



# Lesson Plan: Landfill Mining – Blackstock Landfill, Grade 10 Civics and Citizenship (CHV20)

## Introduction

Historically the Region of Durham (Region) relied on local landfill sites for the disposal of garbage which, even after closure, need to be managed to ensure the environmental integrity of these sites. Students will learn about the historic use of landfills in the 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 between their actions, the environment, and waste disposal. Students will put into practice their knowledge by participating in discussions and activities throughout the lesson.

## Learning Objectives

1. Demonstrate an understanding of historic landfill and landfill mining
2. Explain the roles and responsibilities of Durham Region in relation to waste management
3. Use the political inquiry process and the concepts of political thinking when investigating landfill mining
4. Describe waste management issues associated with landfill mining and compare the perspectives of different groups
5. Explain how landfill mining can contribute to the common good of the community
6. Prepare a comprehensive presentation

## Resources Provided

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

## Activity

1. Split the class in to two equal groups representing:
  - a. Durham Region Waste Management staff
  - b. Local area residents adjacent to the landfill

2. Provide students with the following scenario:

There is a historic landfill in one of the local area municipalities. Through monitoring, it is determined that there are off-site impacts that need to be addressed. The Region has decided to remediate the site through landfill mining and has organized a public open house for residents to learn about the project and ask questions.

3. Each group will prepare a short presentation to be delivered in front of the class at a mock open house related to a proposed landfill mining project in a local area municipality. The group should choose multiple speakers to deliver the presentation.

## The Regional Municipality of Durham - Waste Management Services

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## LOCAL AREA RESIDENTS

Students identified as local area residents will prepare a short presentation with questions related to the potential off-site impacts and how landfill mining would be used as a remediation tool.

The presentation will include the following:

- a. Explain at least two concerns they have as residents living beside a closed landfill site
- b. Explain at least two reasons they like living beside a closed landfill site
- c. Description of landfill leachate and gas and why it is a concern to the residents
- d. Explain at least two reasons they like the landfill mining project
- e. Explain at least two concerns they have related to the landfill mining project
- f. At least two examples of what they would like to see as an end use for the property
- g. Explain the anticipated benefits of the end use to the community and environment

## DURHAM REGION WASTE MANAGEMENT STAFF

Students identified as Durham Region waste management staff will prepare a short presentation to provide more details about the project including:

- a. Timing of the project
  - b. Explanation of landfill mining and what the process looks like
  - c. The benefits to landfill mining
  - d. What residents expect after the project has been completed
  - e. How many additional closed landfill sites the Region manages
  - f. At least two examples of what they would like to see as an end use for the property
  - g. Explain the anticipated benefits of the end use to the community and environment
4. As a class, decide on one end use for the property from the combined list developed by each group.

## 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)

### Civics and Citizenship, Grade 10, Open (CHV2O)

#### A. Political Inquiry and Skill Development

- A1. Political Inquiry: use the political inquiry process and the concepts of political thinking when investigating issues, events, and developments of civic importance
- A2. Developing Transferable Skills: apply in everyday contexts skills developed through investigations related to civics and citizenship education and identify some careers in which civics and citizenship education might be an asset.

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## B. Civic Awareness

- B1. Civic Issues, Democratic Values: describe beliefs and values associated with democratic citizenship in Canada, and explain how they are related to civic action and to one's position on civic issues
- B2. Governance in Canada: explain, with reference to a range of issues of civic importance, the roles and responsibilities of various institutions, structures, and figures in Canadian governance
- B3. Rights and Responsibilities: analyse key rights and responsibilities associated with citizenship, in both the Canadian and global context, and some ways in which these rights are protected

## C. Civic Engagement and Action

- C1. Civic Contributions: analyse a variety of civic contributions, and ways in which people can contribute to the common good
- C2. Inclusion and Participation: assess ways in which people express their perspectives on issues of civic importance and how various perspectives, beliefs, and values are recognized and represented in communities in Canada
- C3. Personal Action on Civic Issues: analyse a civic issue of personal interest and develop a plan of action to address it