# Climate Change in the Arctic – Lesson 2

## Lesson Overview (5 periods)

Students view two movies and read book passages about climate change in the Arctic to gather information for writing a letter in role about the effect of climate change on Arctic wildlife and people. They identify actions they can take to reduce greenhouse gas emissions.

## Connections to Environmental Education

Students will learn about the health of the Arctic ecosystem, the impact of industrial and post-industrial society on the Arctic environment and the interconnectedness of environmental and social issues. They will have an opportunity to use a range of resources, communications skills and technologies in addressing environmental questions about the greenhouse effect and climate change in the Arctic. They have an opportunity to appreciate the fragility of nature in the Arctic, and become mindful of perspectives other than their own and be prepared to modify their ideas and beliefs when appropriate.

## GRADE 7, SCIENCE AND TECHNOLOGY, GEOGRAPHY, LANGUAGE

## Curriculum Expectations

Science and Technology (2007) – Understanding Life Systems: Interactions in the Environment

1. Students will assess the impacts of human activities and technologies on the environment, and evaluate ways of controlling these impacts.

1.1 Students will assess the impact of selected technologies on the environment.

2. Students will investigate interactions within the environment, and identify factors that affect the balance between different components of an ecosystem.

2.3 Students will use scientific inquiry / research skills to investigate occurrences that affect the balance within a local ecosystem.

History and Geography (2004) – The Themes of Geographic Inquiry

Students will analyse current environmental issues or events from the perspective of one or more of the themes of geographic inquiry.

Students will apply the perspective of one or more themes of geographic inquiry to produce a report on an actual or fictional environmental event.

History and Geography (2004) – Natural Resources

Students will describe positive and negative ways in which human activity can affect resource sustainability and the health of the environment.

Students will produce a report on the factors that affect the future availability of natural resources.

Language (2006) – Writing

1. Students will generate, gather and organize ideas and information to write for an intended purpose and audience.
2. Students will draft and revise their writing, using a variety of informational, literary and graphic forms and stylistic elements appropriate for the purpose and audience.

## Learning Goals

At the end of this lesson, students will understand the effect of climate change on wildlife and people in the Arctic. They will know what actions they can take to reduce their greenhouse gas emissions.

## INSTRUCTIONAL COMPONENTS AND READINESS

## Readiness

Understand the greenhouse effect and climate change.

Be able to take jot notes.

Know how to write a letter.

## Terminology

Alternative energy sources, atmosphere, carbon dioxide, climate, climate change, endangered species, environmental impact, environmental stewardship, freezing, gas, glacier, global warming, greenhouse effect, greenhouse gas, melting, polar ice cap, weather

## Materials

**BLM 7 – “Arctic Mission: The Great Adventure” – Learning Skills Self-Assessment**

**BLM 8 – “The New Northwest Passage” – Reading Passages**

**BLM 9 – Mieke Mike Letter – Check-bric**

**BLM 10 – WWF Living Planet Community – Student Resource and Permission**

**BLM 11 – WWF Living Planet Community – Teacher’s Guide**

**BLM 12 – Take Action: Reduce Your Greenhouse Gas Emissions** (optional paper version)

**“Arctic Mission: The Great Adventure”** 5 DVD set ISBN 0-7786-2274-6 which includes the following 2 movies:

“**Arctic Mission: The Great Adventure” disc 5 “Lords of the Arctic.”** NFB 2003, 52 minutes,[www.nfb.ca/film/lords\_of\_the\_arctic](http://www.nfb.ca/film/lords_of_the_arctic) for the online film and the summary is at [www3.nfb.ca/aventures/sedna/arcticmission/ma\_serie/seigneurs.html](http://www3.nfb.ca/aventures/sedna/arcticmission/ma_serie/seigneurs.html)

**“Arctic Mission: The Great Adventure” disc 2 “People of the Ice.”** NFB 2003, 52 minutes, [www.nfb.ca/film/people\_of\_the\_ice](http://www.nfb.ca/film/people_of_the_ice) for the online film and the summary is at [www3.nfb.ca/aventures/sedna/arcticmission/ma\_serie/peuples.html](http://www3.nfb.ca/aventures/sedna/arcticmission/ma_serie/peuples.html)

**“The New Northwest Passage: A Voyage to the Front Line of Climate Change”** by Cameron Dueck, Great Plains Publications, 2012. ISBN978-1-926531-36-6

**“WWF LivingPlanet Community”** website <http://community.wwf.ca/>

## MINDS ON

Whole class and individual. View movies and make jot notes.

Students view the movie **“Arctic Mission: The Great Adventure” disc 5 “Lords of the Arctic.”** Individually they make jot notes about the effect of climate change on Artic wildlife.

Students view the movie **“Arctic Mission: The Great Adventure” disc 2 “People of the Ice.”** Individually they make jot notes about the effect of climate change on the people of the Arctic. Students should be made aware that they will be writing a letter in role as Meike Mike, an Inuit woman featured in the movie, and they should watch for her in the film.

These are National Film Board Canada movies and the domestic home version may be viewed in the classroom for educational purposes.

### Minds On: Assessment

Assessment as learning.

Students use **BLM 7 – “Arctic Mission: The Great Adventure” – Learning Skills Self-Assessment** to self-assess their learning skills after viewing the first movie and then to re-assess after watching the second movie.

### Minds on: Differentiated Instruction

Students could use personal phones or other electronic devices to record jot notes.

## ACTION!

Individual. Read passages. Make jot notes. Write letter.

Students read selected passages listed on **BLM 8 – The New Northwest Passage – Reading Passages** from **“The New Northwest Passage: A Voyage to the Front Line of Climate Change”** by Cameron Dueck and make jot notes about the effect of climate change on the Arctic ecosystem and the people living in the Arctic.

Students take the role of Mieke Mike from **“Arctic Mission: The Great Adventure”** disc 2 “**People of the Ice.”** They write a letter, in role, to someone she might have met in one of her moves to the south; it could be a friend, an activist, a politician or another person. The letter explains the effect of climate change on the wildlife and people in the Arctic and finishes with a request for the recipient to take a specific action to help. They use information from all three sources to write the letter.

### Action: Assessment

Assessment of Learning.

Use **BLM 9 – Mieke Mike Letter – Check-bric** to evaluate jot notes and letter.

### Action: Differentiated Instruction

Students could choose an alternate format (e.g. brochure, poster, website, public broadcast, news report) to demonstrate their understanding of the effect of climate change on the wildlife and people of the Arctic.

## CONSOLIDATION

Individual. Select actions to reduce greenhouse gas emissions.

The teacher uses **BLM 11 – WWF Living Planet Community – Teacher’s Guide** to create an account and set up a private class group on the **“WWF Living Planet Community”** website.

Students use **BLM 10 – WWF Living Planet Community – Student Resource and Permission** to create an account on the **“WWF Living Planet Community”** website <http://community.wwf.ca/> and join a private class group. In the computer lab, students log on to the website and select actions that they are currently doing and actions that they plan to take to reduce their greenhouse gas emissions. They post a paragraph on the private class group explaining why they selected three specific actions.

### Consolidation: Assessment

Assessment as Learning.

In groups of four, students review each other’s paragraphs and provide feedback on justification of selected actions.

### Consolidation: Differentiated Instruction

In situations where a parent/guardian has not given permission for a student to create an account on **“WWF Living Planet Community”** website, use **BLM 12 – Take Action: Reduce Your Greenhouse Gas Emissions.** This is a paper version of the **“Take Action”** webpage. Students without permission can print their paragraph from Word instead of posting it in the class group.

The paper version of **“Take Action”** can be used by anyone that prefers to work with paper instead of on a computer.