

Mining Matters Annual Newsletter

2024





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Message From the President



Thank you for your generous support of Mining Matters! As we celebrate our 30th anniversary, we are especially grateful for the commitment of our contributors who make it possible for us to continue enhancing Earth science literacy and emphasizing the essential role of rocks, minerals, metals, and mining in our daily lives. Your support has fueled our mission over three decades, helping us raise awareness of the diverse careers available in the minerals industry and inspiring the next generation to explore opportunities in the sector.

This year, we reached over 39,900 individuals nationwide through Earth science activities in schools, camps, conventions, and public events—both virtually and in person. With your help, we are building mineral literacy, sparking curiosity, and expanding knowledge in communities across Canada. We continued to build a stronger, more informed relationship between young Canadians and the mineral resources that are essential to the future of sustainable development.

Key achievements from the year include:

- Engaging 1,889 participants in Indigenous Communities Education and Outreach Programs.
- Reaching underrepresented youth with GEMS Kits, which focus on geology, engineering, mining, and sustainability.
- Introducing over 450 high school students to Canada's critical minerals sector through hands-on, sustainability-focused activities.
- Enhancing mineral literacy for over 18,400 students through our Teacher Training and School Programs.
- Engaging 13,900 individuals at gem and mineral shows, STEM fairs, career expos, and industry events.
- Conducting teacher tours to showcase sustainable mining practices, career paths, and curriculum enrichment.
- Welcoming 111,500 visitors to our new website, broadening access to our educational resources.

Your generosity has also enabled us to bring hands-on geoscience and mining activities to Nunavut, establish partnerships with STEM organizations to reach even more youth, and support recent graduates and co-op students as STEM role models and ambassadors for the industry.

As you read this edition of our annual industry newsletter, we hope you find inspiration in the stories of impact and achievement. We are deeply grateful for your continued commitment to Mining Matters—thank you for helping us celebrate 30 years of advancing Earth science education and awareness!

Patricia Dillon
President and CEO





Critical Minerals Workshops for Secondary Students

The critical minerals sector plays a vital role in advancing modern technologies and meeting the demands of a low-carbon, sustainable, and digital future. At the forefront of this movement is Canada's critical minerals industry, which continues to pave the way for innovations that power everything from personal electronics to green energy solutions. Workshops aimed at educating high school students have been developed by Mining Matters to provide a hands-on learning experience into the world of critical minerals, highlighting their crucial role in both local and global contexts.

Our *Critical Minerals Workshop* is designed to immerse students in the vast and essential world of minerals and metals vital to current and future technologies. The workshop's structure consists of three interlocking modules, each building a deeper understanding of the significance of critical minerals.

Module 1, the **Critical Minerals Lab**, introduces students to the fundamental concepts of critical minerals. Through hands-on activities, participants explore the properties and engineering applications of select minerals and metals, gaining insight into their indispensable role in various technologies. Students learn that these minerals are the backbone for many devices we rely on, including smartphones, batteries, and renewable energy systems.

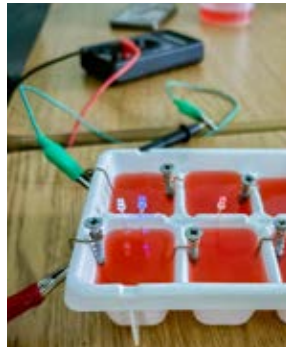
Module 2, **Deconstruct Technology**, focuses on the global interconnectedness of critical minerals. Students examine the minerals used in everyday devices, such as smartphones, and trace their origins back to source countries. This module helps students understand the complexities of global supply chains and the significant role these minerals play in international markets and economies.

Module 3, **What's Next?**, engages students in a discussion surrounding the social and environmental implications of mining and using critical minerals. This World Café-style conversation encourages participants to share diverse perspectives and analyze the sustainability challenges associated with critical mineral extraction.

Through these educational initiatives, the importance of critical minerals and their broader implications become clear to young minds, inspiring them to explore careers in this dynamic industry.

We extend a heartfelt thanks to our contributors, Natural Resources Canada (NRCan), the Canadian Geological Foundation, Impala Canada, and the Prospectors & Developers Association of Canada (PDAC), for their valuable support in making this workshop possible. Their commitment to the growth and sustainability of the critical minerals sector ensures that Canada remains a leader in this vital field.

In the 2023-2024 school year, Mining Matters delivered 46 *Critical Minerals Workshop* modules to teachers and students in Ontario, Saskatchewan, and Newfoundland. We are pleased to share a few highlights from the session.



St. John's, Newfoundland and Labrador

Mining Matters hosted two engaging full-day workshops on critical minerals at Holy Spirit High School and Holy Trinity High School in Newfoundland. Students in grades 11 and 12 learned about the vital role of critical minerals in today's technology and global trade. Highlights included building batteries and motors. One student remarked, "Today I learned some intricacies of batteries and motors and how they are supported by minerals and mining." Teachers praised the workshop for initiating insightful discussions on global and environmental issues.

Saskatoon, Saskatchewan

Mining Matters delivered three workshops in Saskatoon, bringing hands-on learning to over 120 students. Hosted at Centennial Collegiate and Tommy Douglas Collegiate in the winter and spring of 2024 respectively, students explored the vital role of minerals in modern technologies. From building batteries to tracing mineral origins on global maps, the experience was both educational and engaging.

"Great workshop and I enjoyed this definitely more than taking notes!" said a Grade 12 Centennial student, while a Grade 9 student from Tommy Douglas added, "Minerals are cool!" Teachers also praised the workshops for sparking curiosity and enthusiasm in the classroom.

Thunder Bay, Ontario

During a three-day *Critical Minerals Workshop* at Saint Patrick High School in Thunder Bay, students participated in hands-on modules exploring the essential role of critical minerals in modern technology. They investigated the properties and engineering applications of minerals used in devices like smartphones and renewable energy systems, traced global supply chains to understand their international significance, and engaged in discussions about the social and environmental challenges of mineral extraction. As one grade 9 Geography student observed, "Canada is doing a lot of exploration into what critical minerals we have to mine."

A BREAKDOWN OF THE CRITICAL METALS IN A SMARTPHONE

Some vital metals used to build these devices are considered at risk due to geological scarcity, geopolitical issues or trade policy. This infographic details the critical metals that you carry in your pocket.

The Earth's natural resources power our everyday lives.

DISPLAY
The display contains several rare earth elements. Small quantities are used to produce the colors on the liquid crystal display. Some give the screen its glow.

ELECTRONICS
Copper is used for wiring and for micro-electrical components along with gold and silver. Nickel is used in electrical connectors. Tantalum is used in semiconductors. Tantalum is the major component of micro capacitors, used for filtering and frequency response.

CASING
Nickel reduces electromagnetic interference. Magnesium alloys are used to reduce electromagnetic interference (EMI) shielding.

TOUCH SCREEN
It contains a thin layer of indium tin oxide, highly conductive and transparent, allowing the screen to function as a touch screen.

MICROPHONE, SPEAKERS, VIBRATION UNIT
Nickel is used in the microphone diaphragm that vibrates in response to sound waves. Alloys containing neodymium, praseodymium and gadolinium are used in the magnets contained in the speaker and microphone. Neodymium, terbium and dysprosium are used in the vibration unit.

BATTERY
The majority of smartphones use Lithium ion batteries. The battery casing is made of aluminum.

ALKALI METAL
ALKALINE EARTH
TRANSITION METAL
POST-TRANSITION METAL
LANTHANOID

Metals shown in infographic: La, Pr, Eu, Gd, Tb, Dy, Ga, Ni, Ta, Cu, Au, Ag, Mg, Ni, Al, Li, Co, Ni, Ni.

PDAC PROSPECTORS & DEVELOPERS ASSOCIATION OF CANADA

MiningMatters.ca



From Rocks to Resources: Hands-On Learning for Elementary Students

Throughout the 2023-2024 academic year, Mining Matters delivered 185 interactive workshops, reaching over 4,700 students and 200 teachers across Canada. These virtual and in-person workshops are designed to align with provincial and territorial curriculum expectations, ensuring the content is both educational and relevant. By integrating local and regional perspectives, as well as showcasing Canadian mineral samples, the workshops provide a hands-on learning experience that connects students with Canada's rich geological resources and their everyday applications.

Mining Matters continued its commitment to expanding outreach and inclusivity, delivering workshops in both English and French. With the generous support of CIM Northern Gateway, the Government of the Northwest Territories, Impala Canada, and Kinross Gold Corporation, our programs reached underserved communities, ensuring students across Canada had access to engaging Earth sciences education.



Each workshop offers teachers the flexibility to choose from four distinct themes, allowing them to customize the content for their students' needs:

1. **"Minerals"**: In this workshop, students explore the physical properties of various minerals and discover how these materials are utilized in everyday life—from the electronics in their pockets to the infrastructure of their cities.
2. **"Rocks"**: Students embark on an exciting journey through the rock cycle, where they learn to classify and identify different types of rocks. Using hands-on activities, they solve the mystery of unknown rock samples while learning about geological processes.
3. **"Mining"**: This workshop provides an overview of the mining industry, from exploration to reclamation. It emphasizes the environmental and social impacts of mining, the benefits it brings to communities, and the industry's responsibility in ensuring sustainable practices.
4. **"What on Earth is in Your Stuff?"**: Students use maps to locate Canadian sources of minerals and metals and their importance to our daily lives. This workshop also highlights the importance of responsible consumption and the finite nature of these resources.

Feedback from both students and teachers has been overwhelmingly positive. Students found the hands-on activities both fun and informative, while teachers appreciated the real-world connections the workshops made to subjects like geography, chemistry, and environmental science.

One teacher remarked, "The Mining Matters workshops engage students in a way that textbooks cannot. They bring science to life by connecting it to real-world applications." These workshops not only spark curiosity but also open students' eyes to the diverse career opportunities in Earth sciences, mining, and engineering.



Building Earth Science Connections in the Red Lake Region

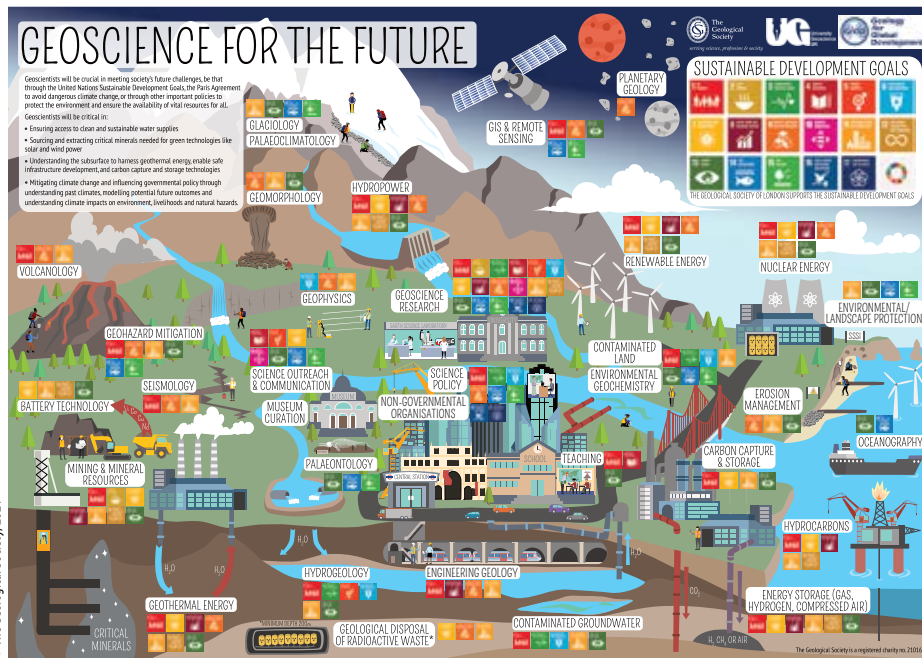
In the spring, Mining Matters facilitated a series of engaging workshops and activities for students in Red Lake, Balmertown, and Ear Falls, Ontario, with the generous support of Evolution Mining, Kinross Great Bear Resources, and West Red Lake Gold Mines. This in-school program reached students from grades 4 to 12 and included hands-on learning experiences designed to connect students with the world of mining, critical minerals, and Earth sciences.

At Red Lake High School, Mining Matters delivered Module 1 of the *Critical Minerals Workshop* over three days to students in grades 9 through 12. This workshop focused on the role of critical minerals in modern technologies and their real-world applications. Students were deeply engaged, asking insightful questions and showing great enthusiasm during the hands-on activities.

In addition to the high school sessions, Mining Matters conducted foundational activities with students from the region's elementary schools. Activities such as *Cookie Mining*, *Mineral Discovery*, and *Making Sense of Rocks* were a hit with students in grades 4 to 8, providing them with fun and educational experiences that connected mining and Earth sciences to their everyday lives.

The highlight of the week was the Community Night, held at the Red Lake Regional Heritage Centre. The event drew around 30 participants and offered activities such as product matching, soapstone carving and amethyst jewellery making. Attendees had the chance to interact with Mining Matters educators and industry professionals, learning about careers in Earth sciences and mining.

The program was a success, offering students and community members a unique opportunity to learn about critical minerals and the mining industry in a fun and engaging environment. Mining Matters continues to inspire future generations, fostering curiosity and providing valuable insight into the Earth sciences.



Connecting Geoscience and Global Sustainability

Mining Matters is proud to announce the completion of an enhanced workshop designed to engage students aged 9-14 with Earth sciences and the vital role geoscience plays in achieving global sustainability. Originally launched during Science Literacy Week in 2020, the workshop has been expanded to provide a deeper connection between mineral resources and the SDGs, emphasizing the contributions of geoscientists in areas such as clean water, renewable energy, and sustainable resource extraction.

This hands-on, interactive program, funded in part by the Canadian Geological Foundation, includes a series of activities that directly tie Earth science concepts to the UN's 2030 Agenda for Sustainable Development. Students explore topics including groundwater contamination, critical minerals, renewable energy, and reclamation, while gaining insight into the ways geoscientists support sustainable practices in modern society.

Workshop Activities:

- **'Go Goals!' SDG Board Game:** A board game developed by the United Nations Regional Information Centre for Western Europe introduces students to the 17 Sustainable Development Goals, promoting awareness and discussion on how individuals and communities can contribute to global sustainability.
- **Human Water Cycle:** Students simulate water molecules moving through the water cycle, observing how contamination spreads and discussing its impacts on the environment.
- **Stormwaters:** Students examine various sources of contamination and observe the effects of rainfall on contaminant spread, concluding with discussions on mitigation strategies.
- **Power to the People:** This activity explores the minerals mined in Canada and their role in renewable energy, with students reflecting on how these materials power green technologies.
- **Wind Turbine:** Students build a wind turbine as a class, learning about renewable energy and the essential minerals needed to manufacture green technology.
- **Critical Minerals and Smartphones:** Students investigate the critical minerals found in smartphones and research their uses, emphasizing the importance of these materials in modern technology.
- **Electric Motors:** Using a battery, magnet, and copper wire, students construct an electric motor and learn about the role of critical minerals in electric vehicles and other modern technologies.

- **The Mining Simulation:** Participants are introduced to the mining cycle and simulate mapping, capital investments, equipment purchases, labour expenses, taxes, environmental infractions, operational methods, commodity pricing and reclamation costs. Participants are taught to use sound principles to produce a profit during the life of their mine.
- **Reclamation Matching:** Students match before-and-after photos of mining sites to explore the importance of reclamation and tailings management in minimizing environmental impact.
- **Sustainable Development Goals Wrap-Up:** Students connect each activity to specific SDGs and participate in a challenge to reuse materials from the workshop kit, reinforcing the importance of sustainability.



Newfoundland Sustainability Workshop Pilot

In the spring, Mining Matters hosted a series of five 1-hour workshops at Brother Rice Junior High School in St. John's, reaching 110 enthusiastic grade 7 and 8 students to pilot the new SDG project. Funded in part by the Canadian Geological Foundation, the workshops focused on sustainability, clean drinking water, and the capacity for the minerals industry to contribute to furthering the UN SDGs in Canada.

The students participated in the *Human Water Cycle*, learning about the water cycle and the critical role water plays in our world. The highlight of the workshop was building their own water filters using cotton balls, gravel, sand, activated charcoal and even pasta to see how everyday items can filter dirty water into clearer water. One student commented, "I learned that the items we used can actually filter really, really dirty water into decently clear water."

The interactive experience concluded with *Reclamation Matching*, where students explored the importance of reclaiming mining lands to reduce environmental impact. The workshops sparked curiosity and hands-on engagement. One student shared, "I really liked this activity, and I hope to do something like this again."

The pilot provided an engaging and insightful experience for the students, leaving a lasting impression on the importance of sustainability and environmental stewardship.



Rockhounding Adventure in British Columbia

From May 30 to June 2, 2024, the Tommy Douglas Collegiate Rock Club in Saskatoon set out on an unforgettable rockhounding trip to British Columbia, with support from a Mining Matters field trip subsidy. Accompanied by one of our instructors, 13 eager students, along with their teacher and parents, travelled to a claim near Kinbasket Lake. The students had the opportunity to camp and explore the site, collecting stunning geological specimens over the weekend.

The trip's highlight was finding abundant garnet crystals scattered along the beach. Students also collected samples of schist, staurolite, and kyanite during their stay. Sunday offered another exciting stop, where the group gathered pyrite crystals embedded in shale before heading home.

In the evenings, Mining Matters hosted activities around the campfire. Students were engaged and enthusiastic, bringing many rocks to our instructor to learn more about their discoveries. They also enjoyed making jewellery using the garnets they had collected.

Reflecting on the experience, teacher Jon Schwanke said, "The trip was a great opportunity for a bunch of prairie kids to get a glimpse of the vast geological world that is out there. It was a wonderful experience that we all look forward to doing again."





Beyond the Classroom

Seven schools had the opportunity to take part in enriching field trips focused on geoscience, mineral resources, and mining, with 375 elementary and secondary students, teachers and parent volunteers taking part. Field trip locations included the Canadian Ecology Centre (CEC), Blue Mountain Scenic Caves, Britannia Mine Museum, University of Waterloo Earth Sciences Museum, OMYA Calcium Carbonate Quarry and Processing Plant and sites of geological significance in the greater Ottawa region.

Contributions from PDAC and SGS Canada Inc. were instrumental in providing students with these enriching experiences beyond the classroom. Thank you for your support.

These field trips have sparked curiosity, promoted hands-on learning, and exposed students to new opportunities and potential careers. The impact of the support extends far beyond the field trip itself, leaving a lasting impression on these young minds.

Here's what teachers had to say about the experience:

Exploring Soil Ecology and Geology Rocks Programs at the CEC

"We had a great day of learning and have now actually created a rock garden for our school using more knowledge about rocks and minerals. Our students, families and administrators appreciate you making this trip possible for our students." –Carolyn Anello, Grade 4 Teacher, Mother St. Bride School, North Bay, ON

Educational Adventures at the Blue Mountain Scenic Caves

"During this trip, students were able to extend their learning outside our classroom walls. We have been learning about rocks and minerals in our science class, and this trip helped students appreciate the properties of rocks, recognize different types of rocks and recognize examples of erosion. They also considered questions of how this incredible area of the Escarpment formed and changed over time. Thank you for your generous support in providing these opportunities. Students returned from the trip very excited about their geological adventure. This will inspire their continued excitement and interest in this area of science." –Luanne Noble, Grade 4 teacher, Drayton Heights Public School, Drayton, ON

Hands-On Learning in Geology at the University of Waterloo Earth Sciences Museum

"Students enjoyed the activities, focused on the many uses of minerals in daily life. They were pleased to be able to handle specimens. Students also discovered how challenging it is to prepare a fossil fish specimen. They also learned about historic mining in Ontario when they visited the museum's Cobalt Mining Tunnel. The students particularly liked the replica blast complete with an old fashion plunger and sound effects. For some, the highlight of the day was a scavenger hunt through the atrium that had them exploring the various displays. Both the students and parent volunteers commented on how much they enjoyed the day. This trip certainly helps foster enthusiasm amongst our students for geology and mining. Thanks again for sponsoring such an inspiring and fun filled field trip." –Aimee Partlow, Grade 4 Teachers Aberfoyle Public School, Puslinch, ON



Discovering BC's Mining Heritage at the Britannia Mine Museum

"Students participated in tours of the mine, learned about mine history, panned for gold, and learned about the rock cycle. The students had a great time, and many expressed the desire to learn more about minerals and the rock cycle." –Emma Jasen, Grade 4/5 Teacher, Irvine Elementary School, Port Coquitlam, BC

"The students were delighted to see everything from minerals, to fossils, to meteorites. This experience gave students a chance to see samples in real life and to make connections between mining and the items they use that contain minerals and metals everyday. We had a great time, and it was a wonderful learning experience." –Sarah Gingrich, Grade 4 Teacher, Forest Hill Public School, Kitchener, ON

Exploring Industrial Minerals and their Applications at Omya

"I cannot express enough gratitude to thank you for your support of our educational experiences through the educational subsidy delivered through Mining Matters. As a result of your generous support, students were able to get out of the classroom and start making true connections to the resource extraction cycle. This was the first time most students had set foot on an industrial site, and they were impressed with the scale and the level of automation. The highlight of the tour was getting off the bus at the bottom of the quarry. Students were stunned by the scale and scope of the undertaking as well as the size of the equipment being used to extract the material. Thank you again! Many students expressed great excitement throughout the tours, getting to see things that few people get to see." –Rob Millard, Grade 9 to 12 Teacher, Notre Dame Catholic High School, Carleton Place, ON

Fault Lines, Caves, and Lookouts in the Ottawa Region

"The benefits of getting kids out of class and into the real world are so important. These are the memories they retain long after high school is over. For many of my students, this was their first time holding a rock hammer or even visiting Gatineau Park. Because of experiences like this many of my former students have gone on to careers in Earth science." –Robert Barter, Head of Canadian and World Studies, A. Y. Jackson Secondary School, Ottawa, ON



WHERE challenge



Mining Matters is excited to report that this year's WHERE Challenge saw participation from 198 students and teachers, who answered the questions "What on Earth is in their stuff?" and "Where on Earth does it come from?" in creative and inspiring ways. In addition, our WHERE classroom presentations reached an additional 1,100 students and teachers, making Earth science come alive for young minds across the country.

The WHERE Challenge is a national contest endorsed by the Canadian Earth sciences community that encourages students ages 9 to 14 to explore the fields in which geoscientists work: Water, Hazards, Energy, Resources, and the Environment. Through this contest, students discover the importance of non-renewable resources in everyday life and creatively share their

understanding using various media. The challenge sparks curiosity about the origins of the products they use daily and encourages students to explore potential careers in the mining, energy, and environmental sectors.

This year's contest continued to foster a blend of classroom learning with real-world relevance, combining curiosity with practical research, and creativity with production technology. Entries were received from across Canada, and a volunteer judging panel, composed of industry and Earth science partners, selected the winners, who received cash prizes.

We extend our deepest thanks to Teck Resources Limited for their ongoing support, which has made this contest possible year after year.

Exploring Careers in the Minerals Industry

At this year's Post-Secondary Pathway Exploration Conference, hosted by Ottawa and Halton school boards with the Ontario Council for Technology Education, Mining Matters presented to 176 secondary students about careers in the minerals industry. The session highlighted how modern mining aligns with youth values such as innovation, technology, sustainability, and the opportunity to make a difference.

The presentation provided an overview of the mining life cycle, career paths within each phase, and resources like the MiHR *Mining Needs You* website. A testimonial from a young geoscientist underscored how careers in mining offer unique opportunities, including work in remote areas and contributing to climate solutions. Students were also introduced to the UN SDGs and how mining supports green tech, renewable energy, and responsible resource management.

The session concluded by showcasing diverse career options in both professional and skilled trades roles, underscoring the industry's range of pathways.





Mine Tours for Teachers

In partnership with the CEC and Canadian Institute of Mining, Metallurgy and Petroleum (CIM), and sponsored by the Ontario Mining Association (OMA), Mining Matters was pleased to offer several Mineral Resources and Mining Education Tours to educators and teacher candidates in 2023-2024. Tours provide unique hands-on professional development experiences that focus on modern mining, sustainability, safety, and career opportunities by providing participants with on-site visits, interactive sessions led by industry experts, and access to a wealth of valuable educational resources.

In the summer of 2023, the Life in a Mining Camp Tour brought together 50 staff members and seven educators for an immersive experience at Impala Canada's Lac des Iles Mine. Participants explored the underground palladium mine, ore processing mill, open pit, and tailings management facility, and attended management and health and safety meetings, and an exploration department presentation. Mining Matters shared insights with the group, fostering direct engagement between teachers and industry professionals. The tour concluded with a site visit to Amethyst Mine Panorama to learn about amethyst geology and compare industrial and small-scale mining methods. Prior to the mine site visit, educators explored the geology of northwestern Ontario visiting Kakabeka Falls, Sleeping Giant, and Quimet Canyon Provincial Parks to raise awareness of the geology of the region and learn about how to incorporate geological field trips into their practice.

In November 2023, Mining Matters collaborated to host a tour of IAMGOLD's Côté Gold Mine. Fifteen educators from the Near North District School Board, including elementary and secondary educators, those affiliated with the Specialist High Skills Major Program in Mining, co-op programs, and the Ontario Youth Apprenticeship Program participated in the tour. This event followed a school program hosted at the CEC that highlighted the mining service supply sector in North Bay. Teachers and students toured the Redpath Mining and Boart Longyear where they learned about many skilled trades career pathways available in the sector.

In early December 2023, fifteen teacher candidates from the Schulich School of Education at Nipissing University participated in a special professional development experience at Glencore Canada's Nickel Rim South Mine. Participants toured the operation and had the opportunity to learn about the range of career paths available, speaking with representatives from every department on site.

Mining Matters extend thanks to the OMA, CEC, CIM, Impala Canada, IAMGOLD, Glencore Canada's Sudbury Integrated Nickel Operations (Sudbury INO), Redpath Mining, and Boart Longyear for welcoming the teachers and students into their operations and providing such an informative experience.



Fostering Connections with Educators

Mining Matters proudly showcased its commitment to Earth science education and mineral literacy by participating in several teacher conferences in 2023-2024. Our workshops, booths, and hands-on activities highlighted the significance of minerals in everyday life and the global shift towards a sustainable future.

Here's a closer look at our participation in the annual conference for the Ontario Association for Geographic and Environmental Educators (OAGEE), Eureka Secondary Science Conference, and the Indspire National Gathering for Indigenous Education, where we engaged with educators to deepen understanding of Canada's mineral resource endowment and provide curriculum linked resources to support their delivery of the curriculum related to Earth science, natural resources and physical geography.

OAGEE

At the annual OAGEE conference Mining Matters hosted a booth and workshop featuring critical minerals. Teachers were provided with our Critical Connections poster, explored a suite of mineral samples on loan from the Royal Ontario Museum, participated in a hands-on experience investigating the unique properties and engineering applications of critical minerals, traced the origins of critical minerals in cell phones, and engaged in conversations about critical minerals, considering the costs and benefits of extraction.

Eureka Secondary Science Conference

For the second year in a row, Mining Matters participated in the Eureka Secondary Science Conference, engaging with 180 intrigued educators from the Toronto District School Board. This event, held annually in February, marked a significant milestone as the largest gathering of secondary science educators in recent years.

At the conference, Mining Matters spotlighted the growing importance of Canada's critical minerals. Through interactive sessions and valuable discussions, educators deepened their understanding of these resources, helping to prepare them to inspire the next generation of students with knowledge about Canada's leading role in the minerals sector.

Indspire National Gathering for Indigenous Education

The 2023 Indspire National Gathering for Indigenous Education, held in Montréal, was a tremendous success, drawing over 1,500 passionate educators and partners dedicated to advancing Indigenous learning.

Indspire, a national Indigenous charity, invests in the education of First Nations, Inuit, and Métis people to benefit individuals, families, and communities in the long term. The National Gathering serves as a platform for educators and partners to share their voices, collaborate, and work toward improving K-12 Indigenous student outcomes.

Our booth attracted significant attention, reflecting the growing enthusiasm for our educational and outreach initiatives. We distributed a variety of resources, including the *Mining Makes it Happen* poster series (available in Ojibway, Oji-Cree, and Cree), activity books (offered in Inuktitut and Inuinnaqtun), and coloring books. Attendees also explored our WHERE Challenge, GEMS Kits, *Mining Rocks Earth Science Programs*, curriculum-aligned teacher resources, and professional development workshops tailored to support educators.

Participation in the conference continues to offer valuable opportunities for professional growth and to reinforce connections with communities and education partners.



Inspiring Educators at PDAC 2024

The 2024 PDAC Convention, held from March 3-6 in Toronto, brought together nearly 30,000 attendees from over 130 countries, reaffirming its status as the world's premier mineral exploration and mining event.

For Mining Matters, a highlight of the convention was the participation of 25 teachers, who received passes generously sponsored by PDAC. This initiative allowed them to fully explore the exhibits and gain firsthand insights into the mineral exploration industry. By equipping educators with knowledge and resources, their participation in the convention helps to ensure they can inspire their students to consider exciting careers in mining and mineral exploration.

Beyond this educational effort, Mining Matters maintained a booth near the Investors Exchange and Trade Show, hosted a successful silent auction to fundraise for programs, and connected with future professionals during the Student-Industry Mixer.

We are deeply grateful for PDAC's enduring support of our education and outreach efforts.



Robotics in the Mining Industry

Robots are everywhere, even in the mining industry. With the invention of artificial intelligence (AI) and self-driving cars, the mining industry is experiencing a significant change. For example, in British Columbia, robots, machines are used to help improve safety in mining operations. Inventing robots that assist in mining industry operations has changed how we survey land, move heavy equipment, and keep people safe. Like in any industry, people need to program, control, and understand the data that our robots collect for us. Skills like teamwork, problem-solving, and communication are all known as 21st century skills. They are also the fundamental tools we use when working with robots.

Robots in the mining industry are typically used for:

- Safety
- Surveillance
- Operations

A lot of these robots need to be coded before they are operational. Try your own coding of an Ozobot robot on the back.



Robotics Rocks! Workshop Trains Teacher Librarians

In January 2024, Mining Matters hosted the *Robotics Rocks!* workshop for 20 York Region District School Board (YRDSB) teacher librarians. The three-hour session focused on introducing robotics and coding in the context of the minerals industry.

The *Robotics Rocks!* workshop teaches students how robotics enhance mining operations, covering topics like site surveying, safety, and efficiency. Teacher librarians were guided through activities using Ozobots (mini-robots), exploring how to engage students in hands-on challenges that simulate real-world robotics applications. Participants also learned coding fundamentals and discussed how to integrate the workshop into their curriculum and libraries to support student learning.

The professional development workshop was well-received, with teachers praising the ease of use of the Ozobots and the real-world connections made to the mining industry. One teacher shared, "Lots of different real-life scenarios to apply this to. Very easy to use and set up," while another noted, "I can see a variety of ways to incorporate the lesson plans and use of Ozobots when I am teaching."

By the end of the workshop, attendees were equipped to deliver the workshop, helping inspire students to explore the intersection of technology, Earth sciences, and future career opportunities in mining.

Building Mineral Literacy Through Classroom Resource Kits

In 2024, Mining Matters delivered 34 classroom resource kits to educators in Manitoba and Ontario, equipping them with the tools to bring Earth science to life. Each kit includes over 70 rock and mineral samples, mineral testing equipment, detailed maps, visual resources, videos, books, posters, educational games, and 35 curriculum-linked lesson plans covering topics like rocks, minerals, responsible mining, soil, and erosion.

To ensure effective use of these comprehensive resources, teachers participated in professional development workshops designed to enhance their confidence in delivering Earth science curriculum. These durable kits are built for long-term impact, designed to be reused year after year.

The immediate reach of this initiative includes 34 educators and at least 850 students, with the potential to double annually as the kits remain in use. This effort creates a lasting legacy of improved mineral literacy in classrooms across the country.

Mining Matters extends thanks to BMO for their generous sponsorship, which makes these valuable resources accessible to schools at a significantly subsidized rate.





Mining Rocks Earth Science Programs in Indigenous Communities Across Canada

In 2023-2024, Mining Matters continued to expand its impact by reaching over 1,800 students, teachers, and community members across urban, rural, and remote Indigenous communities in Canada. This reach and engagement are made possible by many dedicated sponsors, and we extend our deepest gratitude for their generous support.

Our Approach:

We aim to spark curiosity about Earth sciences and the minerals industry by providing hands-on, immersive educational experiences in schools, camps, and outreach events. Our programs are designed to inspire interest in Earth sciences and introduce students to diverse career opportunities within the sector. Industry professionals and STEM role models share their stories, offering invaluable insights and inspiration. Additionally, we support educators with curriculum-linked resources and professional development training to ensure they are equipped to teach Earth science effectively in their classrooms.

Highlights from our 2023-2024 programs:

This year, **Agnico Eagle** hosted *Career and Business Days* in Rankin Inlet, Nunavut in November 2023 and Arviat, Nunavut in April 2024, with Mining Matters invited to provide educational activities and resources. The events reached 250 students, teachers, and community members in Rankin Inlet and 350 in Arviat, offering hands-on activities that introduced participants to the mining industry and highlighted various career paths.

Participants explored mineral properties, learned about the mining connection to everyday items, tackled reclamation challenges, and gained insight into responsible water use. Employees from Agnico Eagle presented informative displays, enhancing experiential learning, while an evening community event broadened outreach to the wider community.

In November 2023, Mining Matters participated in an outreach event organized by the Community Engagement Team from **Newmont Éléonore** in the Cree Nation of Wemindji, Quebec. The event attracted 150 grade 10 and 11 students, along with 50 community members, offering a comprehensive look at the mining industry. Interactive booths highlighted various aspects of Éléonore's operations, including exploration, environmental practices, mining, milling, and support services such as food preparation. At the Mining Matters booth, students and visitors explored hands-on activities, including *Rock and Mineral Identification*, *Product Matching*, *Robotics*, and a popular VR experience simulating careers of a drone pilot, heavy equipment operator, and process engineer.

A highlight of the day was the career-themed scavenger hunt, encouraging students to visit each booth and answer questions to enter prize draws. Our *Career Bingo* activity also drew enthusiastic participation, with students eager to learn about career opportunities within the mining industry. To further enhance the experience, Mining Matters provided hands-on activities to complement other booths and offered a GEMS kit as a door prize, adding an extra level of excitement for attendees. Jacynthe Lafonde, External Relations Coordinator from Newmont Éléonore praised the team's efforts, noting that "Mining Matters team is awesome!!! Brian, Jordan, and Katie really rock! Mining Bingo was a great addition to the event!"

Mining Matters partnered with **Alamos Gold Corporation** in Lynn Lake, Manitoba, in October 2023 to deliver an engaging series of educational events, including the *Mining Rocks Earth Science Program*, a *Critical Minerals Workshop*, and a Community Night. Over three days, students at West Lynn Heights School explored Earth science, starting with interactive programs for grades 3/4 and 7/8 and culminating in a *Critical Minerals Workshop* for high school students. Geologists from Alamos brought mining to life, sharing tools, maps, and rock samples. They also guided students through a VR simulation of a mine site, giving them a close-up experience of industry operations.

Highlights included hands-on activities like the *Headframe Engineering Challenge*, *Cookie Mining*, *Robotics Rocks*, and *Soapstone Carving*. Community Night was a memorable event, featuring *Career Bingo* and activities that excited participants of all ages. Returning for a second year, Mining Matters strengthened connections with students, as evidenced by the warm reception from youth who remembered last year's program. An enthusiastic Grade 8 student said, "The robotics was my favourite part because it was fun to watch the bot ride around the paper!" Alamos geologist Grace Brissaw reflected on the experience, stating, "Mining Matters is an excellent program for introducing knowledge and career opportunities in Earth science and industry to youth within the community."

With funding from the **Ontario Ministry of Mines**, Mining Matters partnered with the Nookiwin Tribal Council to host a three-day summer camp for Indigenous youth in Thunder Bay, Ontario. Held in July 2023, the camp welcomed kids ages 9 to 12 for themed days on geology, mining, engineering and environment. Camp highlights included activities that were an instant hit, including the *On the Job Site* robotics activity, *Volcano Slime*, and the *Headframe Engineering Challenge*, which captivated the kids' imaginations. The campers loved creating copper wire crafts, which became a favorite throughout the week. A community facilitator observed, "Each student left with lots of new knowledge and can relate it to their lives," while another remarked on how well Mining Matters "related with the students and made the camp lots of fun!" One camper summed up the experience simply: "This place is great. The end."

Mining Matters, in collaboration with **Barrick Gold Corporation**, **Evolution Mining**, **First Mining Gold**, **Kinross Gold Corporation**, and **Treasury Metals**, delivered a three-day in-school program for students across the three schools of Lac Seul First Nation in April 2024. The program engaged students in activities like the popular *Headframe Engineering Challenge*, *Cookie Mining*, and *Water Filtration Design Challenge*, along with *Mineral Discovery* and the *Rock Cycle*. A standout of the program was the Industry Spotlight presentations by many mining professionals from our partners who shared first-hand industry experiences that connected directly to the classroom activities. The program inspired creativity, with students showing remarkable innovation in building headframes and even inviting family members to watch their work. This hands-on, immersive experience was invaluable for students and an enriching collaboration for everyone involved.

The 50th Anniversary of the Little Native Hockey League (NHL) Tournament, held in March 2024, at the Angus Glen Community Centre in Markham, Ontario brought together young Indigenous hockey players, families, and community members for an inspiring celebration of sport and culture. Mining Matters partnered with



Agnico Eagle to engage over 400 visitors with hands-on activities. Our new *Minerals on Ice* activity invited visitors to match minerals with their uses in items like scoreboards, hockey sticks, skate blades, trophies, and pucks, highlighting the vital role of mining in Canada's national sport. The tournament was a memorable fusion of sportsmanship, cultural appreciation, and educational outreach, leaving a lasting impact on attendees.

With support from **PDAC**, Mining Matters participated in Indspire's Soaring: Indigenous Youth Empowerment Gathering, held in April 2024, combining virtual and in-person outreach to connect Indigenous high school students with Earth science career pathways. The virtual booth featured downloadable educational resources like *Music from the Earth* and *Medicine from the Ground Up*, highlighting the role of minerals in daily life. The in-person booth at Ottawa's Shaw Centre offered hands-on activities, a career quiz and a deconstructed cellphone display. Our educational posters in multiple languages ensured inclusivity, while engaging activities like *Career Matching* and *Mineral Discovery* inspired the 150 participants, including students, educators, and exhibitors, to explore opportunities in the minerals sector.

The *Nova Scotia Mining Rocks* program, sponsored by the **Government of Nova Scotia Minerals Resources Development Fund**, delivered engaging, curriculum-based programming to students in grades 3 to 8 in four Indigenous communities, including Eskasoni First Nation, Paqtnek Mi'kmaq Nation, Bear River First Nation, and Pictou Landing First Nation, in February and March 2024. Mining Matters designed each 2-day session to align with provincial curriculum requirements, offering activities in mineral exploration, sustainability, and the societal value of mineral resources. Highlights included hands-on experiences like breaking open geodes, *Mineral Discovery*, and the *Starburst Rock Cycle*, which captured the curiosity and excitement of students. Teachers and students alike appreciated the interactive approach, with one student sharing, "My favourite activity was when we tried to find out what the mineral was. It was exciting." The program successfully reached 150 students and 15 teachers, sparking interest in Earth sciences and the importance of mining in everyday life.

With funding provided by **PDAC**, Mining Matters visited Portage Collegiate Institute in Portage la Prairie, Manitoba, to deliver a four-day *Mining Rocks Earth Science Program* for 53 high school students. The program focused on geology, engineering, mining, and sustainability, featuring engaging activities about critical minerals. Students built batteries, analyzed smartphone components, and explored the global supply chain of critical minerals. "This is really fun, and I learned so much after this!" one student shared.

Teachers praised the interactive approach, with one noting, "[The activities] were very engaging. The hands-on activities are great to get students off their phones." The program sparked meaningful discussions, leaving a lasting impression on students, as they gained new insights into the socio-political complexities of mining. As one teacher commented, "Good energy. I have a quiet class that can be tough to get discussion going. Good job."

Building on a valued 14-year partnership with the **Ontario Ministry of Mines**, Mining Matters continued to deliver impactful programs in Ring of Fire



communities. This year, we reached more than 360 students and community members across six First Nation communities in northern Ontario: Nibinamik, Attawapiskat, Webequie, Eabametoong, Kashechewan, and Keewaywin.

Our team enthusiastically shared their passion for Earth science, while students engaged with activities that made geology and mining concepts come to life. Highlights included *Mineral Discovery*, *Robotics*, *Cookie Mining*, *PPE Dress-Up*, *Soapstone Carving*, *Battery-Building*, *Water Filtration Design Challenge*, and *Career Bingo*.

We extend our gratitude to the Ontario Ministry of Mines for their unwavering support and dedication to advancing mineral resources education in these communities.

In the summer of 2023, Mining Matters continued its collaboration with the **Outland Youth Employment Program (OYEP)** and its parent company, **Horizon North Camp and Catering Partnership**. OYEP's mission is to provide Indigenous youth with a transformative six-week work-study experience, combining land-based education, training, and employment opportunities.

Our team delivered multi-day programs at five camps across Alberta, Manitoba, and Ontario, reaching 131 crew leaders and Indigenous youth. Mining Matters provided activities such as simulated geological mapping, a GPS scavenger hunt, the *Critical Minerals Lab*, metal foil art, robotics exploration, and discussions on the impacts and benefits of mining. Participants also explored the diverse career opportunities in mineral exploration and mining.

During the winter break of 2024, Mining Matters, with funding from the **Kitikmeot Inuit Association**, delivered engaging day camps in Gjoa Haven and Taloyoak, Nunavut, along with a *Robotics Rocks!* school program in Taloyoak. The camps offered a diverse lineup of hands-on activities designed to inspire curiosity about Earth science, mining, and geology. Participants explored mineral fluorescence, cracked open geodes, crafted quartz bead creations and amethyst jewellery, and honed their skills in soapstone carving. Activities like *Cookie Mining*, *Career Bingo*, the *Starburst Rock Cycle*, and *PPE Dress-Up* introduced participants to the science and careers behind the mining industry, while gym games and creative projects added fun and variety.

Robotic Rocks! workshop modules emphasized skills in coding, research, teamwork, problem-solving, communication, data analysis, and critical thinking. The activities that stood out as highlights of the program included the *Exact Instructions Challenge*, *Robot Programming*, and *Mapping with the Ozobots*.



GEMS Kits

We continue to inspire youth in Earth sciences and mineral resources education through our GEMS Kits—Geology, Engineering, Mining, and Sustainability.

Each kit includes 13 hands-on activities, complete with equipment, supplies, and video instructions. Designed to spark curiosity, GEMS Kits allow students to explore Earth's structure, identify minerals and rocks, tackle engineering challenges, and discover careers in the minerals industry.

Beyond STEM activities, the kits feature Earth science-themed art projects, fostering creativity and enriching the learning experience. Recent recipients include Matawa Education and Care in Thunder Bay, where a kit was customized for 30 secondary students with select activities in Ojibway. Kits were also distributed to youth in Attawapiskat First Nation, Ontario, the Cree Nation of Wemindji, Quebec, and the communities of Arviat and Rankin Inlet in Nunavut.

We gratefully acknowledge the support of Agnico Eagle, Newmont, the Ontario Ministry of Mines, and Teck Resources Limited.

Our National Impact

2023-2024 Highlights

Reached 1,889 participants in our Indigenous Communities Education and Outreach Programs.

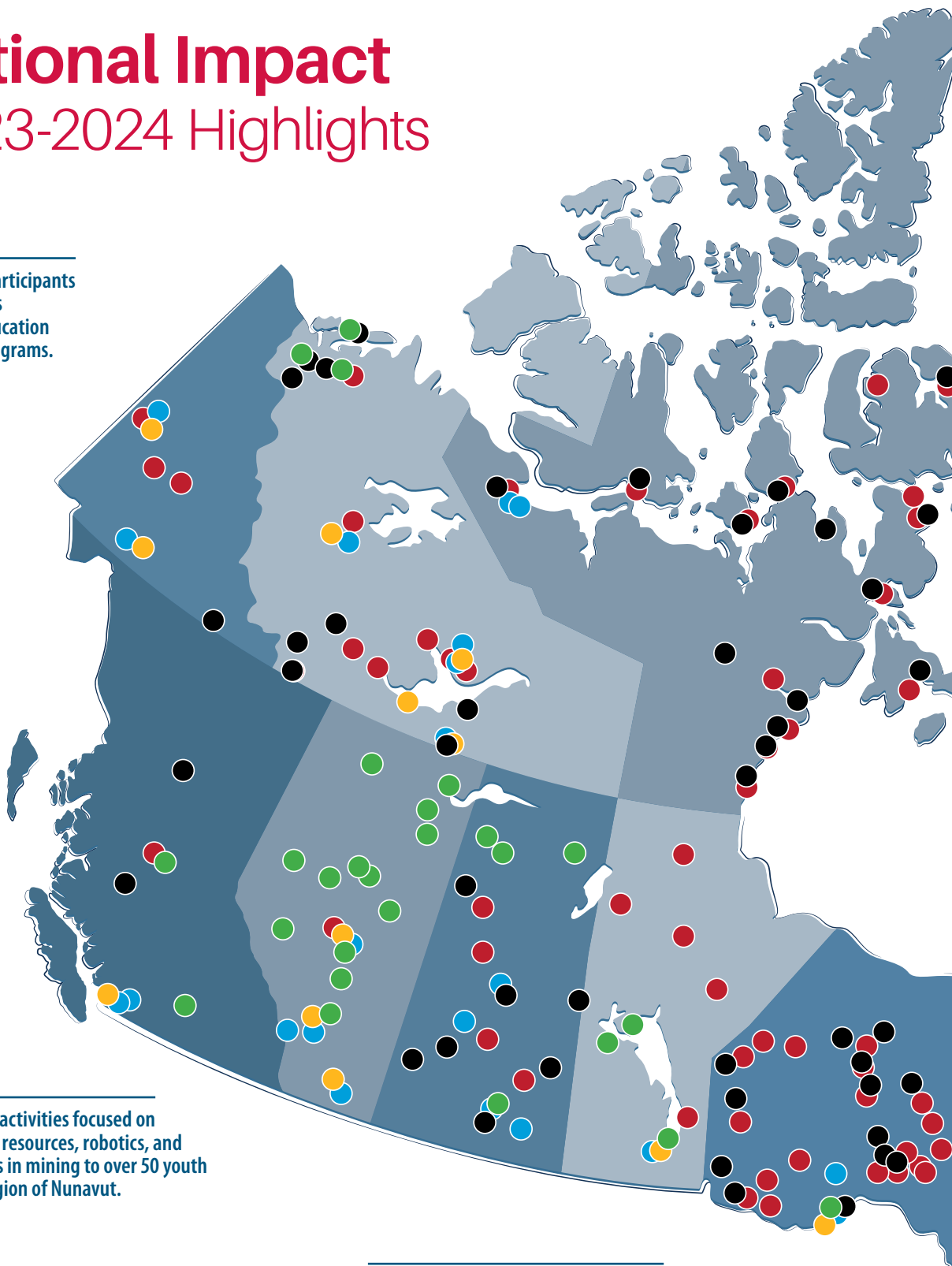
Partnered with STEM organizations to reach over 2,000 young minds through our innovative programs and resources.

Enhanced mineral literacy for over 18,400 students via our Teacher Training and School Programs.

Delivered hands-on activities focused on geoscience, mineral resources, robotics, and career opportunities in mining to over 50 youth in the Kitikmeot Region of Nunavut.

Ignited the curiosity of 13,900 minds at gem and mineral shows, STEM fairs, sporting events, career expos, mining week celebrations, and industry gatherings.

Conducted unique tours for teachers to showcase modern mining practices, sustainability, career paths, and industry safety, along with community impact and curriculum integration.



Showcasing our reach across Canada, in-person and virtually, over the past eight years. Our virtual programs commenced in 2020.

Celebrated our 30th anniversary, marking three decades of commitment to Earth science and minerals resources education and community engagement across Canada.

Introduced over 450 high school students to Canada's critical minerals sector with hands-on activities exploring their properties, applications, and global significance for a sustainable, digital future.

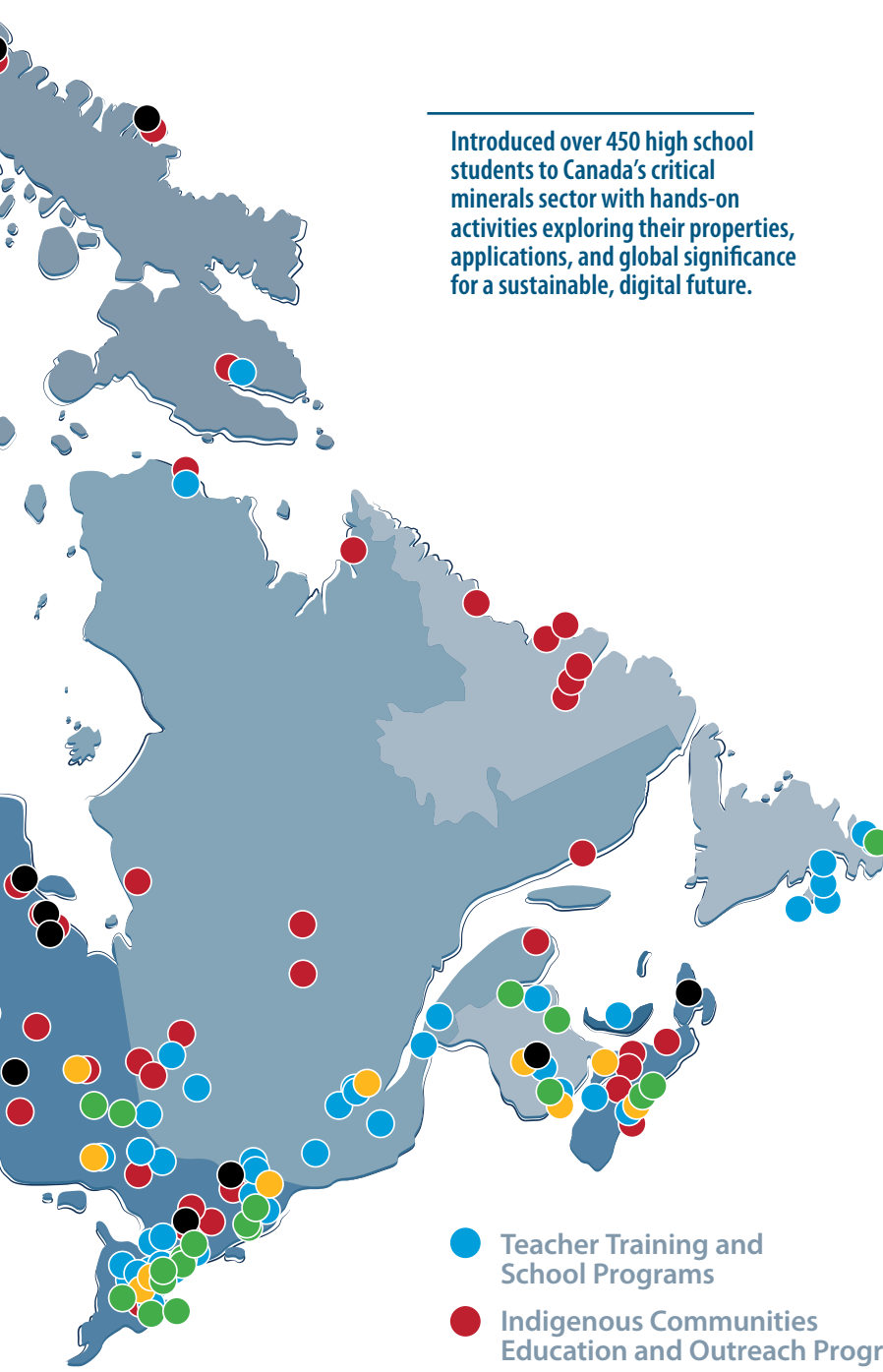
Engaged 39,900+ individuals across Canada in Earth science activities through schools, camps, conventions, conferences, and public events, both virtually and in person.

Supported recent graduates and co-op students with professional growth opportunities as STEM role models and industry ambassadors, highlighting the value of community engagement in building connections and enhancing industry understanding.

Connected with underrepresented youth through GEMS Kits, which feature hands-on activities focused on geology, engineering, mining, and sustainability.

Welcomed 111,500 visitors to our website for educational resources including posters, activity books, GEMS DIY activities, educator newsletters, virtual escape rooms, and rock and mineral identification guidance.

Launched a new website to improve user experience, enhance access to educational resources, and expand our digital reach.



- Teacher Training and School Programs
- Indigenous Communities Education and Outreach Programs

- Outreach Programs
- Partnership Programs
- Virtual Programs



Public Outreach Events

In 2023-2024, Mining Matters public outreach efforts reached over 13,900 people across Canada through hands-on activities and learning resources presented at educational events, trade shows, and career fairs. These initiatives, generously supported by PDAC, aimed to broaden public awareness of the mining and minerals sector while making Earth sciences accessible to thousands. Across our events, popular interactive activities included *Product Matching*, *Mineral Discovery*, *Reclamation Matching*, *Career Matching*, and the *Deconstructed Smartphone* with a display of critical mineral samples. These activities provided attendees with opportunities to explore the essential role of minerals in everyday life and discover diverse career paths in mining and Earth sciences.

Envirothon

Mining Matters joined Envirothon, an international environmental education and natural resource program for high school students from Canada, USA, China and Singapore, that provides hands-on experiences in the areas of forestry, wildlife, soils and land use, aquatics and current environmental issues. Participants gathered in Sackville, New Brunswick from July 26-28, 2023, to tackle climate-related challenges. Our involvement included participating in the judging panel and leading engaging activities during GenAction Expo, an outreach event for participants and the public in Saint John.

Bancroft Rockhound Gemboree

The Bancroft Rockhound Gemboree held August 3-6, 2023, drew over 1,000 attendees to explore geology. Mining Matters, alongside the Association of Professional Geoscientists of Ontario (APGO) Education Foundation, hosted an interactive geology display showcasing the geological story of the Bancroft area. Attendees were captivated by displays highlighting deep time, orogeny, mineral and rock formation, and erosion, featuring an impressive collection of local and regional minerals and fossils sourced from the Ontario Geological Survey.

Atlantic Balloon Fiesta

In partnership with the New Brunswick Department of Natural Resources and Energy Development, we engaged 2,500 visitors with learning activities focused on geoscience, mining, and mineral industry careers at the geology exhibition tent at the Atlantic Balloon Fiesta, held August 8-10, 2023, in Sussex, New Brunswick. Exhibitors included the Geological Surveys Branch, Science East, University of New Brunswick, Quartermain Earth Sciences Museum, and Stonehammer Geopark.

Ottawa Lapsmith and Mineral Club Show

Mining Matters and the APGO Education Foundation co-hosted an educational exhibit and hands-on learning activities at the annual Ottawa Lapsmith and Mineral Club Show, held September 16-17, 2023. The custom exhibit showcased local and regional geology, featuring minerals, rocks, and stone, sand, and gravel, alongside Mining Matters and APGO Education Foundation materials and programs. The show attracted significant interest, with 590 meaningful engagements recorded over the two-day event.

Build a Dreamer Day

On October 25, 2023, at the Enercare Centre in Toronto, Dreamer Day celebrated underrepresented groups in STEM, emergency response, arts, leadership, entrepreneurship, and skilled trades. In partnership with the Mining Industry Human Resources Council, Mining Matters led two booths that drew 450 students from grades 8-12. Activities such as *Career Matching*, *Deconstructed Smartphone* and *MiningNeedsYou.ca Career Quiz* sparked interest in mining careers and underscored the industry's importance in daily life.

Cool Science Saturday

Mining Matters participated in Cool Science Saturday at the Canada Science and Technology Museum in Ottawa on February 17, 2024. Families explored a wide range of scientific topics, including Earth science, with Mining Matters showcasing engaging activities like mineral fluorescence and conductivity demonstrations, along with our popular *Product Matching* activity to promote mineral literacy.

Ontario Winter Games

The Ontario Winter Games held February 23-26, 2024, in Thunder Bay, provided a unique platform to promote mining careers. In collaboration with the Ontario Mining Association, our learning stations included a customized *Winter Sports Product Matching* activity, linking minerals to winter sports equipment. Visitors were treated to a range of interactive elements, including virtual reality experiences from NORCAT and robotics demonstrations from the Centre for Smart Mining at Cambrian College. These exhibits showcased the transformative impact of robotics and automation on the mining industry, highlighting advancements that improve efficiency, safety, and sustainability. Additionally, the Ontario Mining Association's "This is Mine Life" videos provided valuable insights into the various sectors of the industry and the diverse job opportunities available within it. Approximately 250 attendees participated, with many sharing personal stories of local mining connections.

Resources and Energy Development Information Session (REDI)

Mining Matters participated in the REDI Session, hosted by the Government of the Northwest Territories in N'dilo on March 14, 2024. We provided interactive activities designed to highlight the critical role of mineral resources in modern society, fostering engagement and collaboration with our government partners.

Earth Science for Society

From March 17-19, 2024, Earth Science for Society in Calgary engaged 1,710 attendees, including students, families, and the public. Hosted by the Canadian Society of Exploration Geophysicists, the event featured four themed pavilions: Resources and You, Energy for You, Our Dynamic Earth, and Our Future. Mining Matters featured mineral identification, a critical minerals display, and the Deconstructed Smartphone activity. Attendees, such as 14-year-old Yurild, expressed enthusiasm, with Yurild sharing: "My experience here today was absolutely great! I learned a lot of new and great things."

Paris Gem and Mineral Show

The Paris Gem and Mineral Show on April 6-7, 2024, attracted 200 attendees, offering a blend of stunning gems and educational activities. Our booth delighted younger audiences with *Mineral Discovery* and *Product Matching*, earning praise from event volunteers.

Skills Canada Ontario

Skills Canada Ontario showcased top student talent while promoting career exploration. Mining Matters collaborated with the Ontario Mining Association to engage 2,500 participants with activities like *Mystery Minerals*, *Career Matching*, and the *Deconstructed Smartphone*, emphasizing Canada's critical minerals. Many visitors expressed surprise at the extensive role mining plays in everyday life, particularly in the manufacturing of technologies like cell phones, reinforcing the essential connection between minerals and modern advancements.

Science Rendezvous Kingston

Held in Kingston, Ontario, Science Rendezvous attracted over 5,000 attendees. We collaborated with the APGO Education Foundation to present "Geology Rocks." Featuring Paleozoic fossils, trace fossils, and a Paleozoic sea photo booth, the exhibit inspired over 1,270 meaningful engagements. This event not only highlighted the importance of science education but also fostered a sense of community and curiosity among families and children alike.

New Brunswick Mining Week

Mining Matters participated in New Brunswick Mining Week's open house from May 14-15, 2024, reaching 1,200 students, 100 members of the public, and 50 teachers. Attendees explored interactive activities like *Product Matching*, *Rock Cycle*, and *Canada's Critical Minerals*. The event strengthened regional partnerships and inspired the next generation of mining professionals.

Canada-Wide Science Fair

The Canada-Wide Science Fair, held May 30-31, 2024 at Carleton University in Ottawa, Ontario, welcomed approximately 752 participants, including 730 students from grades 7 to 12. The event brings together passionate young scientists, engineers, and innovators to showcase their research projects in STEM fields. Our interactive booth inspired curiosity with hands-on activities like *Product Matching*, *Mineral Discovery*, and *Reclamation Matching*, showcasing mining's connection to STEM and innovation.

Thunder Bay Mining Day

On June 15, 2024, Mining Matters joined the 9th annual Thunder Bay Mining Day at Marina Park, engaging 380 attendees with hands-on activities. The event sparked interest in the mining industry and showcased bilingual resources in English, French, Ojibway, Oji-Cree, and Cree. Thanks to the event's dedicated volunteers, the day was a resounding success in connecting the community with mining and STEM opportunities.





Participation in GAC-MAC-PEG 2024 Conference

The Joint Annual Meeting of the Geological Association of Canada (GAC) and the Mineralogical Association of Canada (MAC), held at Brandon University in Manitoba, featured a comprehensive scientific program, including field trips and short courses. Highlights included a Science Communication Workshop and two Special Sessions focusing on Geoscience Education and Communication theory and practice. Mining Matters played a key role in organizing the Science Communication Workshop and one Special Session. Additionally, Mining Matters delivered a presentation titled “Public Earth Science and Mineral Resources Education – Raising Awareness, Increasing Literacy, and Addressing Perceptions”.



Mining Matters Launches New Website

In 2023, Mining Matters embraced an exciting opportunity to revamp its website after learning its host platform was being retired. Coinciding with the organization’s 30th anniversary, the redesigned, modern, and responsive website supports its mission to inspire and educate future generations about Earth sciences.

The new site prioritizes usability, accessibility, and educational outreach. With an intuitive design, bilingual functionality, and mobile optimization, visitors—whether students, educators, or industry professionals—can easily find the resources they need.

A key feature is the extensive collection of searchable educational materials, including lesson plans, posters, and engaging geoscience activities tailored for students and teachers. Visitors can also explore the “Upcoming Events” section on the homepage to stay updated on our programs and activities.

To further expand its reach, Mining Matters is growing its social media presence. Follow along on Instagram (@MiningMatters), Facebook (@MiningMattersCA), and LinkedIn (ca.linkedin.com/company/mining-matters).



Family Foundations: A Legacy of Support for Mining Matters

Mining Matters has been very fortunate to have the support of many Family Foundations over the past thirty years. These foundations are a way to create a vehicle for families to establish a philanthropic legacy. The foundation is set up by the family and funded with the family’s assets and provides financial support to other charitable organizations.

A special thank you to The Brian and Susan Thomas Foundation and The William Pearson Family Fund for their generous support for more than ten years. Thank you to the Fundyview Family Foundation for five years of support.

We also want to extend our gratitude to our past foundation supporters, including Conam Charitable Foundation, Gill Family Charitable Trust, Lasonde Family Foundation, McEwen Family Charitable Gift Fund, Midas Touch Foundation and S. Schulich Foundation. Your support significantly contributed to our growth over the past thirty years.

Our success depends on the commitment of these foundations who share our vision of bringing Earth science to life. We are grateful for their confidence in our mission. Their investment in us gives us the confidence to continue bringing mineral resources education to youth across Canada and supports our efforts to educate youth and the public about the importance of mineral resources and career opportunities in the industry.

A heartfelt thanks to all!





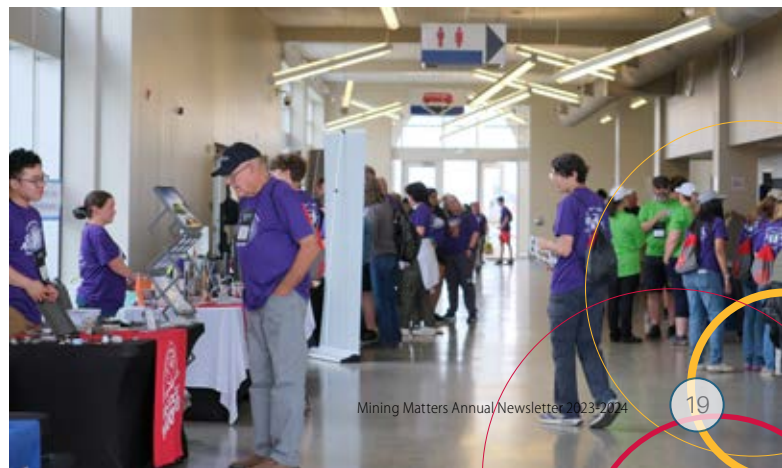
Expanding Reach Through STEM Education Partnerships

Mining Matters is dedicated to enhancing STEM education by collaborating with various organizations committed to educating teachers, students, and the public about the significance of minerals and mining in our society. Through these partnerships, we provide tools and resources for Earth science-themed activities in classrooms and camps, delivering hands-on workshops both virtually and in-person on topics related to rocks, minerals, metals, and mining.

By working together, we achieve a greater impact than we could alone, fostering awareness of the industry's commitment to corporate social responsibility and the diverse career opportunities available within the field. We extend our gratitude to our STEM Partnership sponsors, CIBC and PDAC, as well as to all our valued partners, including educational institutions and organizations across Canada.

Thank you to the following groups, organizations and institutions for your valued partnerships:

- Association of Professional Geoscientists Ontario Education Foundation
- Canadian Ecology Centre
- Canadian Association of Girls in Science
- Canadian Museum of Nature
- Carleton University, Department of Earth Sciences
- Manitoba Girl Guides of Canada
- Government of New Brunswick
- Ingenium
- Lakehead University, Centre of Excellence for Sustainable Mining and Exploration
- Laurentian University, Department of Earth Sciences
- Let's Talk Science
- Lotus STEMM
- MineralsEd
- Mining Industry Human Resources Council
- Niagara Geopark GeoKids Club
- Northwest Territories and Nunavut Chamber of Mines
- Ontario Mining Association
- Ontario Tech University
- Porcupine Prospectors and Developers Association
- Quartermain Earth Science Centre
- Royal Ontario Museum
- Saskatchewan Mining Association
- Science East
- Simon Fraser University, Department of Earth Science
- SLR Consulting
- Snow Lake Mining Museum
- Superior Science, Lakehead University
- Trigteq LLC
- University of Saskatchewan, Department of Geological Sciences
- University of Toronto, Lassonde Institute of Mining
- University of Waterloo Earth Sciences Museum
- UP360
- Women in Mining Central America
- Young Toronto Mineralogists Club
- Yukon Geological Survey



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We could not achieve our goals without you!

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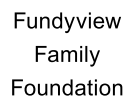
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 Cape Breton Miner's Museum
 Carleton University,
 Department of Earth Sciences
 Carmeuse Group
 CBM Aggregates
 Chelsea Hotel, Toronto
 CIBC
 Courtney Onstad
 Darren Klinck
 David Halfkenny

David Robson
 Dennis Stam
 Dufferin Aggregates
 Durham Sims
 Expedition Coffee Roasters
 Fairmont Royal York
 Frank Santaguida
 Fundy Geological Museum
 GIANTmicrobes
 Glencore Zinc Canada
 Government of Manitoba
 Grenville Minerals
 Hatch
 Hilton Toronto
 Hyatt Regency Toronto
 Impala Canada - Lac des
 Iles Mine
 Ingenium
 InterContinental
 Toronto Centre
 Joanna Bull
 Julie McNeill
 Kasey Stone
 Kerry Day
 KPMG
 Lacey Mica Mine

Lakehead University, Centre of
 Excellence for Sustainable Mining
 and Exploration
 Laurentian University
 Let's Talk Science, Career
 Profile Project
 Lindsay Coffin
 Lisa Murray
 Lotus STEM
 McGill University, Department of
 Earth and Planetary Sciences
 Meridian Brick
 Miller Museum
 MineralsEd
 Mining Association of Canada
 Minke Design
 New Brunswick Geological
 Surveys Branch
 NWT and Nunavut Chamber of Mines
 Omni King Edward Hotel
 Ontario Mining Association
 Ontario Ministry of Mines
 Ontario Science Centre
 Ontario Stone, Sand and
 Gravel Association
 Ontario Tech University
 ORIX Geoscience

Pablo Bazan
 Porcupine Prospectors and
 Developers Association
 Printbrain Inc.
 ProForma
 Prospectors and Developers
 Association of Canada
 Quartermain Earth Science Centre
 Québec Precious Metals Corp.
 Queen's University
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 Redpath Museum
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Insights from Our Interns

Matteo Clemente

As a summer intern in 2023 at Mining Matters, I had the opportunity to share my passion for Earth sciences and the mining industry with youth while honing valuable skills in outreach, education, and networking. This role allowed me to travel to unique communities across Ontario, engage in hands-on programs, and connect with people of all ages. Highlights included participating in Thunder Bay Mining Day and the 24th Annual Youth Retreat in Nibinamik First Nation, where I helped deliver activities to enthusiastic participants. These experiences were both rewarding and unforgettable.

In addition to outreach, I contributed to the organization's success by supporting the preparation and logistics of programs and improving key activities. This, along with the training I received on Indigenous history and cultural understanding, helped me develop patience, adaptability, and effective communication skills.

Working with team at Mining Matters was a highlight of my internship. Their dedication to education and Earth sciences inspired me and created a positive and collaborative work environment. This experience has significantly boosted my confidence as a public speaker and strengthened skills that will benefit me in my future academic and professional endeavors. I am deeply grateful for this unforgettable opportunity.

Gordon Bardell

I had the privilege of serving as a 2023 Summer Intern for Education and Outreach at Mining Matters. During my internship, I undertook diverse responsibilities, including organizing and cataloging educational materials and rock samples, delivering Earth science programming, and supporting outreach in Ontario and Manitoba, with a strong focus on Indigenous communities. These experiences allowed me to promote Earth sciences, mining careers, and environmental awareness while engaging with youth and community members from diverse backgrounds.

A key highlight of my internship was completing an extensive asset catalog of rock and mineral samples, identifying, researching, and preparing materials for programming, auctions, and local Earth science education. Another memorable experience was creating a virtual paleontology program for a classroom workshop. By using interactive games, I introduced youth to Ordovician fossils and key concepts in paleontology, adapting my delivery style to engage students in a virtual setting.

My time at Mining Matters significantly enhanced my skills in education, public engagement, and teamwork. Collaborating with a supportive team and receiving mentorship from experienced colleagues enriched my learning and professional growth. Working with Indigenous communities broadened my perspective, teaching me the importance of cultural sensitivity, adaptability, and effective communication with audiences of varying backgrounds. This experience has been invaluable for my future in Science Communication, and I am deeply grateful for the opportunity to contribute to Mining Matters impactful work.

Bingjin Ni

During my Fall 2023 internship with Mining Matters, I had the opportunity to combine my background in electrical engineering with hands-on educational outreach. A highlight of my experience was traveling to Rankin Inlet to deliver engaging programs that introduced high school students to career opportunities in Earth sciences and mining. It was rewarding to see their curiosity sparked as they explored these exciting fields.

In the office, I used 3D printing to create models that enhanced understanding and engagement during engineering challenges, bringing concepts to life for participants. I also contributed to the development of prototypes for an activity highlighting the critical minerals used in electric motors, blending technical knowledge with creativity to design impactful learning experiences.

This internship was an enriching blend of travel, education, and innovation. It deepened my appreciation for STEM outreach and allowed me to grow my skills in communication, design, and problem-solving—all of which I will carry forward in my engineering career.

Harleen Kaur

During my eight-month co-op term at Mining Matters, I underwent a profound evolution, both professionally and personally. This experience was a masterclass in understanding the intricate workings of Canada's mining industry. Starting with a modest knowledge base, I delved into the pivotal role minerals and mining play in driving the Canadian economy. Improving my skills was a key focus during my time at Mining Matters. I honed my research, data analysis, and communication skills through various projects and interactions with industry professionals. A standout moment was attending the prestigious PDAC conference, where I networked with global experts, gaining valuable insights across different sectors and countries. Contributing to educational programs for Indigenous communities was especially fulfilling, offering me a chance to immerse myself in their rich cultural heritage and broaden my perspectives. A memorable experience was visiting Evolution-Red Lake Mines, where I witnessed impressive technological advancements in the mining industry. Support and guidance from the Mining Matters team were crucial in my development, shaping my industry understanding and skill set. Public speaking engagements at events like Skills Ontario and the Ontario Winter Games further boosted my confidence and added to my professional capabilities. Overall, my time at Mining Matters was a transformative journey, equipping me with invaluable skills, knowledge, and a newfound passion for the mining sector.



How to Donate

Mining Matters is grateful for the contributions of many loyal supporters who have made our goals a reality. Your donation makes a difference! It provides the foundation for our important work and is critical to our ongoing vision of bringing Earth science to life.

As a charitable organization, Mining Matters is able to develop and deliver its programs due to generous financial sponsorship, donations and in-kind contributions from the mineral and aggregate industries, individuals, foundations, corporations and governments.

We invite new supporters to join our cause and current supporters to continue so that we may carry on providing current information about the importance of rocks, minerals, metals and mining in everyday life, and about the diverse career opportunities available in the minerals industry to students, educators and the public.

A charitable receipt will be issued for contributions of \$25 and greater. For more information or to donate, please contact mfraser@miningmatters.ca.

Donating Cash

Cash donations to Mining Matters are always welcome and are eligible for the Charitable Donation Tax Credit (CDTC). In addition, for individuals who have not donated previously to charities, there is the First Time Donor's Super Credit (FDSC). This applies to cash donations, not contributing shares. There are also provincial tax credits, which vary across the provinces. Donate online today at MiningMatters.ca.

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Donating shares to Mining Matters may be of interest due to the considerable tax benefits that can be realized. The elimination of capital gains on stocks, bonds and mutual funds means that a contribution results in a tax receipt equal to the fair market value of your gift. Rather than being subject to tax on 50 per cent of the gains for shares sold during your lifetime, accrued capital gains on donated shares are exempt from taxes.

To learn more, please contact Durham Sims, Mining Matters Investment Advisor at RBC Dominion Securities at 416-842-3086, 800-561-4468 or durham.sims@rbc.com. Mr. Sims serves in a volunteer capacity with Mining Matters.

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Mining Matters accepts planned gifts. These gifts enable individuals to make larger donations than they could make from traditional methods.

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When considering a Planned Gift, Mining Matters recommends that you contact your professional advisor so that your legacy gift is tailored to your circumstances.





About Mining Matters

Mining Matters is a national charitable organization dedicated to educating young people to develop knowledge and awareness of Earth sciences, the minerals industry and their roles in society. We provide current information about rocks, minerals, metals, mining and the diverse career opportunities available in the minerals industry. Mining Matters offers educational resources that meet provincial and territorial curriculum expectations, created by educators and Earth science experts.

Mining Matters has reached an estimated 900,000 teachers, students and members of the public since inception in 1994.

Our core educational programs are:

Teacher Training and School Programs

Bringing Earth science to life for students and teachers in classrooms and online across Canada

Indigenous Communities Education and Outreach Programs

Reaching Indigenous youth through community partnerships.

Outreach Programs

Developing an awareness of the minerals industry and sparking interest in Earth science learning in people of all ages.

Partnership Programs

Building partnerships with museums, universities, libraries, STEM organizations, communities and industry professionals to reach people in all regions of the country.

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Jessica Tomacic

Graduate Intern, Education and Outreach

Student Interns 2023-2024

Gordon Bardell

Matteo Clemente

Elisha Hotta

Harleen Kaur

Katie Klymyshyn

Bingjin Ni

Janki Patel

Erica Rose

Owen Sullivan

Contact Us

Mining Matters

1102 – 150 Ferrand Drive

Toronto, ON M3C 3E5

T: 416-863-6463 | F: 416-863-9900

E: info@miningmatters.ca

MiningMatters.ca