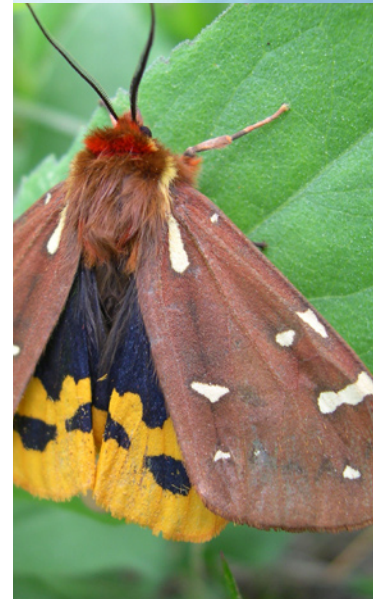
Take Home Actions:

- None

Adapted by: Laurelle Edmiston & Debbie Shaw, Ecole Sam Livingston School

Activity name:

Scavenge or Steal





Biggest Classroom of Them All

Grade level: Grade 5

Subject/Curriculum Objectives (GLE & SLE):

- Science: Wetland Ecosystems Topic E: SLE 3, 6, 7
- Physical Education: C5-1, C5-3, C5-4, C5-5, C5-6, D5-2, D5-3, D5-8

Time suggestion:

- 30 minutes

Materials/Preparation:

- Blindfold (sense enhancer), scarf, rattle (optional)

Teacher Resources:

- Not required

Activity Sheet or Internet link:

- Not required

Teacher Activity Information:

- Have the participants form a circle, they may be seated or standing. Ask them to list a variety of local predators and scavengers, and explain that scavengers are dependent upon the predators for their meals. Ask for two volunteers and choose one to be the predator and one to be the scavenger, instruct all other participants that they must be quiet. Place the scarf (kill) in the center of the circle and place the blindfold on the predator. The predator may not touch his kill, he may only guard it. The scavenger starts his approach from the outside of the circle and must steal the scarf (kill) without being heard. If the predator hears the scavenger, he points in the direction where the noise came from and yells "Starve." Three incorrect "Starve" calls end each game. If the predator points in the wrong direction, the activity continues, if he is right or the scavenger is successful at stealing the kill and able to return to the outside of the circle without being heard, the scavenger then becomes the predator and a new scavenger is chosen. After the activity, ask the following questions:

1. What strategies did the scavengers develop to be able to steal the kill more effectively?
2. How do they compare to those that wild scavengers use?
3. What strategies did the predators come up with to protect their kills?
4. Variations

- You may wish to substitute the scarf for a rattle or another object that makes noise.
- You may also choose to have more than one scavenger try to steal the kill.

Vocabulary:

- Predator, scavenger

Community Involvement:

- None

Take Home Actions:

- None

Adapted by: Laurelle Edmiston & Debbie Shaw

Activity name:

Using Trees to find Perimeter and Area, follow up to Tree

Grade level: Grade 6



Biggest Classroom of Them All

Subject/Curriculum Objectives (GLE & SLE):

Science: Topic E, Trees and Forests: SLE 4, 5, 6, 7

- Math: Statistics and Probability: SLE 9, Shape and Space: SLE 1, 2 - perimeter, 3 – area, 6, 7 - perimeter

Time suggestion:

- 1 hour

Materials/Preparation:

- If required to identify trees - Guide to the Common Native Trees and Shrubs of Alberta
- Student sheet or journal
- Trundle stick, measuring tapes, meters sticks, rulers
- Possibly surveyor's tape to mark the areas and perimeters.

Teacher Resources:

- Guide to the Common Native Trees and Shrubs of Alberta – Resource developed by Inside Education, previously called FEESA
- Metric conversion chart, if needed.

Activity Sheet or Internet link:

- Metric conversion chart, if needed. See Math to the Max.
- Journals or students sheet to record information.

Teacher Activity Information:

- Start with discussion of how students can create a perimeter in a natural space. Teacher could identify starting tree or students choose. Students choose 4 trees for the perimeter and let teacher know what the tree species are before taping and measuring. Have them work in small groups with surveyors tape to make a perimeter using trees. Next they mark and measure their perimeter and record on sheet or their journal. Then the students need to convert the perimeter into mm, cm, dm, m, Dm, Hm, km. Have students calculate area using the above activity and convert as well.

Vocabulary:

- Metric units: mm, cm, dm, m, Dm, Hm, km

Community Involvement:

- None

Take Home Actions:

- Students can create a perimeter/area in their own backyard or a community park. Students could use non-standard units of measurement to estimate distances.

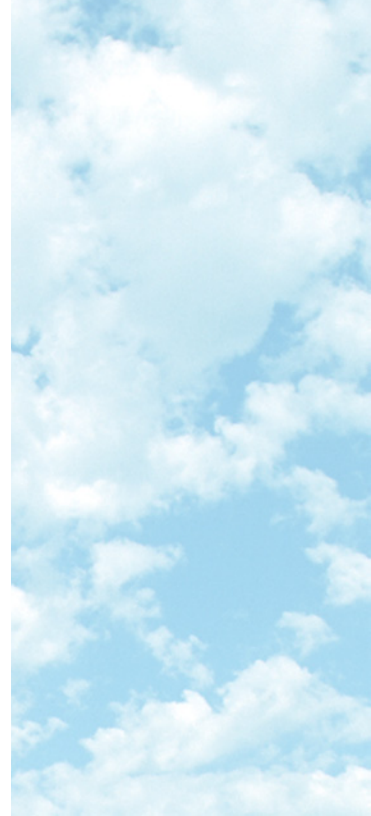
Adapted by: Debbie Shaw & Laurelle Edmiston, Ecole Sam Livingston School

Activity name:

Be A Tree

Grade level: Grade 6

Subject/Curriculum Objectives (GLE & SLE):





Biggest Classroom of Them All

- Science: Trees & Forests Topic E: SLE 1, 2, 3, 4, 5

Time suggestion:

- 30 minutes

Materials/Preparation:

- Not necessary, possibly journals and pencils.

Teacher Resources:

- Not necessary

Activity Sheet or Internet link:

- Not necessary

Teacher Activity Information:

- Tell students that they should be very quiet during this activity and that they should imagine what it is like to be a tree. Instruct students to spread out and choose a tree that they will lie underneath. While under the tree they should use all of their senses of observation to generate a mental list of the different functions of a tree.
- After about 10 minutes call everyone back and discuss the lists that they came up with.
 - What are some of the functions of trees?
 - What senses did you use?
 - Are different trees used for different functions?
 - What are the similarities and differences?
 - Some functions of trees include:
 - homes to birds, squirrels and other animals
 - food for different animals
 - shade
 - collect water
 - photosynthesis
 - create habitat
 - create soil

Vocabulary:

- Photosynthesis, habitat

Community Involvement:

- None

Take Home Actions:

- None

Adapted by: Laurelle Edmiston & Debbie Shaw

Activity name:

Framing Nature

Grade level: Grade 6

Subject/Curriculum Objectives (GLE & SLE):

Biggest Classroom of Them All

- ELA: SLE 4.1, 4.3, 5.2

Time suggestion:

- 30 minutes to 1 hour, if students already know different forms of poetry

Materials/Preparation:

- Frames – to make these use a piece of cardboard and cut out the middle to act as a frame for

observing Nature.

- Journal or paper to write poem, pencil

Teacher Resources:

- Poetry samples and resources

Activity Sheet or Internet link:

- None required

Teacher Activity Information:

- Give students a frame and have them choose a quiet place to “frame nature”. Students should have their journal/paper with them. Have them write their phone number vertically down the side of the page. Ask them to write a poem about what they see through their frame. For each line of the poem there should be a phrase with a corresponding number of words to the number of their phone number. Be cautious if displaying these in the hallways due to the phone number! FOIP!
 - 4 - The wind blows softly
 - 9 - I feel it's crisp, cool touch on my skin
 - 2 - Blue sky
 - 3 - Clouds high above
 - 6 - Letting the wind lead the way
 - 8 - to their unknown destiny, moving free among birds
 - 5 - and neighboring the sun.
- Once the students write their poems, encourage them to share them with others. Ask participants to listen carefully and respect

the other group members.

- You may wish to have participants study a specific type of poetry and then ask them to write the poem in that format. (ie. Haiku)

Vocabulary:

- None

Community Involvement:

- None

Take Home Actions:

- None

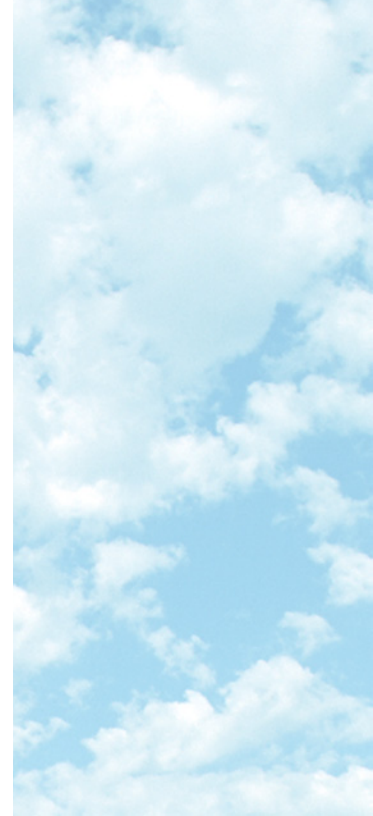
Adapted by: Laurelle Edmiston & Debbie Shaw, Ecole Sam Livingston School

Activity name:

Solitude Thought Spot

Grade level: Grade 5/6

- Subject/Curriculum Objectives (GLE & SLE):
- ELA: SLE 1.1, 1.2, 2.1, 2.2, 3.1, 4.3,





Biggest Classroom of Them All

Time suggestion:

- 30 minutes – 1 hour plus

Materials/Preparation:

- Quotes, journals, pencils

Teacher Resources:

- None required. Could add other quotes as well.

- None

Adapted by: Laurelle Edmiston & Debbie Shaw

Activity Sheet or Internet link:

- None required. Students could search their own quotes on-line.
- Teacher Activity Information:
- Ask participants to choose one of the quotations. Ask them to find a quiet area where they can sit alone and reflect upon the quotation they chose for a minimum of ten minutes. Participants should write or illustrate their thoughts in a journal or on paper. Call the participants back together and ask them to share both their quotes and thoughts / reflections with the other members of the group.
- Quotations are found below.

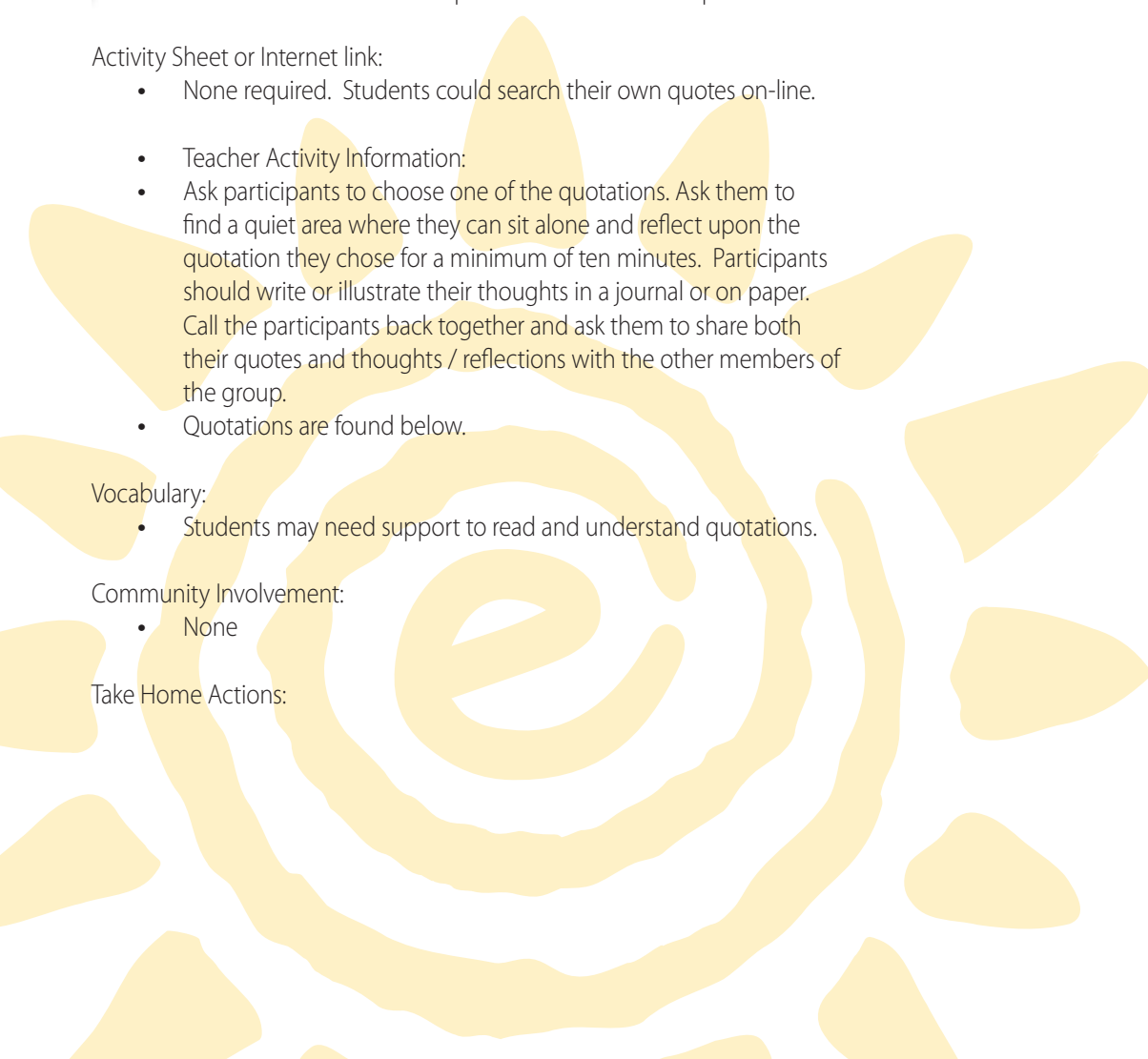
Vocabulary:

- Students may need support to read and understand quotations.

Community Involvement:

- None

Take Home Actions:





Biggest Classroom of Them All

Solitude Thought Spot

I do not know whether I was then a man dreaming I was a butterfly, or whether I am now a butterfly dreaming I am a man.

– **Chuang Tzu**

One touch of nature makes the whole world kin.

– **William Shakespeare**

Nature is the immense shadow of man.

– **Ralph Waldo Emerson**

Human animal love, hope, and fear are essentially the same, derived from the same source and fall on all alike like sunshine.

– **John Muir**

Intelligence is not so much in the capacity to learn as the capacity to wonder.

– **Oliver Wendell Holmes**

Go back to your sources. You will see how far away we have gotten from them.

– **Auguste Renoir**

Genius...is the capacity to see ten things where the ordinary man sees one.

– **Ezra Pound**

I like trees because they seem more resigned to the way they have to live than other things do.

– **Willa Cather**

Unlike man a tree must shed its leaves and show its true nature.

– **John Charles Amesse**

What we are doing to our forests is merely a reflection of what we are doing to ourselves and to one another.

– **Forest Primecal**

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**

The hand is the cutting edge of the mind.

– **Jacob Bronowski**

The best time to plant a tree was twenty years ago. The second best time is now.

– **Anonymous**

Moonlight is sculpture, sunlight is painting.

– **Nathaniel Hawthorne**

In the concert of nature it is hard to keep in tune with oneself if one is out of tune with everything else.

– **George Santayana**

It is not the language of painters but the language of nature to which one has to listen.

– **Vincent van Gogh**

Individuality is the true beginning and end of all art.

– **Goethe**

Art is a form of supremely delicate awareness... the state of being one with the object.

– **D.H. Lawrence**

(Nature) is never the same, even from day to day or even from hour to hour.

– **Clarence Dutton**

I had no idea that nature made so much noise.

– **Richard Powers**

The earth laughs in flowers.

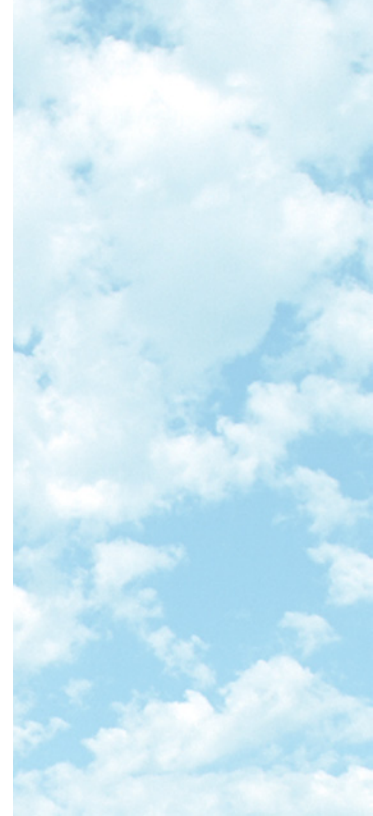
– **Ralph Waldo Emerson**

Adopt the pace of nature. Her secret is her patience.

– **Ralph Waldo Emerson**

Does the song on the sea end at the shore or in the hearts of those who listen to it?

– **Kahlil Gibran**





Biggest Classroom of Them All

Activity name:

Tree Identification using Dichotomous Key

Grade level: Grade 6

Subject/Curriculum Objectives (GLE & SLE):

- Science: Topic E, Trees and Forests: SLE 4, 5, 6, 7
- Math: Statistics and Probability: SLE 9

Time suggestion:

- 1 hour to go through how to use the dichotomous key and do activity.

Materials/Preparation:

- Guide to the Common Native Trees and Shrubs of Alberta

Teacher Resources:

- Guide to the Common Native Trees and Shrubs of Alberta – Resource developed by Inside Education, previously called FEESA

Activity Sheet or Internet link:

- To order: Guide to the Common Native Trees and Shrubs of Alberta, <http://www.insideeducation.ca>, Go under Resources for Division 2

Teacher Activity Information:

- Introduce the guidebook to identify trees in an outdoor area. Go over pages 8 & 9 together and use a sample tree. Use the guidebook to classify deciduous and coniferous trees, types of leaves, and name specific trees. If students keep Journals, the information could be scribed there.
- An extension activity could include students producing their own dichotomous key in their Journal.
- Follow-up activity: Using Trees to find Perimeter and Area

Vocabulary:

- Broadleaf, needle, compound and single, alternate or opposite, smooth and toothed margin, deciduous and coniferous, petiole, serrated.

Community Involvement:

- Students could do this same activity with other classes in the school, a neighborhood daycare, or a seniors home.

Take Home Actions:

- Students can identify trees in their yard and in their community.

Adapted by: Debbie Shaw & Laurelle Edmiston, Ecole Sam Livingston School

Activity name:



Biggest Classroom of Them All

Using Trees to find Perimeter and Area, follow up to Tree Identification

Grade level: Grade 6

Subject/Curriculum Objectives (GLE & SLE):

- Science: Topic E, Trees and Forests: SLE 4, 5, 6, 7
- Math: Statistics and Probability: SLE 9, Shape and Space: SLE 1, 2 - perimeter, 3 – area, 6, 7 - perimeter

Time suggestion:

- 1 hour

Materials/Preparation:

- If required to identify trees - Guide to the Common Native Trees and Shrubs of Alberta
- Student sheet or journal
- Trundle stick, Measuring tapes, meters sticks, rulers
- Possibly surveyor's tape to mark the areas and perimeters.

Teacher Resources:

- Guide to the Common Native Trees and Shrubs of Alberta – Resource developed by Inside Education, previously called FEESA
- Metric conversion chart, if needed.

Activity Sheet or Internet link:

- Metric conversion chart, if needed. See Math to the Max.
- Journals or students sheet to record information.

Teacher Activity Information:

- Start with discussion of how students can create a perimeter in a natural space. Teacher could identify starting tree or students choose. Students choose 4 trees for the perimeter and let teacher know what the tree species are before taping and measuring. Have them work in small groups with surveyors tape to make a perimeter using trees. Next they mark and measure their perimeter

and record on sheet or their journal. Then the students need to convert the perimeter into mm, cm, dm, m, Dm, Hm, km. Have students calculate area using the above activity and convert as well.

Vocabulary:

- Metric units: mm, cm, dm, m, Dm, Hm, km

Community Involvement:

- None

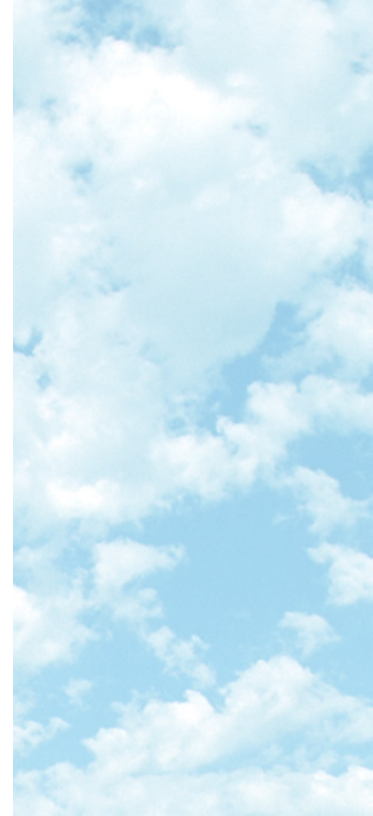
Take Home Actions:

- Students can create a perimeter/area in their own backyard or a community park. Students could use non-standard units of measurement to estimate distances.

Adapted by: Debbie Shaw & Laurelle Edmiston, Ecole Sam Livingston School

Activity name:

Treasure Hunt





Biggest Classroom of Them All

Grade level: Grade 4-6

Subject/Curriculum Objectives

- Math – scale and perspective
- Art
- Science
- Social Studies

Time suggestion:

- 45 minutes

Materials/Preparation:

- Large sheets of paper
- Colours such as markers, pencil crayons
- Treasure (could be some cookies wrapped in foil)
- Metre stick

Teacher Resources:

- None required

Activity Sheet or Internet link:

- None required

Teacher Activity Information:

- Divide students up into working groups of 3 people and give each group a sheet of paper, colours to write with and a treasure to hide at the end of their map
- Ask each group to create a treasure map according to the following criteria (add and subtract criteria to suit the group abilities)
- 6-10 natural object markers (places that are in the treasure hunt trail)
- Scale (students must pace out their step distance to determine a scale for their map)
- Select a start spot and draw a picture on the map that describes the start point.
- Select the first natural marker and pace off the distance to that object

- Add this object to the map and draw a picture to portray it. Include the scale distance to the object from the start point. Write a question on the map, that can only be answered by being at that spot.
- Select the next natural object and repeat the process of pacing, diagramming and writing a question. Ensure the scale from one marker to the next is accurate and consistent.
- At the last marker leave the treasure and return to the start point
- Once everyone has drafted their maps review them for quality and accuracy.
- Exchange maps amongst the group so that every group has a new map to follow.
- Find the treasure by following the map and answering the questions along the way

Vocabulary:

- Have a mechanism to record the vocabulary that emerges

Community Involvement:

- None

Take Home Actions:

- None

Adapted by: Jeff Reading, EcoTeam

Activity name:



Biggest Classroom of Them All

Guide Book

Grade level: Grade 4-6

Subject/Curriculum Objectives (GLE & SLE):

- All subject areas

Time suggestion:

- Frequent short visits as a class and as individuals

Materials/Preparation:

- Journal
- Digital camera
- Art materials

Teacher Resources:

- Samples of other guide books to explore for characteristics of the one students will develop

Activity Sheet or Internet link:

- None required

Teacher Activity Information:

- Review an assortment of guidebooks and develop a set of criteria that will be used to describe the plants and animals found in the naturalization area
- Decide how data will be portrayed (website, handmade books, laminated pages, signage that is placed in the naturalization area, etc
- Assign a set of plants and animals to teams of students who will gather the data on those items
- Complete the data gathering and develop the guidebook

Vocabulary:

- Texture terms

Community Involvement:

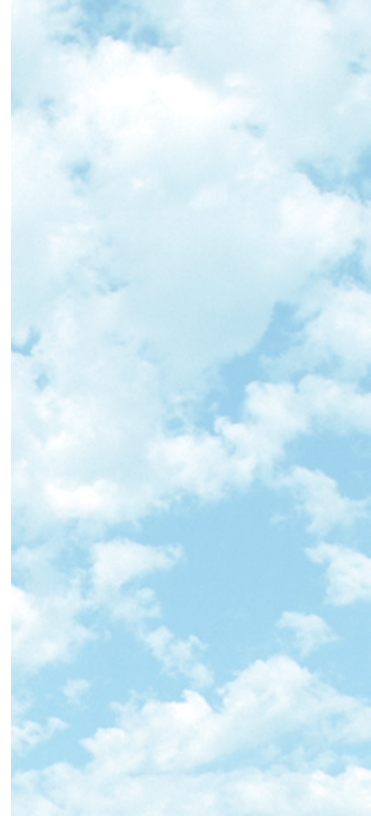
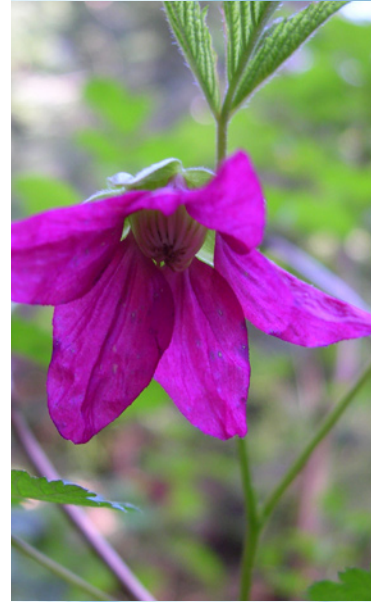
- None

Take Home Actions:

- Consider completing a survey of how many of the native plants in the outdoor classroom are also in neighbouring backyards

Adapted by: Jeff Reading, EcoTeam

Activity name:





Biggest Classroom of Them All

What's in a Picture?

Grade level: Grade 4-6

Subject/Curriculum Objectives (GLE & SLE):

- Integrated

Time suggestion:

- 30 minutes outdoors
- 30 minutes indoors

Materials/Preparation:

- Digital cameras
- Objects (sheets of paper, odd and unique objects) that can be used to block out features not wanted in the photos

Activity name:

Teacher Resources:

- None required

Activity Sheet or Internet link:

- None required

Teacher Activity Information:

- Gather enough digital cameras for the whole class to share
- Visit the outdoor classroom and ask students to take pictures of things so that it's not obvious what it is. Use a macro lens setting or objects that cover and block out things not wanted in the photo to help disguise the object being photographed. Make notes of the picture order so they know what the object is once they get back into class!
- Once back inside download the pictures to a computer and print or post on a website with a series of questions such as, Is this a plant or animal? Is it big or small? Living or non-living? Etc. and ask people to see if they can guess what the origin is of the photos.

Vocabulary:

- Lots of possibilities

Community Involvement:

- None

Take Home Actions:

- None

Adapted by: Jeff Reading, EcoTeam



Biggest Classroom of Them All

Snow Fossils

Grade level: Grade 4-6

Subject/Curriculum Objectives (GLE & SLE):

- Science
- Language arts
- Art

Time suggestion:

- 15-20 minutes when the opportunity presents itself – so be prepared

Materials/Preparation:

- This activity requires that it be snowing, so being prepared is essential. Have a class set of glass microscope slides and a can of clear spray lacquer stored in a cool place, such as a refrigerator. Using warm slides and lacquer will not work as the snowflakes will melt.

Teacher Resources:

- None required

Activity Sheet or Internet link:

- None required

Teacher Activity Information:

- Take the cold slides and clear spray lacquer outside and spat a thin layer of lacquer onto each slide.
- Ask each student to catch falling snowflakes in the wet lacquer BEFORE they hit the group while trying to not get fingerprints in the wet lacquer. Don't disturb the snowflakes and wet lacquer.
- Leave the slides outdoors in a protected area to slowly dry for at least 24 hours
- Bring the dried slides indoors and view them under a microscope

- Classify the snowflake patterns
- Count the colours visible
- Create creative writing pieces to accompany their favourite snowflakes

Vocabulary:

- Lots of possibilities
- Snowflake classification group names

Community Involvement:

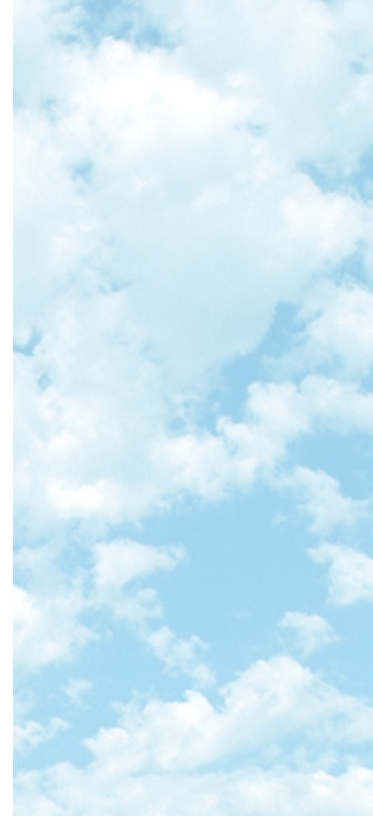
- None

Take Home Actions:

- None

Adapted by: Jeff Reading, EcoTeam

Activity name:





Biggest Classroom of Them All

Letter to Self

Grade level: Grade 4-6

Subject/Curriculum Objectives (GLE & SLE):

- Integrated

Time suggestion:

- 45-60 minutes towards the end of the school

year

Materials/Preparation:

- Letter paper (be create and use recycled hand made paper)
- Self addressed stamped envelope
- Art materials for a creative letter
- Writing materials

Teacher Resources:

- None required

Activity Sheet or Internet link:

- None required

Teacher Activity Information:

- Explain to the students that they are going to write a letter to themselves – that will be mailed to them sometime in the future
- Brainstorm a list of criteria to reflect on in the letter. These could include such things as: what they am doing to protect the environment, how they think the naturalization area will look in the future, what they thoughts and perceptions are regarding the future of the environment, etc
- Create the letters to themselves through a drafting process that produces work they are pleased with. Add a collage, graphic or textured aspect to the letter.

- Seal the letters in self addressed envelopes and determine a future date for when they will be mailed.
- Collect and store these letters until they are mailed

Vocabulary:

- Lots of possibilities

Community Involvement:

- None

Take Home Actions:

- Students could ask family members for their thoughts on the questions being considered and incorporate this into their letters

Adapted by: Jeff Reading, EcoTeam