CANADA AND THE GLOBAL ENVIRONMENT: SHARED GOALS, SHARED SUCCESS

LESSON PACKAGE FOR GRADES 9 TO 12

THEME: ENVIRONMENT | SUBJECT: GEOGRAPHY
THEME: Environment
SUBJECT: Geography
GRADE LEVEL: Grades 9 to 12

LESSON PACKAGE OVERVIEW:
In this package, students will be introduced to the United Nations work on environmental issues and sustainable development. They will take a global perspective by comparing Canada with another country in areas of environmental concern, including waste production, energy consumption, food security, greenhouse gas emissions, etc. Using the geography inquiry framework, they will learn about and evaluate projects intended to resolve or remediate an environmental concern. Finally, they will share their research and understanding by posting their findings on a publishable, interactive Google Earth Map and write a reflection on the value of what they have learned.

ESSENTIAL QUESTION:
► Does Canada currently have a global perspective on environmental action? How does Canada’s policies and actions on environmental action compare to other countries in the world? What can we learn from each other about effective environmental action?

STUDENT LEARNING GOALS:
Students will:
• Research Canada’s current national and global perspectives on environmental action in local, provincial and international policies
• Compare and contrast Canada’s policies and actions with those of other countries
• Discuss effective environmental actions Canada can take from and share with other countries
• Examine ways that Canada is viewed by other nations in relation to topics such as carbon footprints, waste production, energy production, consumption, and greenhouse gases.

Recommended Assessment for Learning:
You know your students best—their learning styles and preferences, skill levels and knowledge. You also are best positioned to anticipate the habits of mind that will make this lesson package successful.
In this lesson package, teaching strategies include collaboration, discussion and research, and suggestions for demonstration of learning include discussion and a country comparison chart. Please make any accommodations or modifications that serve your students.

WORD BANK
Geneticist—an expert in or student of heredity and the variation of inherited characteristics
United Nations—an international organization of countries set up in 1945, in succession to the League of Nations, to promote international peace, security and cooperation

MATERIALS AND RESOURCES
• Blackline Master 1: Reflection Questions on Climate Change Graphics
• Blackline Master 2: Country Comparison Chart
• Blackline Master 3: Examples of Environmental Comparison
• Computer and projector
• Access to computer lab and Internet for student research
LESSON 1:  
THE UNITED NATIONS EARTH SUMMIT

SUGGESTED TIME:
75 minutes

Investigate and Learn

1. Display the image of the United Nations flag. Ask students if they recognize it, and if so, to explain what it is. Then ask them what they know about the United Nations.

2. Display an image of David Suzuki. Ask students who he is, then what they know about David Suzuki.
   a. Image: pbs.twimg.com/profile_images/350788904/n5794733873_1178506_2084.jpg
   b. Bio: David Suzuki, co-founder of the David Suzuki Foundation, is an award-winning scientist, environmentalist and broadcaster. He is renowned for his radio and television programs that explain the complexities of the natural sciences in a compelling, and accessible way (davidsuzuki.org/david).

3. Show students a speech delivered by Severn Cullis-Suzuki—David Suzuki's daughter—at the United Nations Earth Summit in Rio de Janeiro in 1992. Before showing them the written speech, instruct students to watch and take note of the issues that Severn mentions and to consider the effectiveness of her speech.

Share the following questions and have students consider them while they watch as guidance for their conversation after:
   a. What issues did Severn mention in her speech (deforestation, pollution, destruction of the ozone, child poverty, hunger, etc.)?
   b. What did Severn have to say about Canada and how it has contributed to the problems of climate change and environmental issues in general?
   c. Was this an effective speech? Why or why not?
   d. How important was Severn's age in relation to the success or failure of her speech?
   e. Would the speech be effective if it was given today?

Severn Cullis-Suzuki at the Earth Summit in Rio de Janeiro in 1992: youtube.com/watch?v=oJJGuIZVFLM.

4. After viewing the speech, have students debrief it with a partner by answering the questions provided above.

LESSON 2: 
THE PARIS CLIMATE CONFERENCE

SUGGESTED TIME: 
150 minutes

Action Plan


3. Now that students have learned about some Canadian and international concerns and contributions to the environment, divide students into groups of three to four. Then, ask students to discuss what the environment means to them (e.g., what makes them happy, what makes them angry, etc.) or what they hope for the environment. Have groups share with the class.

4. Tell students they will be completing a comparison report of Canada and a country of their choice that examines the similarities and differences of environmental projects in those countries. They should be able to share their reports with others to help spread information about current projects affecting the environment.

5. Ask students if they would like to further commit to being a part of the responsible use and treatment of the environment by taking the WE Are Canada Pledge. If students are interested, visit WE.ca for more information and to take the pledge.

6. Using the data compiler function of the NationMaster website (nationmaster.com) have students select a country that they would like to compare to Canada. This website will allow them to enter the names of two countries—Canada and another country—and select a topic for comparison, which then will generate a comparison chart. Students should use this site to complete their comparison chart for selected measurements that are organized under the comparison topics: People, Geography, Energy and Environment. Distribute Blackline Master 2: Country Comparison Chart to facilitate the exercise.

7. Based on the information they have organized have students research a project that has been undertaken in each of the two countries that is designed to address a particular environmental concern.

8. Instruct students to use the geography inquiry framework of “What is where? Why there? Why care?” to summarize both projects. Students should include accurately formatted citations for the sources of their information.

9. Provide students with Blackline Master 3: Examples of Environmental Comparison.

10. RECOMMENDED ASSESSMENT OF LEARNING: Ask students to fill out an exit card, thinking back to Severn Cullis-Suzuki’s speech in 1992 and the Paris Conference. What is similar? What is different? Have we made any progress?
LESSON 3:
ENVIRONMENTAL PROJECTS IN CANADA AND AROUND THE WORLD

SUGGESTED TIME:
75 minutes

Take Action

1. After students have completed their research and written their comparison, have them share their reports with Google Earth by mapping the projects’ information. Set up a class map. The map can then be explored by the class and by other classes. It is also possible to make this map and its information about comparative global environmental action available for public viewing.

2. Have students reflect on their learning and experiences. In a written or verbal reflection response, ask students to use specific examples to answer the following: Does Canada currently have a global perspective on environmental action? How do Canada’s environmental policies and actions compare to other countries? What can we learn from each other about effective environmental action?

EXTENSION AND ENRICHMENT: Encourage students to go deeper by using the following questions:
• As a Canadian and a global citizen, what have you learned about Canada’s interactions with the environment, on an international scale?
• How can you continue to apply and share what you have learned about the environment?
• As a young member of society, what is your role locally, nationally and internationally in the environmental movement?

3. Post stories and the Google Earth map online and promote it through social media to share the impact students are having. Use #WETakeCharge and connect with WE Schools’ environmentally focused campaign WE Take Charge. Find more information and resources on it at WE.org/wetakecharge. Collect students’ completed media release forms when necessary. Blank forms can be found at WE.org/we-at-school/we-shcools/educator-resources/#resources.
Blackline Master 1:
Reflection Questions on Climate Change Graphics


1. Begin with the first interactive graphic on the page. Consider the question: “How have greenhouse gas emissions changed over time”?

2. Answer the following questions as you watch the short animation, “Past, Present and Future of Carbon Emissions.”
   a. How did the Industrial Revolution initiate the rise in carbon emissions?
   b. What is a “carbon budget”?
   c. What are the causes of the rapid increase in carbon emissions from about 1985 to 1990?
   d. Why is it problematic to blame a particular country for climate change?
   e. Describe the two scenarios for environmental changes presented in the video.
   f. According to the video, what will be required to achieve the goal of reduced emissions?

3. Explore the next three graphics and answer the following questions:
   a. Who are the world's largest greenhouse gas emitters?
   b. Why do so few countries contribute such a large percentage of global emissions?
   c. Which activities contribute the most to global emissions?

4. Note any new information or ideas that you gather from these graphics.

5. Focus on the fifth graphic that answers the question: What are countries doing to reduce their emissions?

6. Explore the interactive “Paris Contributions Map.” This map allows you to click on a country and see a summary of their climate commitment. Complete the following:
   a. Explore a variety of countries—developed and developing, landlocked and island, small and large, northern and southern—and read the summaries of their Intended Nationally Determined Contributions, or INDCs.
   b. Note any differences and similarities that you see.

7. Feel free to explore the remaining graphics.
## Blackline Master 2: Country Comparison Chart

<table>
<thead>
<tr>
<th>Country</th>
<th>Canada</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>People</strong></td>
<td></td>
</tr>
<tr>
<td>Population</td>
<td></td>
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<tr>
<td>Population Growth</td>
<td></td>
</tr>
<tr>
<td><strong>Geography</strong></td>
<td></td>
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<tr>
<td>Area—Land</td>
<td></td>
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<tr>
<td>Area—Land per capita</td>
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<tr>
<td><strong>Energy</strong></td>
<td></td>
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<tr>
<td>Commercial Energy Use</td>
<td></td>
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<tr>
<td>Crude oil production</td>
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<tr>
<td>Electricity consumption by household, per capita</td>
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<tr>
<td>Electricity production from renewable resources</td>
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<tr>
<td><strong>Environment</strong></td>
<td></td>
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<tr>
<td>CO₂ emissions</td>
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<tr>
<td>Ecological footprint</td>
<td></td>
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<tr>
<td>Forested land</td>
<td></td>
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<tr>
<td>Current Issues</td>
<td></td>
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</tbody>
</table>
**Blackline Master 3:**
Examples of Environmental Comparison

**Country:** Argentina
**Issue:** Deforestation
**Project:** Finding sustainable options instead of clear-cutting forests

**What is where:** World Wildlife Fund (WWF), government agencies and non-governmental organizations (NGOs) (Fundación Vida Silvestre Argentina) are cooperating to encourage sustainable agriculture in the Atlantic Forests in Argentina. They are using education and financial grants to encourage local farmers to move to farming palmito (heart of palm), which is sustainable and enhances the forest rather than the current soy farming, which requires clear-cutting of forests.

**Why there:** The Atlantic Forest region is one of the most ecologically diverse areas on the planet. In this region there are over 20,000 species of plants and 450 different tree species in a single hectare; thousands of animal species are also found here. The region is threatened by farming and logging practices—especially soy production.

**Why care:** The area is very vulnerable. Over the past decades it has been reduced by almost 85 percent. In addition to providing a habitat for numerous animal species that add to the diversity of our world, native plant species may be helpful in producing medicines. Finally, forests are important because they produce oxygen, prevent soil erosion and help to counter the effects of environmental changes.

**Sources:**

Country: Canada  
Issue: Deforestation  
Project: There are no specific projects underway

What is where: Natural Resources Canada Forest Service monitors and tracks deforestation in Canada. There is also a government education program to teach the public about deforestation—showing the differences between deforestation and responsible harvesting or natural forces such as wildfires. This education program shares information about Canada's record on forest management and data about Canada's (low) and reportedly decreasing rates of deforestation.

Why there: Canada's forestry industry is very important to its economy. As a nation, Canada benefits more from forestry than any other country. Canada has 348 million hectares of forest, which accounts for nine percent of the Earth's total forest area.

Why care: Canada would like to be considered a responsible steward of the environment. It is concerning that there is not a clear and specific effort to take action on deforestation. Most of the information available about deforestation in Canada is available through the federal government and they have an economic interest in supporting forestry industries.

Sources:


Reflection on the Comparison—What can we learn from each other?

Canada can learn quite a bit from the way in which Argentina is taking responsibility for and action on deforestation. It is clear that Argentina is responding to a crisis situation in the Atlantic Forest region; Canada's rate and degree of deforestation is relatively low when compared to Argentina’s Atlantic Forest. However, both countries have a strong economic dependence on activities and industries that affect forest health. In the long term, both countries need to find alternatives and sustainable practices. The Canadian government seems to be trying to encourage responsible and sustainable practices that limit deforestation, but is it enough? Argentina’s situation demonstrates how difficult it can be for people who are trying to survive economically to make good choices for the environment. Argentina should be a warning to Canada to act more decisively now to avoid more extreme consequences and difficult choices later.