



DUNDAS
MUSEUM &
ARCHIVES

DISCO

“I learn!”

GRADE 4 SCIENCE AND TECHNOLOGY

The Region of Dundas: Secrets of the Niagara Escarpment

*This education module complements Understanding Earth And Space Systems:
Rocks And Minerals*



Webster's Falls - 450 million years old!

Can you imagine, for a moment, that Dundas was once covered in a sheet of ice more than two kilometers thick? That's more than 2,000 meters! Can you also imagine that rock you see at the bottom of Webster's Falls is more than 500 million years old? And that it was being formed, along with the rest of the Niagara Escarpment, before there were even plants or animals on the earth? Where Dundas is now was actually in a tropical zone. You've all been to Niagara Falls. But did you know that, over the past 12,000 years, the Falls have moved more than 11 kilometers? Are Webster's Falls and Tew's Falls destined for the same fate? Why?

In preparation for your visit, students will be asked to find an interesting rock somewhere around their home or neighbourhood or school and bring it along to the museum. Then, guided by Dundas Museum and Archives resident geologist, Professor Interrogo, your students will consider classifying their rocks, discover the characteristics that distinguish them, and explore how these were formed into sedimentary, igneous and metamorphic rocks.



Sedimentary? Igneous? Metamorphic?



This mineral is in your toothpaste!

What about minerals? What's the difference between a mineral and a rock? How important are minerals in our everyday lives? Would you believe that the average person depends on minerals from the very moment they wake up? You put a mineral on your toothbrush this morning, activated a mineral when you turned on your classroom lights, and it's in that pencil you're using!

Of special interest is a large calcite crystal at the museum which was discovered in a fissure in the Dundas Quarry. This amazing crystal was formed more than 50 million years ago. But, what class of rock is this? And how was it formed?

Although we're often referred to as "The Valley Town", Dundas is no ordinary valley. How did we get to be "U"-shaped? One of the most exciting explorations of your visit will be discovering how the Niagara Escarpment was formed. It is, in effect, the shoreline of an ancient sea whose bottom was formed of many layers, much like saucers piled on top of one another. Another important exploration is the role that the last ice-age played in the formation of The Valley Town, how it carved its way into the Escarpment.



View of the Niagara Escarpment from the Dundas Peak.



Your students will have an opportunity to explore a large scale diorama of Dundas, locating several landmarks, including their school, and noting the land formation of the Escarpment. There is also the opportunity to examine several fossils found in escarpment rocks.

The Niagara Escarpment

From *The Ontario Curriculum, Grade 1-8, Science and Technology, 2007*, this Education Module offered by the DMA addresses the following expectations: Understanding Earth And Space Systems - Rocks And Minerals: 2.3, 2.5, 3.2, 3.3, 3.4 (pp. 94-95).