

Miller Museum of Geology, Queen's University
Educational Tour Programs

The Miller Museum offers many hands-on curriculum-linked educational programs that are presented in the museum classroom for school groups of up to 30 participants. In a typical year, 100 programs are presented to school groups, summer camps, youth groups, and any other group interested in the science of geology.

The museum also participates actively in the Beyond Classrooms program (beyondclassrooms.ca) where your entire class can relocate to a museum, art gallery, or other historic site for a full week of activities each day.

Fees for educational programs (2018-2019) are \$70/group/program (HST included) for all programs **except** Dinosaurs which is \$35/group/program (HST included) for children under 8 years old.

Discount rate of \$60/program for multiple programs booked by the same school on the same day.

1/ Mineral Identification (grade 4 curriculum links)

A 45 minute hands-on activity about uses of minerals, and how to identify them, followed by 15 minutes in the museum galleries. During this engaging instructor-led program, students share kits of real mineral samples (maximum 3 students/kit) to perform hardness tests, streak tests, and many other diagnostic investigations using the samples. Coupled with the opportunity to see beautiful mineral samples in the museum galleries afterwards, this program functions equally well as an introduction to the topic or a wrap-up review for classes at the end of their study unit on minerals.

2/ Meteorites (grade 6 curriculum links)

A 45 minute interactive program during which students touch different types of meteorites and find out what they tell us about the Earth, followed by 15 minutes in the museum galleries. Activities also include searching for micrometeorites (done by the students using microscopes and other equipment), and demonstrations about scale modeling of impact craters.

3/ Dinosaurs (beavers, brownies, daycare, k-gr 3) (cost is \$35/group for this program)

An introduction to fossils and paleontology, with emphasis on dinosaurs. Program presentation length varies from 20 minutes for the youngest audiences to 35 minutes for older groups. Children get to see and touch a variety of bone and tooth casts, and real fossils including a real dinosaur bone fossil and a dinosaur footprint fossil. A volunteer from the group is dressed up as a paleontologist to show the tools and equipment used by paleontologists. The group spends an additional 20 minutes of self-guided time looking at the dinosaur exhibits, digging in the fossil dig box (sand box with fossil casts to uncover), and they can also look at the crystals and mineral displays in the rest of the museum. A typical group is at the museum between 45 minutes and 1 hour for this program.

4/ Introduction to Geology (all age/grade levels)

Learn about geology - the study of the Earth, during this engaging introduction to the various aspects of the science. An interactive overview of rocks, minerals, fossils and Earth processes illustrated with many touch samples (including a meteorite, a dinosaur bone, examples of igneous, sedimentary and metamorphic rocks and mineral ores) that are circulated around the group. Program delivery takes approximately 40 minutes, followed by 15-20 minutes of exploration time in the museum galleries featuring a dinosaur exhibit, and recently updated displays of minerals and rocks.

5/ The Earth Through Time (gr 12 biology curriculum links)

While seated along an 8 metre-long geological time scale graphic, students hear a 50 minute lecture about the major changes in the Earth's geosphere, atmosphere, biosphere and hydrosphere since its formation. The talk is illustrated with rocks and fossils spanning the entire 4.6 billion years of Earth history including meteorites, the oldest known terrestrial rocks, the appearance of life and its progression from exclusively single-celled organisms in the beginning to the complex life of the present day.

6/ Geology of the Kingston Area: 1.1 Billion Years of Earth History (powerpoint-based lecture)

Himalaya-like mountains, tropical oceans and a 2 kilometre thick covering of glacial ice: these are some of the amazing events recorded in the rocks of the Kingston area over the past 1.1 billion years! The curator of the Miller Museum of Geology in the Department of Geological Sciences at Queen's University, will give a talk on the rocks, minerals and fossils of the region and explain what they show us about its fascinating geological past.

Programs are one hour long and cost \$70 per group (2016-2017). 30 participants per group (students + teachers/helpers) is the absolute maximum that can be accommodated at one time.

For more information, contact:

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