



Lesson Plan: Landfill Mining – Blackstock Landfill, Grade 9 Issues in Canadian Geography (CGC1D and CGC1P)

Introduction

Historically the Region of Durham (Region) relied on local landfill sites for the disposal of garbage which, even after closure, needs to be managed to ensure the environmental integrity of these sites. In 2018, the Region took an innovative approach to landfill remediation/rehabilitation by piloting a landfill mining project at the Blackstock Landfill. Students will learn about the historic use of landfills in the Durham Region, the importance of environmental management and how landfill mining can play a role in landfill remediation/rehabilitation. Students will have an opportunity to discuss and make connections to waste disposal, their actions, and the environment.

Learning Objectives

1. Describe historical landfills and landfill mining
2. Identify how residential garbage is currently managed in Durham Region
3. Identify and assess potential environmental / human health / safety issues caused by historic landfills
4. Analyze impacts of land use on the community and the natural environment

Resources Provided (located in the resource folder)

- Map of Durham Region Owned Landfills
- [Blackstock Landfill Mining Video](#)

Activity

1. As a class, have an open discussion. Some questions to consider include:
 - a) Are there any Region owned landfill sites in your community? If so, where are they located?
 - b) Would you want to live next to a closed landfill site?
 - c) What benefits might there be due to living next to a closed landfill site?
 - d) What concerns might you have living next to a closed landfill site?
 - e) What considerations should be given when siting a new waste management facility?
2. The Region believes we should strive to manage the waste we create as residents within our own borders. Explore the idea of Not in My Backyard (Nimbyism).

Nimbyism refers to people who don't want developments, like landfills or waste facilities, in their own communities but are less likely to oppose them if they were further away. Various facilities to discuss include closed landfills sites, energy from waste facilities, materials recycling facilities, compost facilities, and waste transfer stations.

Some questions to consider include:

- a) Does the type of waste facility affect how you feel about having it in your community?
- b) How can you overcome NIMBY opposition?

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If this document is required in an accessible format, contact schoolprograms@durham.ca

- c) Why is it important to manage your waste within your own community?
 - d) How might managing your waste within your own community impact your own waste behaviours?
 - e) How might urban growth and land use in your community affect the quantity of waste, the types of waste materials generated, and how waste is managed in your community?
3. As a class, watch the [Blackstock Landfill Mining Video](#).
 4. Each student will write a paper connecting landfill mining with community sustainability and submit their final paper to the teacher. This paper should include an argument either for or against additional landfill mining projects within Durham Region.

Summary

Waste does not just disappear once it leaves your house. It needs to be managed responsibly to protect the environment and human health. How we choose to manage waste today impacts the future.

Expanded Curriculum Connections

The Ontario Curriculum, Grades 9 and 10: Canadian and World Studies, 2018, (revised)

Issues in Canadian Geography, Grade 9 (CGC1D)

A. Geographic Inquiry and Skill Development

- A1. Geographic Inquiry: use the geographic inquiry process and the concepts of geographic thinking when investigating issues relating to Canadian geography

C. Managing Canada's Resources and Industries

- C1. The Sustainability of Resources: analyse impacts of resource policy, resource management, and consumer choices on resource sustainability in Canada

E. Livable Communities

- E1. The Sustainability of Human Systems: analyse issues relating to the sustainability of human systems in Canada
- E2. Impacts of Urban Growth: analyse impacts of urban growth in Canada
- E3. Characteristics of Land Use in Canada: analyse characteristics of land use in various Canadian communities and explain how some factors influence land-use patterns

Issues in Canadian Geography, Grade 9 (CGC1P)

A. Geographic Inquiry and Skill Development

- A1. Geographic Inquiry: use the geographic inquiry process and the concepts of geographic thinking when investigating issues relating to Canadian geography
- A2. Developing Transferable Skills: apply in everyday contexts skills, including spatial technology skills, developed through the investigation of Canadian geography, and identify some careers in which a background in geography might be an asset

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B. Interactions in The Physical Environment

- B2. Influence of the Natural Environment on Human Activity: explain how physical processes and the natural environment influence human activity in Canada

E. Livable Communities

- E1. Sustainable Communities: identify factors that affect the sustainability of communities, and describe strategies for improving their sustainability
- E2. Impacts of Land Use: analyse impacts of land use in Canada on communities and the natural environment