Returning to a 'Sense of Wonder'

Roberta Oswald

«««« By Roberta Oswald

Roberta Oswald is an Elementary Science Resource Teacher with the Toronto Catholic District School Board. She is also a member of the STAO Elementary Curriculum Committee.

S&T

This information is recommended for use with the Ontario Curriculum, All grades, numerous strands.

Roberta Oswald

Climate change has truly become the catchword for 2007. Whether it be the strange winter that Ontario has experienced recently, the many storms raging across our planet, reports of ice shelves breaking off and slipping into the sea or an accumulation of all these incidents that are now too numerous to ignore, we seem to have finally woken up to the crisis we now face. Our politicians have suddenly become green and the media is on top of every environmental hot topic. As for myself, back at the office, I can't keep up with the emails and telephone calls I am receiving from concerned educators wanting to become more ecologically aware, wanting to have their school become an ecoschool.

Of course there has always been a small but substantial group of teachers that have taught their students about environmental issues and ecological literacy. These have generally been people who have a deep respect themselves for the Earth, spend substantial time outdoors in the beauty of nature. They understand the importance of a healthy, biologically diverse planet because they have experienced it.

Promoting responsible 'earth' behaviour means encouraging a 'sense of wonder' in our children, exposing our youth to the natural wonders of the world.

> *"If I had influence with the good fairy who is supposed to preside over the christening of all children I should ask that her gift to each child in the world be a sense of wonder so indestructible that it would last throughout life... "* – Rachel Carson

In fact, I would add that promoting a hands-on approach to science, exposing children to real science by taking them outside, will enable them to have a better understanding of the real world, encourage inquiry, and develop a stronger bond to all living and non-living elements on Earth.

Outside can be a local park, outdoor education centre, river or wetland, field excursion to a rock quarry or as simple as your school yard or a walk around the block. Nature is everywhere if you choose to look carefully.

> *"Exploring nature with your child is largely a matter of becoming receptive to what lies around you. It is learning again to use your eyes, ears, nostrils and finger tips, opening up the disused channels of sensory impression."* – Rachel Carson

A Few Tips for Successful Outdoor Experiences……

Underlying these principles are basic attitudes of respect for children as well as a reverence for nature. (Taken from *Sharing Nature with Children*, by Joseph Cornell.)

1. ***Teach less, share more***: express your passion for nature, share personal experiences, even if they may be negative… being honest goes a long way. Sharing our thoughts and feelings encourages children to explore their own feelings and perceptions. It can also inspire them to develop a love and respect for the Earth.

2. ***Be receptive***: this means listening and being aware. The outdoors can bring out a spontaneous enthusiasm in a student that you can direct towards learning. Every question and comment has a potential to communicate …it also displays curiosity. Also be alert to what nature is doing around you at the present moment. There is always something happening if you are observant enough.

3. ***Focus the child's attention without delay***: set the tone right at the start. Involve everyone as much as you can. Ask questions, encourage questions, point out interesting sights and sounds. Also show interest in any of the students' findings. It often helps to visit a location before taking kids there so you have some idea of what to expect. Sometimes asking people in the neighbourhood about special things can help. I have often run into bird watchers on my field trips… they know exactly where to direct you to that awesome sighting, including a great Horned Owl high up in the trees!

4. ***Look and experience first, talk later***: special sightings in nature will certainly grab a child's attention; however even ordinary events can promote a sense of wonder, especially if close attention is paid. Students will gain a far better understanding of happenings in nature by becoming one with them rather than through second-hand talk! They seldom will forget a direct experience. Don't worry about not knowing the names of different plants and animals; there's much more to a Robin than its name. Instead focus on mood shifts, behaviours, patterns, different perspectives of viewing (looking up at a tree from the ground is an amazing experience).

5. ***A Sense of joy should permeate the experience***: your own enthusiasm can be very contagious. Children are naturally drawn to learning if you can keep the spirit of the occasion happy and enthusiastic. No matter how many times I have witnessed the first ladybug of spring, it is always a thrill to me…this has rubbed off on my students who have often sought me out to follow them back to their own unique discovery in the school grounds.

Some practical advice

a) Insist that students dress properly for the weather and environment they are entering.
b) Keep your hands free – encourage students to bring along only what they need and have it in a knapsack
c) Be as familiar as you can be with the environment you are entering
d) Cell phone, small first aid kit, and several volunteer supervisors will make the trip less stressful.

I've included a chart for Grades 1-8 indicating areas that lend themselves to exploring science concepts outdoors. You may be surprised to find that one is able to make a connection with outside science and practically every unit and strand. As well I have listed a variety of websites and reading materials that promote outdoor nature experiences. Back to one of my first comments about those teachers that have been involved with environment for ever so long… I picked up an old book by Rachel Carson, *A Sense of Wonder* written in 1965. Reading this treasure inspired me to write this article, hoping to instil the same sense of wonder for nature education that this book did over 30 years ago.

Bibliography

A Breath of Fresh Air: Celebrating Nature and School Gardens, by Elise HoughtonThe Learnx Foundation and Sumach Press, 2003 ISBN 0-920020-61-5.

EARTHCHILD, Games, Stories, Activities, Experiments and Ideas About Living Lightly on Planet Earth; by Kathryn Sheehan, Council Oaks Publ. 1994.

Ecological Literacy: Educating Our Children for A Sustainable World; edited by Michael K. Stone, Sierra Books, 2005 ISBN 978-1-57805-153-3.

Keepers of the Earth: Native Stories and Environmental Activities for Children, By Michael J. Caduto and Joseph Bruchac, Fifth House Publishers, 1989. ISBN 0-920079-57-1... also in this series *Keepers of the Animals, Keepers of Life and Keepers of the Night*.

Last Child in the Woods: Saving Our Children From Nature Deficit Disorder, by Richard Louv, Algonquin Books, 2005.

Peterson FLASH Guides: Animal Tracks, variety of bird guides, Butterflies, Trees, etc. Houghton Mifflin Co. 1996 ISBN 0-395-82996-8 (Butterflies).

Project WILD: Elementary Activity Guide, Canadian Wildlife Federation, 1989, ISBN 1-55029-029-020-7

The Sacred Balance: Rediscovering Our Place in Nature, by David Suzuki, Greystone Books 1997, ISBN 1-55054-548-5.

A Sense of Wonder: by Rachel Carson, Harper Collins Publ. 1965 ISBN 00675720.

Sharing Nature with Children: by Joseph Cornell, Ananda Publications, 1979 ISBN 0-916124-14-2.

Stokes Nature Guides: A Guide to Nature in Winter, by Donald Stokes, Little, Brown and Co. 1976 ISBN 0-316-81723-6.

You Are The Earth: From Dinosaur Breath to Pizza from Dirt: by David Suzuki, Greystone Books, 1999 ISBN 1-55054-751-8.

Websites

http://conservation-ontario.on.ca/ : Conservation Ontario is the umbrella organization that represents Ontario's 36 Conservation Authorities. Conservation Authorities are local, watershed management agencies that deliver services and programs that protect and manage water and other natural resources in partnership with government, landowners and other organizations.

http://www.escarpment : The Niagara Escarpment and connections to all the areas within the escarpment. It also contains information on biodiversity, touring maps and activities.

http://www.oakridgetrail.org : The Oak Ridges Moraine Trails – includes guides and information on becoming involved with the protection of the moraine.

http://www.cnf.ca/defalt.asp : Nature Canada – includes programs intent on connecting our youth with nature; a very active conservation organization.

http://www.naturewatch.ca : Nature Watch – includes programs kids can get involved with including Frog Watch, Ice Watch, Plant Watch and Worm Watch.

http://www.ontarionature.org/ : Ontario Nature; used to be Federation of Ontario Naturalists – geared to promoting conservation and protection of our natural areas; plenty of resources for education.

I made mention of schools asking me how to become an ecoschool. Ontario EcoSchools has been designed to help school boards and schools play their part in responding to our environmental challenges. It promotes sustainable education and ecological literacy. It helps schools focus on ways to reduce both waste and energy, as well as encouraging environmental action projects. It is an intensive program designed to encourage changes in the way we think and act. If you or your school might be interested in the Ontario EcoSchools initiative go to **www.yorku.ca/fes/envedu/ecoschools.asp** .

Connections with Outdoor Science Opportunities and Curriculum

	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
LIFE SYSTEMS	*Needs of Living Things* – food, air ,water, plants and animals, changes in life, patterns in living things, needs.	*Growth/Change in animals* – adaptations to environment, identification, observation, comparison, life cycles, human effects on environment.	*Plants* – classification, changes, cycles, growth, observation, human/nature interdependence.	*Communities and Habitats* – water, food, light, food chain, adaptations, response to environment, human effect and dependence on environment, wetlands.	*Human Organs* Food sources, needs.
MATTER and MATERIALS	*Objects/Properties of Materials* – senses, identifying properties, human made/natural objects.	*Properties of liquids/Solids* – properties/characteristics of water, observation, identify solid/liquid in immediate environment.	*Magnetism* – composition of soil — iron filings.	*Light and Sound* Shadows, rainbows, Nature sounds.	*Changes in Matter* – properties of natural objects, melting, freezing, evaporation.
ENERGY and CONTROL	*Energy in Our Lives* – sun as principal source of energy, food as source of energy.	*Energy from Wind, Water* – movement of air/water, activities by moving water.	*Forces and Movement* – outside is great place to demonstrate this.	*Light and Sound Energy* Shadows, sources of light, observational tools – telescopes etc. natural sounds.	*Conservation of Energy* – identify sources of energy as renewable, non, wind/sun/tide/water, natural resource and effects on environment.
STRUCTURES and MECHANISMS	*Everyday Structures* – classify various structures in environment, distinguish between human-made and natural objects.	*Movement* – describe using observation, patterns of movement in objects.			
EARTH/SPACE SYSTEMS	*Daily/Seasonal Cycles* – 4 seasons, changes in sun/heat, outdoor activities based on seasons, adaptation to seasons.	*Air/Water in Environment* – wind, changes in air conditions, and how this affects living things, wise use of water, sources of drinking water.	*Soils* Layers/types of soils, effect of water on soil, identify living things in soil, importance of recycling materials in soil.	*Rocks/Minerals/ Erosion* – FOSSILS, compare different rocks, minerals from different areas, effects of wind, water, ice on landscape, effects of human landscape on landscape.	*Weather* – most weather happens outdoors!, cloud formation, water cycle, outdoor air movement, describe how weather affects living things.

	Grade 6	Grade 7	Grade 8
LIFE SYSTEMS	*Diversity of Living Things* – characteristics of life, classification, microscopic life in ponds, identification using keys, fossils.	*Interactions Within Ecosystems* – living and non-living elements, populations, micro organisms, food webs, chains, change, succession, investigation of impact of tech on the environment, effects of loss of habitat.	*Cells, Tissues* – ponds, puddles great source of microscopic organisms.
MATTER and MATERIALS	*Properties of Air and Flight* – you need to be outside to fly those paper airplanes and launch those rockets, identify characteristics and adaptations that enable birds/insects to fly, seeds in the wind...	*Pure Substances and Mixtures* – demonstrate different methods of separating components of mixtures (evaporation, sifting, filtration), demonstrate water as solvent.	*Fluids*
ENERGY and CONTROL	*Electricity*	*Heat* – recognize heat as necessary for plant/animal survival, heating and cooling of earth's surface produces air movement.	*Optics*
STRUCTURES and MECHANISMS	*Motion*	*Structural Strength and Stability*	*Mechanical Efficiency*
EARTH/SPACE SYSTEMS	*Space* – ever gone on a night hike? Identify the constellations, observe the moon through a telescope, phases, cycles in nature.	*Earth's Crust* – classify rocks and minerals, geological processes, soil formation, weathering,, informed decisions about land use, soil conservation, human alteration of landscape.	*Water Systems* – states of water, geological features, water and climate, water cycle, human use of water, effects on water supply.