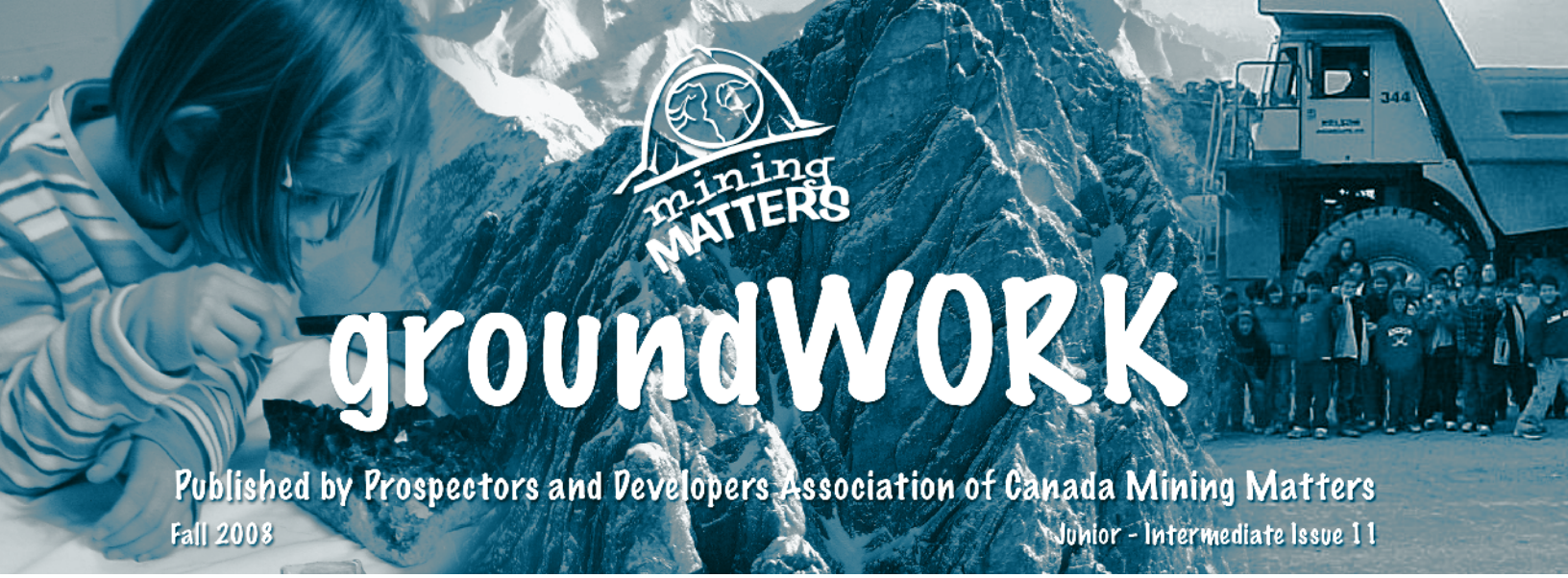


groundWORK

Published by Prospectors and Developers Association of Canada Mining Matters
Fall 2008
Junior - Intermediate Issue 11

In This Issue

Inserts

- Readership Survey
- Junior Miner of Ontario Competition Form
- Elements of Life Activity Card
- Mining in Society Convention Flyer

Please share this newsletter with other teachers and librarians.

Thank You!

New and Improved

Curricula change, technologies change, students change—it's hard for teachers to keep up! *Mining Matters* is here to help; our resources change too, to help you keep pace. From updating curriculum kits and our Web site, to extending our program north and into other provinces, *Mining Matters* staff has been hard at work providing teachers and students with a wealth of relevant, accurate, and authentic Earth science resources. So, take a look at what we've been doing. We hope you like what you see.

Have a great year!

Sincerely,
The *Mining Matters* Team

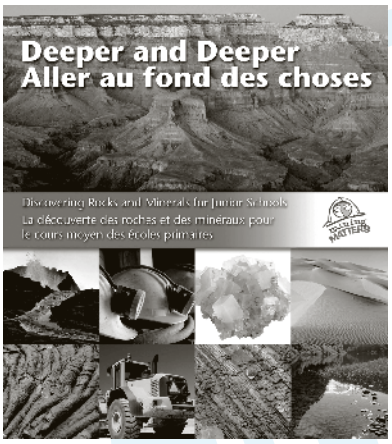
Ontario Curriculum Updates

For many years, Grade 4 teachers across Ontario have successfully used *Mining Matters' Deeper and Deeper* resource (English and French) in their classrooms to teach about rocks and minerals. In response to recent changes in the Ontario Curriculum, we have updated and revised *Deeper and Deeper,* knowing how important it is to provide a strong curriculum foundation to our materials. In doing so, we were privileged to work with experts in Aboriginal education to include material that prompts students to consider a wide range of perspectives toward society's use of rocks and minerals.

Throughout the revised material, students will experience the fundamental concepts and "Big Ideas" identified in the Grade 4 Understanding Earth and Space Systems strand:

- Change and Continuity: Rocks and minerals have unique characteristics and properties that are a result of how they were formed
- Structure and Function: The properties of rocks and minerals determine society's possible uses for them
- Sustainability and Stewardship: Our use of rocks and minerals affects the environment

Deeper and Deeper guides students to examine rocks and minerals and investigate their importance in our lives, and to discover the environmental and social benefits, as well as costs, of using products made from mined materials. By doing all of the 30 activities in *Deeper and Deeper,* teachers will address 100 per cent of the expectations for Grade 4 Understanding Earth and Space Systems. The activities in the resource have also been cross-referenced to *The Ontario Curriculum Grade 4* for Language, Mathematics, Social Studies, and The Arts.



We haven't changed what teachers tell us they value about *Deeper and Deeper.* The resource continues to be an activity-based, user-friendly educational tool for teachers and students. The *Deeper and Deeper* kit comes assembled in a plastic storage box as a stand-alone learning resource that includes a comprehensive resource binder, visual materials, rock and mineral samples, and the special equipment needed to complete the activities.

Mining Matters is currently booking 2009 workshops for the revised *Deeper and Deeper* resource. Please contact Project Manager Lesley Hymers (contact information on page 8) or see our Web site for more information.

Due to the Ontario Curriculum changes, the *Mining Matters* resource kit *Mining Matters II – The Earth's Crust* is no longer aligned with the Grade 7 Science curriculum. However, schools that currently have a kit will find it valuable in teaching Geography. *Mining Matters* Education Consultants are now assessing the resource and the revisions necessary to fully align it with that strand of the curriculum.

New Web Site, New Look

We're very excited to announce the launch of our fresh, new Web site. Considering the need to support you, our teacher audience, as well as student and industry audiences, we have built lots of new features into www.pdac.ca/miningmatters

Our comprehensive new site makes it easy for you to access a tremendous array of resources, from lesson plan, activity, and field trip ideas to recommended publications, audiovisual resources, and downloadable posters. Students will appreciate our in-depth homework help, have fun learning through games and quizzes, or get inspired as they investigate career options. You'll see what partnerships we've formed to expand our program and how industry members support *Mining Matters* by contributing funds and valuable resources.

Whether you are interested in finding out more about who we are and what we do, or are looking for geoscience-related information, be sure to visit *Mining Matters* on-line. And please feel free to give us feedback—we appreciate your comments. Welcome to the new www.pdac.ca/miningmatters!

Influencing Change

When the new Ontario Curriculum was released in January 2008, *Mining Matters* had some concerns with inaccuracies that existed in the Grade 4 Rocks and Minerals curriculum. To address the situation, we assembled a team of technical reviewers from government, industry, academia, and education to review the curriculum and submit suggested revisions.

Approximately 70 per cent of the team's suggestions were partially or fully incorporated into the new curriculum. *Mining Matters* played a supportive role to Ministry curriculum writers by providing sound technical advice on the subject matter. As a result, we have ensured true and accurate information is being used by teachers in the classroom, and we have built a stronger relationship with the Ministry.

Grant for groundWORK

We'd like to thank the Canadian Geological Foundation (CGF) for a $5,000 grant from the Foundation's Thayer Lindsley Endowment Trust Fund. The money was given in support of *Mining Matters'* elementary and secondary school educator *groundWORK* newsletters.

"The Grants Selection Committee is pleased to be able to contribute to this worthy project," says Dr. Johnston, CGF Secretary and Professor at the School of Earth and Ocean Sciences, University of Victoria. The CGF is dedicated to furthering geoscience in Canada and plays a key role in sustaining geoscience education, outreach, and awareness across the country.

The *groundWORK* newsletter distribution to nearly 10,000 educators often includes additional classroom resources such as posters, puzzles, and DVDs, provided in partnership with the Geological Survey of Canada, the Canadian Department of Indian and Northern Affairs, and the Ontario Mining Association.

PDAC '08 Education Program

The 2008 annual Prospectors and Developers Association of Canada International Convention, Trade Show, and Investors Exchange saw some new faces this year, beaming above bright red *Mining Matters* T-shirts. They were the participants in *Mining Matters'* first convention-based education program.

Mining Matters devised a complete learning experience for teachers and students based on delivery models used at other international technical conventions and incorporating the established *Mining Matters* in-service workshops. Each of three days took a different focus: on Sunday we hosted teachers from across Ontario; Monday was dedicated to elementary school students; and on Tuesday we were visited by secondary school students. The pilot student days were offered to four invited schools whose teachers had previously participated in some aspect of the *Mining Matters* program.

The education program, themed "Discover the Mineral Exploration Industry," included hands-on activities, guest speakers, and a visit to the trade show floor. All three guest groups rated the experience of seeing the exhibits as outstanding, many saying they would never have imagined the technology used in the industry, the international involvement, or the variety of exhibitors present. The only complaint was that they would have liked more time to browse around!

Sunday: Teachers' Session

Even though it was a weekend, 39 teachers took advantage of our program. Their session opened with Pamela Strand, President of Shear Minerals Ltd., relating her experiences in the mineral industry. Next, teachers browsed the trade show floor and discovered the diverse nature of the mineral business and exploration industry.

Participants then chose one of three workshops which featured *Mining Matters* educational resources. Every participant received a complete resource kit to keep: *Deeper and Deeper* for junior teachers, *Mining Matters II* for intermediate teachers, or *Discovering Diamonds* for senior teachers. Each resource contains curriculum-linked, classroom-ready student activities, plus supporting material.

Our generous sponsors provided a number of door and session prizes for teachers: books, videos, mineral and fossil samples, posters—all received enthusiastically by our guests. After the program, many teachers stayed to continue talking with *Mining Matters* presenters or take in more of the exhibits.

Monday: Elementary Students

On Monday, 55 students came from Oakwood Public School, Oakville, and Sawmill Valley Public School, Mississauga. Their day started with four hands-on activities with guest presenters. Mia Boiridy of Dynamic Earth introduced students to the gear and tools used in mineral exploration. Peter Russell of the University of Waterloo helped them produce an identification page of rock-forming minerals, complete with real minerals. With Stella Heenan of *Mining Matters,* students counted kimberlite indicator minerals to locate a kimberlite pipe. Finally, Ken Steele of Northern Development and Mines, played "Stump the Geologist," challenged by students to answer questions and identify rocks.

During lunch, students watched the Ontario Mining Association *NickelQuest* video, before chocolate chip cookie mining for dessert. Then they headed to the trade show floor for a scavenger hunt and a group photo with Michael Gravelle, Minister of Northern Development and Mines, who presented everyone with a toque. Their day ended with a chance to sing along with Chris Rawlings and his clever lyrics in "Rocks and Water" songs about Earth science.

Our guests went home with *Mining Matters* gift bags containing hand lenses, crystal nets, mineral and core samples, mineral identification sheets, colouring books, and rock cycle posters.

Tuesday: Secondary Students

For our secondary school day, 36 students joined us from the Specialist High Skills Major in Mining program offered by the Rainbow District School Board in Sudbury. Introduced in 2007, the program allows students to complete their studies while engaging in hands-on learning in the mining industry. They can also earn valuable industry certifications, including first aid and confined space awareness training.

Students first tackled a simulated field exploration, led by Beth Halfkenny from Carleton University. Using field mapping techniques, they interpreted the "outcrops" laid out in the session room to identify the underlying geologic structure and locate likely places for economic mineral targets around the Sudbury crater.

We then invited students to listen to our Careers Panel speakers. Representing a broad spectrum of opportunities and personal career paths, these individuals shared their passion and enthusiasm for all things Earth science.

After lunch, a visit to the trade show floor impressed everyone with the amazing display of exhibitors. Finally, Dr. Harvey Thorleifson treated students to his presentation "The Hunt for Diamonds in the Land of Ice and Snow," a dynamic end to the day and to the entire education program.

Plans are in the works for the *Mining Matters* 2009 Convention education program. Please watch our Web site for details and contact us if you're interested in attending!

Northern Reflections

November 2007 marked the beginning of our focused effort to deliver workshops to First Nations communities, as part of the *Mining Matters* Aboriginal Outreach program. Over the course of the school year, Education Consultant Barbara Green Parker visited 11 communities, delivering *Mining Matters* workshops and sharing her enthusiasm for geoscience.

The program kicked off with a successful visit by Barbara and *Mining Matters* Director Laura Clinton to the Sachigo Lake First Nation in answer to their invitation to present our workshops. Barbara then handled the second excursion to the communities of Long Lake #58, Ginoogaming, Aroland, and Rocky Bay in December 2007. Despite severe winter weather throughout the region and scheduling issues, the trip proved to be another success.

The final trip of the school year was a two-week, six-community journey that took Barbara to Wabaseemoong, Grassy Narrows, and Shoal Lake #40 First Nations in the Kenora Region, and then to Eabametoong, Webequie, and Neskantaga First Nations fly-in communities north of Thunder Bay.

Barbara enjoyed the success of the year's outreach program, as well as the tremendous warmth and hospitality of the people who hosted her along the way. Despite the brief time spent in each locale, she felt privileged to learn about the individual character of each community. Since her return, Barbara has kept in touch with the various schools she visited, ensuring they have no further requirements.

Barbara says, "Thank you to all who so generously offered their warm hospitality, assistance, and kindness. It was truly a memorable first year! Meegwetch!"

For Barbara's engaging personal account of her trip, visit www.pdac.ca/miningmatters

Tweed Indeed

Consider an educational field trip to the town of Tweed, located about halfway between Ottawa and Toronto in an area that offers amazing geological structures and a variety of interesting rocks. The different rock types reveal a story that spans billions of years of the Earth's history.

In and around the Tweed area are ancient, Precambrian (4500 – 542 million years ago) volcanic and sedimentary rocks which have been transformed through metamorphic processes. About 1.1 billion years ago, plate tectonics led to a continental collision in the area, which, through the folding of formerly flat-lying volcanic and sedimentary rock layers, created mountains as high as the Himalayas. Over the next 500 million years, the mountains were eroded, exposing rocks formerly hidden deep within them. These rocks had changed over time with high temperatures and pressures at depth causing re-crystallization, partial melting, and segregation of minerals.

There are some interesting geological structures visible in the Tweed area, including pegmatite dikes. These cross-cutting intrusive bodies, emplaced after a rock has solidified, are veins filled with a variety of large mineral crystals. Of special interest is an unconformity, located northeast of the town. An unconformity is a surface between successive rocks layers that represents a missing interval in the geologic record. In this case, the contact is between Precambrian granite and Ordovician limestone (490 – 443 million years ago).

Marble quarry near Tweed. Image courtesy of Ontario Geological Survey

A tour of the town will introduce visitors to some beautiful rocks, including marble and granite. Marble, used extensively for sculpture, as building material, and in other applications, is a metamorphic rock created by the re-crystallization of carbonate rocks like limestone. Granite, used as a building material and for countertops, is an igneous rock with large crystals formed by slow cooling under the surface of the Earth. In the Tweed area, granite occurs in a variety of colours.

The Tweed area has also been an important mining location. Minerals such as limestone, rose quartz, beryl, feldspar, lyndochite, amazonite, cleavelandite, and nepheline synenite have all been mined in the area

Joggins Fossil Cliffs

In July 2008, Joggins Fossil Cliffs in Nova Scotia were added to the exclusive ranks of UNESCO World Heritage Sites. Situated at the head of the Bay of Fundy, the 15-kilometre stretch of cliffs has been called a "Coal Age Galapagos." It features dramatically exposed layers of rock that reveal fossils considered the best evidence known of the iconic features of the Pennsylvanian (or Carboniferous) period of Earth history approximately 300 million years ago.

Image courtesy of Joggins Fossil Centre

The Joggins Fossil Centre is situated on the reclaimed site of an old coal mine overlooking the Joggins Fossil Cliffs. The Centre offers exceptional learning experiences, featuring an extensive fossil specimen collection, exhibits, and displays depicting the area's rich geological history, its history of scientific discovery, and the contribution of local coal mining.

To learn more about the Joggins Fossil Cliffs, explore the Centre, and see dramatic photos of the cliffs and its fossils, go to http://jogginsfossilcliffs.net

Canada is home to several other outstanding natural UNESCO World Heritage Sites:

- Canadian Rocky Mountain Parks
- Dinosaur Provincial Park
- Gros Morne National Park
- Kluane/Wrangell-St. Elias/Glacier Bay/Tatshenshini-Alsek Parks
- Miguasha National Park
- Nahanni National Park
- Waterton Glacier International Peace Park
- Wood Buffalo National Park

To explore them all and find links to information about their unique natural features, go to http://whc.unesco.org/en/statesparties/ca

Google Earth Tools

Have you ever had fun exploring with Google Earth, zooming in on your street or scoping out places to visit? Have you ever used the program as a teaching tool? If not, maybe it's time.

Google Earth is an excellent tool to complement studies in many areas of the Ontario Curriculum. "Fly" your students across Canada or the world and zero in on locations related to your course content. Zoom down on major landforms, plot travel paths, measure distances, or get close to historical landmarks. Compare different river systems or explore areas of volcanic activity. Examine highlights like the UNESCO sites discussed in the preceding article or even get a bird's-eye view of an area you're planning to visit on a field trip.

Though you can pay for a version with more bells and whistles, the basic Google Earth program is free to download. For maximum use, take advantage of the comprehensive user guide and try out the tips that pop up. For specific lesson ideas or general information geared to educators, go to www.google.com/educators/p_earth.html

For the latest news or ideas about how to use Google Earth (e.g., track a hurricane or check the state of Arctic ice), go to www.gearthblog.com

2010 Connection: Metal Count

The Olympic medals are designed especially for each individual Olympic Games by the host city's organizing committee. Each medal must be at least 5 mm thick and 70 mm in diameter. The gold and silver medals must be made from 92.5 per cent silver, with the gold medal covered in 6 gm of gold. So, while gold is important, silver plays the most significant role in medal composition. And we mustn't forget bronze medals; they, like the athletes that win them, are equally important on the podium. We looked at gold in a previous edition of our newsletter (*Mining Matters News* Spring 2007); here we look at silver and bronze.

Silver

Silver (Ag) occurs in the Earth as a pure free metal and has been in use since ancient times. Soft, white, and lustrous, it has numerous unique properties, including strength, malleability, and ductility, as well as high thermal and electrical conductivity. Silver can also withstand extreme temperature ranges as well as act as a disinfectant.

The three main uses of silver include industrial applications, jewellery, and photography. Most people likely think that silver goes primarily into jewellery and silverware. However, according to the 2007 figures of The Silver Institute, industrial applications consume the most silver, using about 455.5 million ounces. Jewellery markets use 163.4 million ounces, photographic applications use 128 million ounces, and silverware manufacturing uses 58.8 million ounces.

At one time Canada was an important silver producer. Today, silver is mined as a by-product of base metal or gold mining in Newfoundland and Labrador, New Brunswick, Quebec, Ontario, Manitoba, Saskatchewan, B.C., the Yukon, and the Northwest Territories. The Samatosum mine and Equity Silver mine in B.C. were the last mines to primarily produce silver; they closed in 1992 and 1994, respectively. To learn more about silver, go to www.silverinstitute.org

Bronze

Bronze is a copper alloy, usually copper mixed with tin, but other elements or metals can produce bronzes with different properties. The use of bronze significantly affected the development of human culture. We call the period from 3500 B.C. to 1200 B.C. the Bronze Age, since the discovery of the alloy improved the making of tools, weapons, armour, and building materials.

At present, bronze still has many applications, including the manufacture of bells and musical instruments. Bronze parts are also used for bearing clips, electrical connectors, springs, and roofing materials.

Copper

The metallic element copper (Cu) has a distinctive pinkish lustre. As one of the first minerals humans extracted from the Earth, it played an important role in early civilization, giving rise to the Bronze Age.

Copper is a ductile metal with excellent electrical conductivity, making it suitable for its main industrial use: cable, wire, and electrical products for the electrical industry. The second largest use is in construction, for such things as plumbing, heating and ventilation

pipes, as well as building wire and sheet metal facing. Over 65 per cent of copper is used in buildings and for transmitting electricity.

Copper is also an important component in technology. It can be found in integrated circuits, computer chips, computer circuit boards, and many other electrical devices. As well, copper is used for decorative metal art and as an anti-germ surface for buildings and hospitals. Copper is also biologically important as an essential trace nutrient for all higher plants and animals.

Canada is an important producer of copper. Profitable concentrations of copper-bearing ore are found in relatively few locations. Four provinces account for the majority of production: B.C., Ontario, Quebec, and Manitoba. To learn more about copper, go to www.copperinfo.com

Canadians might think that production of our one cent coin requires a great deal of copper. In fact, from 1858 to 1996, Canadian pennies were composed of 94 to 98 per cent copper. However, since 1996, copper has merely coated the steel disc at the heart of our penny.

Tin

Tin (Sn), named for the Etruscan god Tinia, is one of the earliest metals known. The silvery-white metal was recognized for its hardening effect on copper and used to make bronze implements as early as 3,500 B.C. The pure metal was not used until about 600 B.C.

Tin is a relatively scarce element, occurring in the Earth's crust at about 2 parts per million (ppm), compared with 94 ppm for zinc, 63 ppm for copper, and 12 ppm for lead. While about 35 countries around the world mine tin, over half of its production occurs in Southeast Asia. In Canada, tin is mined in Nova Scotia and New Brunswick.

Most tin is used as a protective coating or as an alloy with other metals such as lead or zinc. Tin is used in solders for joining pipes or electrical/electronic circuits, in coatings for steel containers, in bearing alloys, in glass-making, and in a wide range of chemical applications. Secondary, or scrap, tin is an important source of the tin supply. To learn more about tin, go to www.infomine.com/commodities/tin.asp

Go TSTOP

The Teachers' Science and Technology Outreach Program (TSTOP) provides Ontario elementary and secondary science and technology teachers with opportunities to participate in leading-edge research in publicly funded institutions. The objective of TSTOP is to advance teachers' scientific knowledge and understanding of research underway in Ontario, share the excitement of research with their students, and develop an ongoing relationship between the classroom and researchers. For further details go to www.mri.gov.on.ca/English/programs/tstop/program.asp

Field Trip Subsidy Program

The *Mining Matters* Field Trip Subsidy Program was introduced in Ontario in 2006 as part of our commitment to enriching school-based geoscience learning, and it's still going strong. Any teacher who has completed an in-service workshop and uses a *Mining Matters* resource kit in the classroom may apply for the $10-per-student subsidy for a geology or mining-related field trip.

We allot a maximum of $5,000 for the Ontario subsidy program, to be distributed to a number of different schools. Subsidy applications are considered on a first-come, first-serve basis. We ask teachers and students to submit a summary of their experiences at the end of their adventure.

Go to our Web site for field trip suggestions and to download an application form. For further information, please call us at 416-863-6463, ext. 321, or e-mail pdacmm@pdac.ca

Classroom Activities

Show your students the wonder of geodes, plain stone lumps that, when split, reveal mineral crystals or concentric layers of minerals. Try making Walnut Shell Geodes.
www.womeninmining.org/activities/GEODES.pdf

Tie the holiday season into learning about the uses of rocks and minerals. Have fun discovering the rocks and minerals that go into decorating a festive tree.
www.mii.org./pdfs/xmastree.pdf

Try out an activity developed by two B.C. teachers that helps young students recognize the distinctive textural features of many common rocks.
www.bcminerals.ca/files/teacher_resources/000109.php

Have intermediate students tackle some real problem-solving with Stop Disasters, a disaster simulation game in which they try to prevent destruction of human habitat by natural forces.
www.stopdisastersgame.org/en

Web Sites for You

Here are two Web sites that offer geology-related photographs, copyright-free if used for non-profit educational purposes.
www.earthscienceworld.org/imagebank
http://skywalker.cochise.edu/wellerr/aawellerweb.htm

The Geological Society in Britain has developed a student-oriented Web site about the Rock Cycle. It shows how the various Earth processes produce rocks, how we use rocks to build our homes, and offers an animated version of the cycle. www.geolsoc.org.uk/rockcycle

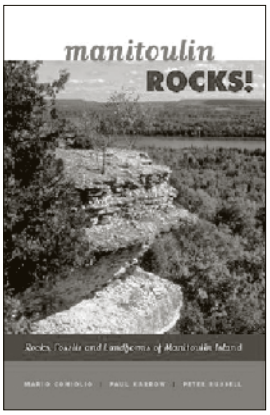
Teacher GAC Membership

The Geological Association of Canada (GAC) now offers memberships to teachers K–12. The aim is to foster stronger relationships between the teachers of Canada's youth and Earth scientists. For an annual fee of only $10, you get on-line access to *Geoscience Canada* (one of GAC's journals) and *GEOLOG* (the newsletter). For $35, you receive paper and on-line access to both. Other benefits include discounts on GAC publications, and reduced registration fees for the annual GAC-MAC Conference. In 2009, the conference will be held in Toronto, May 24–27. There will be events and field trips for teachers, and opportunities to connect with Earth scientists.

Sign up for your 2009 membership using the Student/Teacher category at http://www.gac.ca/aboutgac/join.php

Exploring Manitoulin Island

Source: University of Waterloo (UW) Earth Sciences Museum Web site



For well over a century, the Manitoulin Island area has been a mecca for Earth scientists from all over North America who've come to study its rocks and collect its fossils. A book by two University of Waterloo (UW) Earth scientists and a curator colleague explains why.

Manitoulin Rocks! Rocks, Fossils and Landforms of Manitoulin Island, a guide to the geology of the island and nearby areas to the north, was written for the non-specialist to share in the excitement about the area. The profusely illustrated 130-page book is an ideal resource for tourists, teachers, students, nature lovers, or anyone else who wants to understand the natural history of the beautiful island. The book's publishers are the Earth Sciences Museum at UW, in partnership with the Geological Association of Canada and the Gore Bay Museum in the town of Gore Bay on Manitoulin Island. It was written by Mario Coniglio and Paul Karrow, both UW professors of Earth sciences, and Peter Russell, curator of UW's Earth Sciences Museum. Learn more about the book at www.earth.uwaterloo.ca/services/museum/manitoulin

Junior Miner Winners 2008

Congratulations to all our 2008 Junior Miner winners. And thank you to all who entered the competition; the quality and variety of submissions were outstanding.

Junior Winners

Diamond Prize
Mohini Ramdeo—Poster
Ridgewood Public School
Peel District School Board

Platinum Prize
Curtis McCullough—Pamphlet
Murray Centennial Public School
Kawartha Pine Ridge District School Board

Gold Prize
Serena Armstrong—Article and Collage
Iroquois Public School
Upper Canada District School Board

Silver Prize
Matthew Ladd—Poster
Byngmount Beach Public School
Peel District School Board

Copper Prize
Jacob Riley—Poster
Murray Centennial Public School
Kawartha Pine Ridge District School Board

Intermediate Winners

Diamond Prize
Matthew Biamonte—Booklet
St. John the Baptist Elementary School
Dufferin-Peel Catholic District School Board

Platinum Prize
Michelle Leung—Poem and Drawings
Windfields Junior High School
Toronto District School Board

Gold Prize
Carly Markham—Autobiography
St. John the Baptist Elementary School
Dufferin-Peel Catholic District School Board

Silver Prize
Silene Bumbaca—Poem
St. Dunstan Elementary School
Dufferin-Peel Catholic District School Board

Copper Prize
GianCarlo DeMarti—Articles
St. John the Baptist Elementary School
Dufferin-Peel Catholic District School Board

You Could Win!

Complete the enclosed Readership Survey and win! You'll receive a thank-you gift just for faxing the completed survey to us at 416-863-9900. Plus, we'll enter you in a draw for a classroom set of rocks and minerals. Please see the survey for details.

Call for Entries

WHERE Challenge

In celebration of the International Year of Planet Earth, the first annual **WHERE Challenge** is asking Canadian kids aged 10 – 14 years to answer these questions: What on Earth is in your stuff and **WHERE** on Earth does it come from? Entrants across the country could win national and regional cash prizes, and all entries go into a draw for an iPod touch!

Individuals or groups can answer the questions by writing an essay, a poem, a song, or a play, or creating a painting, a poster, an audio, video, or multimedia presentation, or anything else they can dream up—the more original, the better! Winning entries will be used to demonstrate how Earth resources are essential to our everyday lives. For more details on the **WHERE Challenge** or to learn more about careers in Earth sciences, go to www.earthsciencescanada.com

Junior Miner of Ontario Competition

The Junior Miner of Ontario Competition is an annual *Mining Matters* contest intended to inspire students to discover the importance of rocks, minerals, metals, and mining, along with the roles they play in our everyday lives. The competition, held in the spring, features the outstanding work of students who submit a project demonstrating why Earth's rock and mineral treasures are important in our day-to-day lives. Five prizes, ranging from $50 to $150, are awarded to winners in both the Junior and the Intermediate levels. For details, see the enclosed flyer or go to www.pdac.ca/miningmatters/educators/junior-competition.html

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Mining Matters creates exceptional educational resources to meet provincial Earth science curriculum expectations. Since 1994, this non-profit charitable organization has reached more than 400,000 teachers and students through resources that promote awareness of the importance of rocks, minerals, metals, mining, and Canada's geology. *Mining Matters* prides itself on building long-term partnerships with teachers by providing relevant, accurate, and authentic Earth science resources for the classroom, designed by teachers for teachers.

Meet the people at *Mining Matters*. Please visit our Web site to put some faces to the names you see here and to learn a little about us.

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