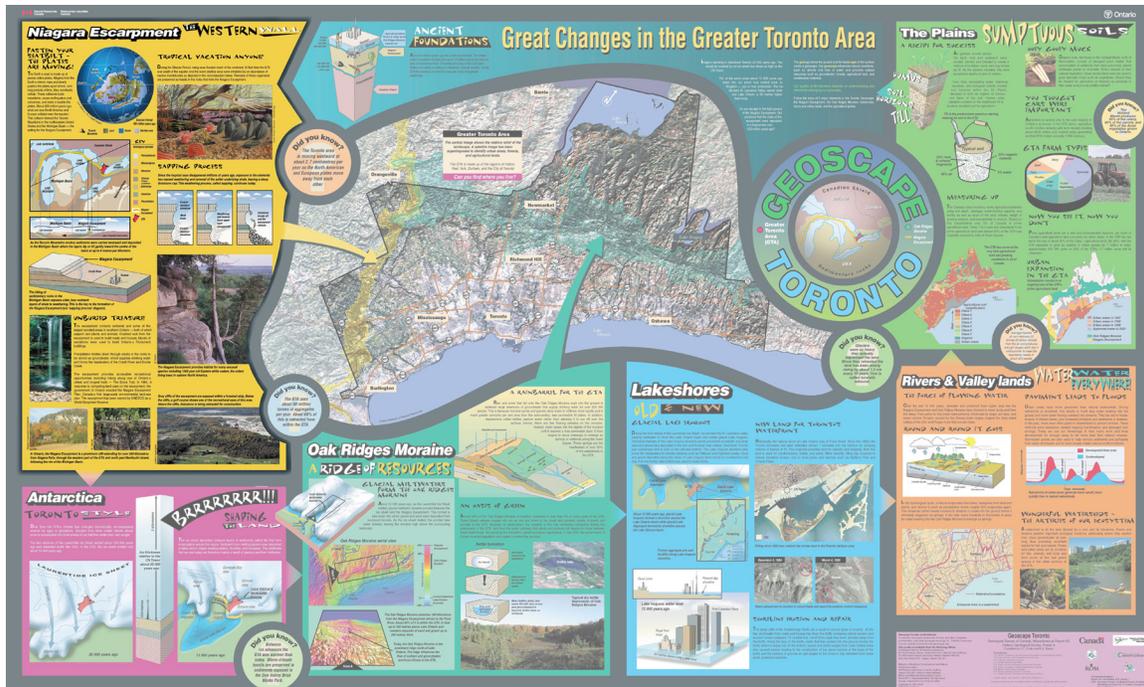


The Niagara Escarpment



Overview

This Geoscape lesson contains three activities that introduce students to the Niagara Escarpment, southern Ontario's most prominent topographic feature. As a class, students will use visuals to learn about the extent of the Niagara Escarpment and explore how land-use in this region has changed over time. Through a demonstration, students will observe how erosion and the process of sapping shape the Niagara Escarpment. Each student will also read an information bulletin and answer guiding questions about the significance of this important landform.

At the end of the lesson, students will be able to:

- Understand how sedimentary rock layers in Ontario are formed
- Describe how erosion shapes the Niagara Escarpment over time
- Identify a variety of land-uses on the Niagara Escarpment
- Explain the significance of the Niagara Escarpment

Specific Curriculum Expectations

Grade	Strand	Expectations
7	Geography	<ul style="list-style-type: none">• Identify and explain how landforms are used to delineate regions
	Earth and Space Systems	<ul style="list-style-type: none">• Describe using simulations or models, the origin and history of natural features of the local landscape
8	Geography	<ul style="list-style-type: none">• Identify and describe types of land-use
	Earth and Space Systems	<ul style="list-style-type: none">• Identify the various states of water on the Earth's surface and the conditions under which they exist (e.g., glaciers, ice-caps, oceans, lakes, rivers, groundwater)
9	Geography of Canada	<ul style="list-style-type: none">• Demonstrate an understanding of how natural systems influence cultural and economic activities• Use geographic data to support conclusions and opinions

Duration

- 60 to 80 minutes

Lesson Instructions

Activity 1

- Introduce students to the **Geoscape Toronto Poster** and use the **Overhead Geoscape Toronto Poster - Niagara Escarpment Section** to lead a discussion to find out what the students already know about the Niagara Escarpment: "Where would I find the Niagara Escarpment? Why is the Niagara Escarpment so important? What kinds of rocks make up the Niagara Escarpment?"
- Use the **Overhead Geological Map of the Niagara Escarpment** to show the students the extent of the escarpment and its layers of sedimentary rock
- Use the **Overhead Changes Through Time** to discuss changes in land-use over time

Activity 2

- Conduct the *Sapping Demonstration* outlined on the **Teacher Demo Sheet** to explain how sapping and erosion shape the Niagara Escarpment
- Project the **Overhead Sapping Process** to illustrate the stages of sapping and erosion

Activity 3

- Distribute the **Information Bulletin The Niagara Escarpment** and the **Worksheets Why is the Niagara Escarpment so Important?** and *Map of the Niagara Falls Region* to the class
- Instruct students to read the **Information Bulletin** and complete the **Worksheets**
- As a class, correct and discuss the answers

Materials Required

Download lesson materials from the Geoscape Toronto Web site at - www.toronto.geoscape.nrcan.gc.ca (PDF format)	Materials and equipment from the classroom
Activity 1	
Overheads <ul style="list-style-type: none"> • <i>Geoscape Toronto Poster - Niagara Escarpment Section</i> • <i>Geological Map of the Niagara Escarpment</i> • <i>Changes Through Time</i> 	<ul style="list-style-type: none"> • overhead projector
Activity 2	
Teacher Demo Sheet <ul style="list-style-type: none"> • <i>Sapping Demonstration</i> Overheads <ul style="list-style-type: none"> • <i>Sapping Process</i> 	<ul style="list-style-type: none"> • large bowl • four different colours of plasticine • rolling pin • knife • overhead projector
Activity 3	
Information Bulletin (photocopy a class set) <ul style="list-style-type: none"> • <i>The Niagara Escarpment</i> Worksheets (photocopy a class set) <ul style="list-style-type: none"> • <i>Why is the Niagara Escarpment so Important?</i> • <i>Map of the Niagara Falls Region</i> 	<ul style="list-style-type: none"> • none

Glossary of Terms

The activities in this lesson introduce a number of new geologic terms. Teachers may wish to review the use of a glossary and discuss the meaning of the following terms with the students before commencing the activities. Definitions are provided in the **Glossary of Geologic Terms** found on the Geoscape Toronto Web site at www.toronto.geoscape.nrcan.gc.ca

New vocabulary in this lesson falls into a number of broad categories as follows:

Geological Time: Ordovician, Silurian, Precambrian

Geological Terms: aquifer, topography, basin, sapping, gorge, groundwater, headwater, dip, fossil, sedimentary rock, escarpment

Rocks: sandstone, shale, limestone, dolostone