WASTE NOT, WANT NOT

Time

2 class periods (approximately 60-75 minutes in length)

Grade level

3-8 (can be adapted for higher grade levels)

Learning Objectives

- Students will explore the amount of waste Canadians produce using the 10,000 Changes video and infographic.
- Students will create a class survey to learn more about waste trends in their school or community.
- Students will analyze and visualize the data they collected from their survey to highlight patterns and trends in their results.

Materials

- *Waste not, want not* infographic and video (accessible at 10000changes.ca)
- Blank paper or computer (to create survey)

Focus Questions

Why do Canadians produce so much waste? How can I reduce my use of disposable plastics? How and where can I get waste-free goods like groceries and cleaning supplies?

Lesson Description

Minds on

Students will examine the 10,000 Changes infographic and video about plastic waste and discuss the key messages they learn.

Action

Students will brainstorm ways to make members in their school and community aware of the amount of waste they produce. Students will design and deliver a survey to learn more about the waste trends in their community and what they can do in order to bring about positive change.

Conclusion

Students will discuss their survey results with each other, visualize the data, and discuss the patterns and trends they observe. Students will brainstorm ways to raise awareness in their community on how community members can decrease their waste.

Lesson Implementation

Minds on

Divide students into small groups and have each group write the word "waste" in the middle of a piece of paper or on a word document on the computer. Set a timer for three minutes and have students write down as many items they can think of that they have thrown into the waste bin in their lifetime. Encourage students to be as specific as possible. When the timer goes off, have a group discussion about some of the items students wrote down. Ask students if they can classify these waste items based on their use (e.g., cleaning, cooking) or areas in their house/school where they are used (e.g., kitchen, laundry room). Which category of use produces the most waste?

Inform students that, on average, Canadians annually generate 708 kilograms of garbage per person and that Canada is one of the largest producers of waste on the planet (on a per capita basis). Play the Waste not, want not video on the 10000changes.ca website and distribute the accompanying infographic to small groups after the video is finished playing. Allow time for each group to reflect on what they saw on the video and review the information on the infographic. Using notebooks, have students create the following chart to organize their ideas:
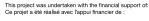
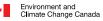| I LEARNED... (What did you learn in the video and infographic?)	I FEEL...BECAUSE (How do you feel about the information you learned and why?)	I WILL... (What will you do to make a difference to your own waste production habits?)

Allow time for students to share their thoughts with the class.

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Action

Inform students that they are going to create a survey to gather information on the waste produced in their community. Either individually or in small groups, ask students to write down the types of questions they would like to ask the members of their community (or other students in their school) about their waste production and disposal.

Example questions:

- How often do you empty your waste bins? How often is waste picked up from your home?

- Which type of waste do you create the most of in your household (e.g., food, electronics, packaging, paper)?

- How do you sort your waste? Check all that apply: garbage, compost, recycling, paper, plastic, metal, glass, and/or other.

- Have you ever shopped at a zero-waste store? Farmers' market?

- How often do you bring your own reusable bags or containers to the supermarket?

- Do you make a point of bringing your waste home and sorting it?

- Do you get your news online or do you read physical copies of newspapers and magazines?

- Do you use biodegradable bags when picking up after your dog?

- Do you travel with a reusable mug or water bottle?

As a class, discuss which questions to use and then create a class survey (consider having a mix of qualitative versus quantitative questions). When the survey is complete, have students go out into their school and/or community to collect data. Students can survey classmates, other teachers, parents, family members, and friends. Aim to collect more than 50 responses so that you can have a representative sample to compare and contrast.

Conclusion and Consolidation

Once students have completed their survey, ask them to organize their results. Share the data results with the class and divide students up into the same number of groups as questions. Assign each group a different question (or a few questions depending on the class size) and allow time for each group to analyze the results, determine a way to visualize the results (e.g., chart, graph, map), and write a conclusion about what they learned from these results.

When students are ready, have each group present their results to the class. Have a class discussion about the patterns and trends that exist within the data and what students learned about waste habits in their community.

Conclude the lesson by asking students what can be done to tackle some of these waste patterns and trends. For example, if students learned that many people were not using reusable bags, what can students do to raise more awareness about the benefits of this practice? If food waste is a major issue in your community, what can students do to decrease the amount of food waste? Use the survey results to brainstorm an action project to make your community a better place!

Connection to the Canadian Geography Framework

Concepts of Geographic Thinking

▷ Patterns and trends
▷ Interrelationships
▷ Geographic perspective
▷ Spatial significance

Inquiry Process

▷ Formulate questions
▷ Gather and organize
▷ Interpret and analyze
▷ Evaluate and draw conclusions
▷ Communicate

Geospatial Skills

▷ Foundational elements
▷ Spatial representations
▷ Technology
▷ Fieldwork

Extend Your Geographical Thinking

Create a map of your community, highlighting the areas where there is a waste problem and what people can do to reduce the amount of household waste they produce. For example, have students map out where the local farmers' markets, bulk stores, and zero-waste stores are located, as well as where the regular supermarkets, major shopping centres, and large waste processing facilities are located.

Modifications

- To decrease the amount of paper used in this lesson, have students use computers and collaborate using Google Docs.

- When creating a survey, Google Forms is a great resource to use. The survey results are organized in electronic format, which can then be shared with students for the data analysis component of the session.

- Students can survey other students from the school, parents/guardians, or members of the community. Teachers are encouraged to select the method that works best for their class.

Assessment Opportunities

- Students can be assessed by the teacher on their reflections after viewing the video and examining the infographic.

- Students can be assessed by their peers on their choice of visualization method and on their ability to highlight the predominant patterns in their data.