communities: Unit 8 ECOLOGY & CLIMATE CHANGE



ELSA 7 CLB 8

Introduction

This unit promotes ecological literacy, a key requirement for an engaged citizenry in 21st century Canada. It uses the issue of climate change as a vehicle to focus on the multiple knowledge bases of ecology, to stimulate an inquiry approach to learning, to develop the ability to explain difficult concepts coherently, and to interpret messages intended to influence or persuade.

The **Core Curriculum** focuses on building learners' knowledge base of climate change through the use of authentic texts: an overview of climate change, key concepts, predicted consequences, and solutions.

The **Project** component gives learners a chance to investigate a question of personal interest that links climate change to wider ecological implications and culminates in creating a blog post of the results of the learners' inquiries.

Teaching Suggestions

- Visit a local ecology centre or meteorological organization.
- Invite a representative from an ecological protection organization to speak to the class.
- Compare how climate change is presented in the media across cultures.
- Compare how climate change is covered in various media outlets.
- Demonstrate various note-taking techniques and have learners practice them.
- Have learners share and exchange their notes with each other to expose them to note-taking styles.
- Supply learners with a list of abbreviations to use for note-taking purposes.
- Encourage learners to describe their preferred note-taking techniques.

Target OUTCOMES

CLB Outcomes

The following are the mandatory outcomes to be covered in this unit:

Listening		
ŷ CLB 8-III:	Understand communication intended to influence or persuade (such as extended warnings, threats, suggestions, recommendations and proposed solutions) in situations related to personal decisions or to work-related issues in own field.	
Speaking		
№ CLB 8-I:	Participate in brief professional phone calls.	
Reading		
₹ CLB 8-I:	Understand moderately complex social messages (such as those conveying general opinions, assessments of current events or situations, and responses to complaints or sympathy).	
Writing		
	Reduce a text of up to about 2 pages to an outline or summary.	
∠ CLB 8-IV:	Write 3 or 4 connected paragraphs to relate a historical event, provide a detailed description of a phenomenon, explain a procedure, or express and analyze opinions on a familiar abstract topic.	

Content and Other Outcomes

Learners will

- increase their ecological literacy
- gain extensive practice with authentic, extended, complex discourse on ecological topics
- engage in self-directed inquiry into climate change and other ecological issues
- build language skills to express complex concepts more coherently and concisely
- engage actively with new media by writing and posting a blog
- practice their telephone skills

POSSIBLE TOPICS

Topic

This unit is included in this curriculum with the recognition of the close links between national and global citizenship in our time. Basic scientific literacy and the ability to discuss ecological issues from a scientifically informed perspective are important components of what it means to be a responsible and informed citizen today. This does not mean accepting a narrow ideological interpretation of facts, implications, or solutions, but rather it requires that we have the ability to think critically and respond with evidence-based arguments and decisions. Significantly, scientific literacy and global citizenship require that we know what questions to ask as much or even more than how to answer them. And this unit offers learners the language and resources to pose questions about ecological and climate change issues and to research the implications of climate change for their lives.

Cross-cultural Perspectives

Learners might benefit from comparing and contrasting the scientific perspectives of ecological and climate change phenomena with the following topics:

- cultural or religious perspectives from their home countries and in Canada
- the influence of the oil and gas industry and other engines of our economy on efforts to promote a healthy ecology in Canada

Systems and Practices of BC and Canada

Instructors could help learners focus on the topics of ecology and climate change in Canada and BC through an examination of the following:

- the causes and effects of climate change from a scientific perspective
- the implications of climate change and global warming for life in this bioregion
- efforts by Canada and BC to address climate change
- organizations in the region working to reduce Canada's carbon footprint and contributions to global warming
- Canada's energy policy and its relationship to climate change
- personal efforts individuals and families in BC can make to reduce their carbon footprints
- the Alberta oil sands debates.

PLANNING GUIDELINES

Linguistic Competencies

Vocabulary	 idiomatic and technical vocabulary relating to ecology and climate change phrases used in blogging actions related to paragraphs, reports, and essays 	carbon offsets, ozone layer, El Nino, hydraulic cycle post, comments, thread informing, persuading, comparing, contrasting, proposing, solving, evaluating, brainstorming, outlining, mapping, clustering, summarizing, paraphrasing
Grammar	 linguistic, rhetorical and stylistic means of narration, reporting, description and arguing a point in written discourse comparatives and superlatives 	If we hadn'tthen The most egregious thing is; Which is more beneficial, x or y?
Pronunciation	 spelling, punctuation, and capitalization conventions ability to use English phonological sound systems (such as sound segments, rhythms, and intonations) to interpret oral discourse linking final consonants to initial vowels 	I'd like to //as kem// about //hi zopinion//

Ecology and Climate Change

2050: What if We Get it Right? - Quirks and Quarks

This page has a summary of the podcast, a link to an audio recording, a list of the contributing professors that Bob McDonald interviews on the show, and links to external resources to support the podcast. The podcast is a look to the future and the environmental challenges that we face.

Uses: Learners understand communication intended to influence or persuade, give warnings, suggestions, recommendations, and proposed solutions.

An Inconvenient Truth - Take Part

This site is for fans of the film and it includes current climate news, articles related to climate change, a list of ways to take action against climate change, video clips and summary of the film, and information about the book.

Uses: Learners reduce a text of up to about two pages to an outline or summary.

Blogs at Worldwatch

This region of the WorldWatch site offers blogs with information that includes scientific data on global trends related to energy and transportation, the environment and climate, food and agriculture, the global economy and resources, and population and society. The site also includes related sections and videos categorized by programs, research, vital signs online, and more.

Uses: Learners write three or four connected paragraphs to explain a procedure, or express and analyze opinions on a familiar abstract topic.

<u>Climate Change Explained – World Wildlife Fund (WWF)</u>

This page gives a great overview about climate change. The page also has a great graphic to explain greenhouse gases and an embedded video from National Geographic that features Al Gore explaining how we can confront climate change. The page also has links to extensive related resources. **Uses:** Learners understand communication intended to persuade.

Climate Hot Map – Union of Concerned Scientists

This excellent interactive map explores the hot spots around the world affected by climate change. The map can be viewed by hotspots, impacts, or solutions. The page also has links to further related resources.

Uses: Learners reduce a text of up to about two pages to an outline or summary.

David Suzuki & Al Gore on QTV: Part 1 (Feb. 1, 2010, 17:26) - YouTube

In this fascinating video, Jian Ghomeshi interviews David Suzuki and Al Gore about climate change, activism, politics, and more.

Uses: Learners understand communication intended to influence or persuade, give warnings, suggestions, recommendations, and proposed solutions.

David Suzuki & Al Gore on QTV: Part 2 (Feb. 3, 2010, 25:13) - YouTube

In this video, Jian Ghomeshi continues to interview David Suzuki and Al Gore about climate change, activism, politics, and more.

Uses: Learners understand communication intended to influence or persuade, give warnings, suggestions, recommendations, and proposed solutions.

David Suzuki Foundation

This site offers pages on hot issues, blogs, and suggestions and recommendations for individual action and change.

Note: This resource also appears in ELSA 6 Unit 8.

Uses: Learners understand moderately complex instructions for environmental change at a personal level.

EducaPoles – International Polar Foundation

This excellent site has many resources for instructors and learners alike. The site has links to educational projects, current news, teaching dossiers including great "Energy Action Sheets," animations, videos, galleries, great online quizzes, and links to other resources.

Uses: Learners reduce a given text of up to about two pages to an outline or summary.

Ecology and Climate Change (cont.)

<u>Environmental Knowledge for Change – GRID-Arendal and the United</u> Nations Environment Programme (UNEP)

This extensive website has many resources for this unit. The site includes publications, blogs, activities, maps, vital climate graphics, a photo library, ebooks, and more.

Uses: Learners understand moderately complex social messages conveying general opinions and assessments of current events or situations.

<u>Gardening and Agriculture – University of California Television</u>

This page has an excellent selection of videos and lectures on the environment and ecology. The site also has many other videos and blogs listed by topic.

Uses: Learners understand moderately complex social messages conveying general opinions and assessments about the environment and ecology.

Global Warming Effects Interactive Map – National Geographic

This engaging resource demonstrates the negative effects of global warming on every continent. The resource has summaries of each scenario embedded on the map. The page also has many links to further information. **Uses:** Learners write three or four connected paragraphs to provide a detailed description of a phenomenon.

Green Guide Quizzes – National Geographic

This extensive variety of quizzes covers a range of topics including sustainable energy, plastics, organics, water, and more. The page also includes links to related resources and videos about green living ideas. **Uses:** Learners access quizzes online and complete them independently, or in class.

How Will Global Warming Change the Earth? - NASA Earth Observatory

This extensive article outlines some of the major changes brought on by global warming. The page includes supporting diagrams and charts to

supplement the reading. Topics include changing weather, rising seas, ecosystems, people, and more. The page also has links to further related information.

Uses: Learners understand moderately complex social messages conveying general opinions and assessments of current events or situations.

Is Al Gore's An Inconvenient Truth Accurate? – Skeptical Science

This interesting page looks at the many scientific errors put forward in the award winning film from Al Gore. The site provides the reader with a choice between basic and intermediate scientific language on the page and includes postings from the public that attempt to refute the claims in the film. The postings also include many links to further information contrary to the film.

Uses: Uses: Learners understand communication intended to influence or persuade, give warnings, suggestions, and recommendations.

No Doubt About Global Warming (n.d. 3: 12) - NBC Nightly News

This news report examines new scientific data that shows, without a doubt, that humans have raised the Earth's temperature. The video has some compelling picture evidence and a report from a leading scientist.

Uses: Learners understand communication intended to persuade.

<u>Teachers' Guide to High Quality Educational Materials on Climate Change</u> <u>and Global Warming</u>

This page is a portal to excellent resources and lesson plans about climate change and global warming. The page also has the top 10 things you need to know about global warming with supporting tables and charts.

Uses: Learners understand moderately complex social messages conveying general opinions and assessments on climate change and global warming.

Ecology and Climate Change (cont.)

<u>Temperature Rising: Climate Change in Southwestern British Columbia – Natural Resources Canada</u>

This excellent poster summarizes the variety of problems in southwest BC that relate to climate change. The poster can be viewed online as a whole or in parts with more detailed information. The page also has links to other resources including videos, reports, case studies, and regional initiatives.

Uses: Learners write three or four connected paragraphs to provide a detailed description of a phenomenon.

The Great Energy Challenge – National Geographic

This page includes news, blogs, global fossil fuel subsidies maps, a light bulb savings calculator, global gas footprints, a video to explain the challenge, and more.

Uses: Learners understand communication intended to influence or persuade, give extended warnings, suggestions, recommendations, and proposed solutions.

<u>The Habitable Planet: A Systems Approach to Environmental Science – Annenberg Learner</u>

This collection of 13 half-hour videos covers a variety of environmental topics.

Note: This resource also appears in ELSA 6 Unit 8.

Uses: Learners understand communication intended to influence and persuade, and give extended warnings, suggestions, recommendations, and proposed solutions.

<u>Weather basics: Global Atmospheric Circulation – Environmental Science</u> Published for Everybody Round the Earth

This page has text and excellent graphics to explain basic weather patterns and global atmospheric circulation. The page also has links to more weather information, worksheets, and external links.

Uses: Learners write three or four connected paragraphs to provide a detailed description of a phenomenon.

Writing, Research, and Telephone

Action Alert - The Council of Canadians Acting for Social Justice

This site is intended for a call to action regarding medicare, but the script is easily adapted to suit ecological purposes. The site includes call-in scripts, MP phone numbers, twitter hashtags, and MP twitter accounts. The site also has an energy and climate justice section with many current events and calls to action, videos, fact sheets, and more.

Uses: Learners access the scripts and participate in brief professional phone calls.

<u>Campaign to Reform Canada's Access to Medicines Regime – Canadian</u> <u>HIV/AIDS Legal Network</u>

This document is about HIV/AIDS medicine, but it includes a great call-in script for talking to an MP or assistant, or leaving a message. The page also has concise instructions for a variety of methods to contact the government to voice concern.

Uses: Learners access the scripts and participate in brief professional phone calls.

Writing, Research, and Telephone (cont.)

How To Blog Effectively – Star Content

This page provides a short summary of effective blogging strategies. The page also has links to further related information.

Uses: Uses: Learners access the resource to encourage blog development skills.

How to Blog Effectively – Webdesigner Depot

This lengthy article outlines eight steps to better blogging. The steps include research, writing, images, twitter feeds, and more. The steps are supported by links to example blogs and many suggestions for programs to enhance a blog.

Uses: Learners access the resource to encourage blog development skills.

Members of Parliament - Parliament of Canada

This page has a list of MPs with their constituency and party and links to contact information for each. The page also has links to members of the Senate, information about Parliament, election resources, and more.

Uses: Learners participate in brief professional phone calls.

CLB Aligned Resources

ELSA Assessment – ELSA Net

This page has essential materials for every instructor including the Formative Assessment Toolkit (CLB 8) and the learner's Self-Assessment Toolkit (CLB 8). There are links to Instructor/Student Guidelines, Progress and Exit Testing Guidelines, and ready to use templates to complement the exercises and techniques.

Uses: This page is rich with excellent resources for CLB aligned formative assessment, student reflection, and portfolio work.

LINC 5-7 Classroom Activities, Volumes 1 & 2 – Toronto Catholic District School Board

This is one of the best resources for an ELSA instructor and is highly recommended for this curriculum. All of the activities are CLB aligned, although ELSA instructors should be aware of the differences between LINC levels and ELSA levels when using this resource. The website offers pdf

<u>Principles of Composition – Capital Community College</u>

This great resource includes information about the writing process, structural considerations, patterns of composition, and so much more. Users can select a writing point or process from three dropdown lists to access the lessons. The lists are organized by process, structure, and patterns.

Uses: Learners access the site and navigate to find supporting lessons for the writing needs of the unit.

The Seven Steps of the Research Process – Cornell University

This page provides an excellent overview of the research process with links to further information about each step and much more.

Note: This resource also appears in ELSA 6 Unit 9.

Uses: Learners summarize the content and apply the suggestions to essay research.

Transitional Words and Phrases - Memorial University of Newfoundland

This pdf has a comprehensive list of transitional language organized by function.

Note: This resource also appears in ELSA 6 Unit 9.

Uses: Learners use this resource to build essay writing skills.

copies of Volumes 1 & 2 with audio files and online activities associated with various chapters.

Uses: The following chapters are particularly useful for this unit:

Chapter 1, Volume 1: Academic Skills Chapter 2, Volume 1: Business Writing Chapter 7, Volume 2: Telephone Calls

<u>LINC 5-7 Classroom Activities (Vol. 1 and 2) e-Resources – Toronto Catholic</u> District School Board

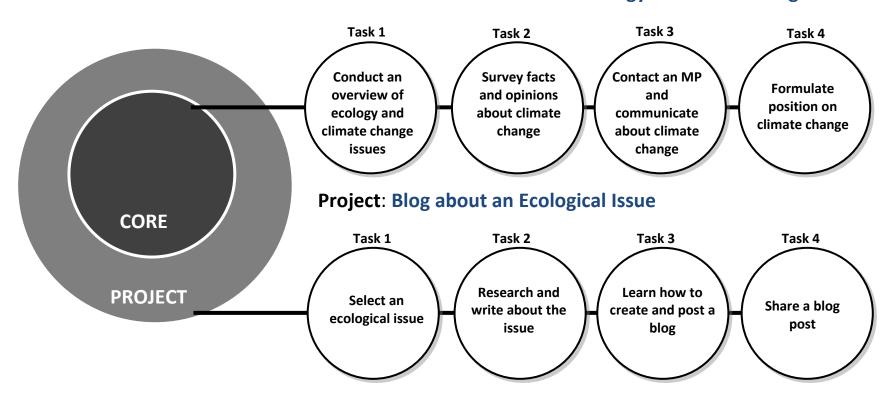
This website has quick links to pdf files for chapters 1, 2, 4, 5, and 7 in the LINC 5-7 document and online activities that align with the curriculum.

Uses: The following chapters are well-suited to this unit:

<u>Chapter 1, Volume 1: Academic Skills</u> <u>Chapter 2, Volume 1: Business Writing</u> <u>Chapter 7, Volume 2: Telephone Calls</u>

At a glance: ECOLOGY & CLIMATE CHANGE

Core Curriculum: Overview of Ecology & Climate Change



SCOPE & SEQUENCE



of Sample Tasks

UNIT 8: Ecology & Climate Change	CORE CURRICULUM: Overview of Ecology & Climate Change PROJECT: Blog about an Ecological Issue	
Core	Conduct an overview of ecology and climate change issues Survey facts and opinions about climate change change Contact an MP and communicate about climate change change	
CLB OUTCOME 🤋 🗣 🦁 🗷	SAMPLE TASK	RESOURCES
	Task 1: Conduct an overview of ecology and climate change issues	An Inconvenient Truth – Take Part
Reduce a text of up to about 2 pages to an outline or summary.	 read, listen, or watch information about ecology and climate change take notes in order to reduce information to an outline or summary doing the following: 	EducaPoles – International Polar Foundation
	 reduce information to main points with accurate supporting details and no major omissions 	Climate Change Explained – World Wildlife Fund (WWF)
	 conveys essential information convey a sense of audience in language format and content build vocabulary and concepts 	Seven Steps of the Research Process – Cornell University
	identify current issues and concerns	

UNIT 8: Ecology & Climate Change	CORE CURRICULUM: Overview of Ecology & Climate Change PROJECT: Blog about an Ecological Issue	
CLB OUTCOME 9 ♣₹	SAMPLE TASK	RESOURCES
© CLB 8-III Understand communication intended to influence or persuade (such as extended warnings, threats, suggestions, recommendations and proposed solutions) in situations related to personal decisions or to work-related issues in own field.	 Task 2: Survey facts and opinions about climate change watch various videos and listen to podcasts where speakers are intending to influence or persuade the audience about climate change doing the following: identify stated and unspecified meanings identify the functional utterances such as warnings, threats, suggestions or recommendations interpret warnings, threats, suggestions, recommendations and proposed solutions evaluate the validity of suggestions or proposed solutions 	The Habitable Planet: A Systems Approach to Environmental Science – Annenberg Learner David Suzuki & Al Gore on QTV - YouTube 2050: What if We Get it Right? – Quirks and Quarks
Understand moderately complex social messages (such as those conveying general opinions, assessments of current events or situations, and responses to complaints or sympathy).	 read various blogs about climate change and evaluate opinions and arguments as explained in the following: identify specific factual details and implied meanings identify the purpose of the message identify the reader/writer relationship identify the mood and attitude of the writer identify the context and situation identify the register and style 	Blogs at Worldwatch David Suzuki Foundation The Great Energy Challenge – National Geographic
Participate in brief professional phone calls.	 Task 3: Contact an MP and communicate about climate change identify the MP for your area and find the necessary contact information practice telephone skills and making assertive requests phone the MP and members of other political parties in the riding and ask them their opinions regarding Canada's role in the Kyoto Accord and current efforts at curbing climate change as follows: open, maintain, and close a phone conversation in a professional manner clarify and confirm information use an appropriate level of formality 	Members of Parliament – Parliament of Canada Action Alert – The Council of Canadians Acting for Social Justice Campaign to Reform Canada's Access – Medicines Regime – Canadian HIV-AIDS Legal Network

UNIT 8: Ecology & Climate Change	CORE CURRICULUM: Overview of Ecology & Climate Change PROJECT: Blog about an Ecological Issue	
CLB OUTCOME ? ♥♥≾	SAMPLE TASK	
Write 3 or 4 connected paragraphs to relate a historical event, provide a detailed description of a phenomenon, explain a procedure, or express and analyze opinions on a familiar abstract topic.	 Task 4: Formulate a position on climate change write an essay outlining your position on climate change, supported by research and clearly argued rationale doing the following: address the purpose of the task provide accurate and detailed descriptions, explanations, and accounts of events in a clear sequence present text as a coherent connected whole with good use of appropriate connective words and phrases edit first draft, solicit feedback, and re-write essay share the essay with others 	Principles of Composition – Capital Community College Transitional Words and Phrases – Memorial University of Newfoundland

SCOPE & SEQUENCE

ELSA 7

of Sample Tasks

UNIT 8: Ecology & Climate Change	CORE CURRICULUM: Overview of Ecology & Climate Change PROJECT: Blog about an Ecological Issue		
Project	Select an ecological issue Research and write about the issue Research and write and post a blog		
CLB OUTCOME 🤋 🗣 🕏 🗷	SAMPLE TASK	RESOURCES	
© CLB 8-III Understand communication intended to influence or persuade (such as extended warnings, threats, suggestions, recommendations and proposed solutions) in situations related to personal decisions or to work-related issues in own field.	 Task 1: Select an ecological issue watch videos and listen to podcasts about various ecological issues (e.g., the pine beetle infestation, the 2010 BP oil spill, energy security) select an interesting and relevant issue to explore 	Gardening and Agriculture – University of California Television No Doubt About Global Warming – NBC Nightly News The Habitable Planet: A Systems Approach to Environmental Science	
∠ CLB 8-II Reduce a text of up to about 2 pages to an outline or summary.	 Task 2: Research and write about the issue research the issue, referring to three or more different sources write an outline that includes at least three sections, and presents an opinion 	The Seven Steps of the Research Process – Cornell University	
Write 3 or 4 connected paragraphs to relate a historical event, provide a detailed description of a phenomenon, explain a procedure, or express and analyze opinions on a familiar abstract topic.	 write three or four paragraphs about the selected issue, based on the outline ask for feedback on the first draft edit and rewrite the essay 	Principles of Composition – Capital Community College	

UNIT 8: Ecology & Climate Change	CORE CURRICULUM: Overview of Ecology & Climate Change PROJECT: Blog about an Ecological Issue	
CLB OUTCOME 9 ♥♥₺	SAMPLE TASK	RESOURCES
Understand moderately complex social messages (such as those conveying general opinions, assessments of current events or situations, and responses to complaints or sympathy)	 Task 3: Learn how to create and post a blog read a blog about how to create and post a blog clarify information with others ensure the instructions are clear 	How to Blog Effectively – Star Content How to Blog Effectively – Webdesigner Depot
Participate in brief professional phone calls	 Task 4: Share a blog post create a blog and post your essay on it contact at least one friend or acquaintance to invite them to check out your blog 	How to Blog Effectively – Star Content How to Blog Effectively – Webdesigner Depot