
Canada and Global Environmental Issues

Duration:

1 class to set-up exercise, assign research activities, and begin research
1 class for groups to meet, compare notes and prepare

Objectives:

Students will:

- Research how Canada is involved in global environmental issues
- Review ideas within their groups
- Split into groups where they become the expert and must explain their topic

Vocabulary:

IPCC

The United Nations Intergovernmental Panel on Climate Change

PLO's:

Social Studies 6, 7, 8
Science 6, 7, 8

Background:

This is a good activity to use after some introduction has been done on climate change, or at the end of the unit as a wrap-up exercise.

Students will examine what Canada's role is in global environmental issues on several levels. Students will research how Canada is contributing to greenhouse gas emissions, what actions Canadians are taking to reduce emissions, how Canadian scientists are involved in researching climate change, and how Canada is being impacted by climate change.

The Intergovernmental Panel on Climate Change's (IPCC) fourth assessment report states that climate change is most likely due to human activities. Since its release in February 2007, the report has drawn a lot of attention to the topic of climate change and what is and is not being done to counteract it.

The students will research a topic related to Canada and climate change. They will become experts on their topics, confer with others about their information, and then form new groups where they will share their information as experts.

Materials:

- Local Newspapers
- Access to computers with internet
- *Ocean News* article *IPCC Who?*

Procedure:

Day 1

1. As a class or as individuals read the *Ocean News* article *IPCC Who?*
2. Write the topics that will be discussed on the board:
 - a) Canada's part in climate change
 - b) Canadian scientific contributions
 - c) Canadian initiatives to reduce climate change
 - d) How does climate change affect Canada?
3. Have the students write a short, informal reflection on each of the topics. Encourage them to write anything they know or wonder about the topics on the board.
4. Split the class into four different groups; assign one of the topics to each group. Try to have an equal number of students in each group. Other topics can be added as needs be to address other issues.

5. Using the internet, newspapers, and other media sources, get the students to research their topics independently. Have them create a list of interesting points found during their reading, making sure they keep track of their sources. They are to become experts on their topics so that the next day they can share their knowledge with class members.
6. For homework, have the students continue their research and write a summary of what they have found.

Day 2

1. Give the students a few minutes to finish any notes started the previous day, or to complete their research.
2. Students who researched the same topic will meet to discuss the information they found. This can be done in one large group or several smaller groups depending on the class size.
3. In their topic groups, students will share information found during their research, discuss any discrepancies, and prepare the major points the group decides are important to share with the other members of the class.
4. Once all the students have reviewed their research topics, ask them to redistribute into groups of four so that there is an expert for each topic in the new discussion groups.
5. Give the discussion groups 20 minutes to allow each expert to share information learned while researching their respective topics. Encourage the students to ask questions.
6. After the groups have completed their discussions, have the students return to their desks. Re-write the four topics on the board and ask the students to review their original reflections.
7. On a new page, ask the students to write a new response to the topics that they investigated and discussed. Get them to write a summary about what they have learned regarding each topic. They should

also formulate at least one unresolved question for each topic.

8. For homework, have the students investigate one of their questions in their writing reflection. Ask them to respond to their own question, which is to be handed in for marking the next day.

Discussion:

- What is Canada's role in the global community on environmental issues?
- What Canadian technologies are being used to help reduce climate change?
- What choices can Canadians make to reduce climate change?

Extension and Resources:

- Students can create a bibliography for their research.

The following articles may be printed for students to use if computers are limited. They can also be used as a starting point for students looking on the internet for climate change material:

Canada's part in climate change

- Green house gas emissions in the Canadian economy
www.statcan.ca/Daily/English/030916/d030916b.htm
- Greenhouse gas emissions in Canada
www.ec.gc.ca/pdb/ghg/about/gases_e.cfm
- Greenhouse gases
www.environmentandresources.gc.ca/default.asp?lang=En&n=A85B7F27-1
- Why Canada's greenhouse record sucks
www.ctv.ca/servlet/ArticleNews/story/CTVNews/20070110/ghg_record_070110/20070115/
- Climate Change www.ec.gc.ca/soer-ree/English/Indicator_series/new_issues.cfm?issue_id=4&tech_id=15
- Canadian greenhouse gas emission sources
www.tetracom.ca/transtalk/?p=1350

- Canada's contributions to climate change
www.ens-newswire.com/ens/apr2005/2005-04-06-05.asp

Canadian scientist contributions

- Scientists looking to traditional knowledge to understand climate change
www.cbc.ca/health/story/2001/03/21/climate010321.html
- Global warming threatens northern species
www.cbc.ca/canada/north/story/2007/03/05/science-tundra.html
- The Montreal Climate Change Conference
www.cbc.ca/news/background/kyoto/montreal-conf.html
- International Polar Year in Canada
www.cbc.ca/canada/north/story/2007/02/26/science-poles.html
- A radio segment from 1961 aired on the CBC archives of warming trends observed in the 1960s. http://archives.cbc.ca/IDC-1-75-2636-14644/science_technology/climate_change/clip_1
- Canadian Institute for Climate studies
www.cics.uvic.ca/climate/index.htm

Canada's initiatives on reducing climate change

- David Suzuki Foundation: Kyoto Protocol
www.davidsuzuki.org/Climate_Change/Kyoto/
- Go Carbon Neutral
www.davidsuzuki.org/Climate_Change/What_You_Can_Do/carbon_neutral.asp
- Energy: Renewable
www.davidsuzuki.org/Climate_Change/Energy/Renewables/default.asp
- Reducing emissions from cars
www.cbc.ca/news/yourview/canada/2007/04/going_green.html
- Canadian technology to reduce greenhouse gas emissions
www.nrcan.gc.ca/media/newsreleases/2005/200591_e.htm
- Program pays for reductions in greenhouse gas emissions
www.climatechangecentral.com/default.asp?V_DOC_ID=1242

Climate change impacts on Canada

- Canadian tundra turning green www.ens-newswire.com/ens/mar2007/2007-03-06-02.asp

- Ice near Baffin Island reduced by half: Environment Canada
www.cbc.ca/canada/north/story/2007/02/26/ice-floe.html
- Climate change, cod decline, changing life in Atlantic: Oceanographer
www.cbc.ca/technology/story/2007/02/23/science-cod.html
- Global warming causing disappearance of tundra in Canada
<http://news.mongabay.com/2007/0305-tundra.html>
- Living on thin ice
<http://observer.guardian.co.uk/magazine/story/0,,2022566,00.html>
- Climate change will have major impacts for Canada
www.cbc.ca/canada/story/2007/02/02/canada-climate-070202.html
- How climate change will affect the Canada and the Arctic
www.cbc.ca/news/background/climatechange/conclusion.html

Risk management:

Students should always be monitored when using computers that connect to the internet to ensure the content is appropriate.