

Course Profile

Geography of Canada

Grade 9
Applied

• *for teachers by teachers*

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Unit #1: Natural systems

Time: 1500 min

Unit Developer(s):

Development Date: April 7, 1999

Unit Description

The unit on natural systems introduces students to the concept of Ecozones; their components, the variables which define and influence their existence and their spatial organization within Canada's physical context. Within the framework of the ecozones model, students investigate the links between living and non-living systems in nature, and the connections which exist among ecozones, working towards a culminating activity based on a decision-making matrix to determine which ecozone in Canada needs most to be protected.

Strand(s) and Expectations

Strand(s): Space and Systems, Understanding and Managing Change, Methods of Geographic Inquiry

Overall Expectations: SSV.01B, SSV.O2B, SSV.03B UMV.01B, MIV.01B, MIV.02B, MIV.03P

Specific Expectations: SSI.01B, SSI.02B, SSI.04B, SSI.05D, SS2.01D, SS3.01D, SS3.03D, SS3.04D, SS3.02B, HE1.03B, HE3.03D, GC1.05D, UM1.02B, MI1L01B, MI1.02B, MI2.01D, MI2.02B, MI2.03D, MI2.04B, MI2.09B, MI2.08P, MI2.10B, MI2.11D, M12.12B, MI2.13B, MI3.04D

Activity Titles (Time and Sequence)

Activity 1	Mind Map: Geography is Everything	75 min
Activity 2	Identifying Local Region Land Use	75 min
Activity 3	Discovering Ecozones Using Thematic Maps and Organizers	375 min
Activity 4	Researching Ecozones	150 min
Activity 5	National Parks: Mapping and Decision Making	225 min
Activity 6	Creating a National Parks Brochure	450 min
Activity 7	Making Decisions on the Protection of Ecozones	150 min
	Total	1500 min

Unit Planning Notes

An understanding of terminology is essential to the successful teaching of this unit. The primary term in the unit is ecozone. For the purposes of the unit, an ecozone is defined as: areas of the earth's surface representing large and very generalized ecological units characterized by abiotic and biotic factors. Canada includes 15 terrestrial and 5 marine ecozones. These zones may be subdivided into eco-regions which have distinguishable characteristics which are based upon the ecosystems which exist within these regions.

The unit includes a considerable number of activities which are intended primarily for the application of electronic and geotechnologies. However all activities in this unit are designed to allow for their implementation without the use of such technologies.

Prior Knowledge Required

From the Grade 7 and 8 curriculum, it is expected that students have some experience with

- the themes of geographical inquiry, (location, place, environment, region, interaction and movement),
- using a variety of multi-level information sources,
- producing maps and graphs,
- an understanding of the concepts of sustainable development and the implications for the environment and,
- communicating results of their inquiries.

Activity 1: Creating a Mind Map: Geography is Everything

Time: 75 minutes

Description

Students will brainstorm the topic “What is Geography?” drawing from their previous knowledge from grade 7 and 8 as well as the visuals on display in the classroom. Students will create a mind map using the categories they formulate as well as all of the words from their list. Students will then add symbols to their mind map and identify where connections can be made between some of the words in different categories.

Strands & Expectations

Strands: Space and Systems

Overall Expectations: MIV.01B, SSV.01B

Specific Expectations: SS1.01B, SS1.05P, MI2.04B

Planning Notes

- Have lots of visuals showing different aspects of Geography available in the room.
- Have enough copies of blank paper for students to create their mind maps on
- Have prizes available - if wanted

Prior Knowledge Required

One of the purposes of this activity is to assist teachers in determining the prior knowledge of the student with regard to Geography.

Teaching/learning Strategies

1. The teacher starts by explaining how brainstorming works (no bad ideas, no laughing at others, put everything down and sort it out later) and then individually, students generate a list of at least 5 to 10 words which answer the question “What is Geography?”. The teacher gives out prizes for the students with the most words - this motivate most students to at least try. Once students have their individual list, a class list be generated on the board. The teacher may want to prompt students so that a wide variety of words are used.
2. Individually, students organize the board list into 5 or 6 categories. They must choose an appropriate title for each category (not "other"). Then they create a mind map with “Geography is Everything” in the middle of their paper. The teacher may want to model one facet so that students know what they have to do. Maps and map skills is an easy one to model for the students. Once students complete their mind map they are to add as many symbols as they can think of beside the words.
3. Students complete a check list of each other’s mind maps to check for completeness and creative symbols; students then answer the following questions about their mind map: How many categories did you use? Can you think of other ways to put together your categories? What connections can you see between some of the words in your different categories? Compare your

mind map to another student's - what similarities and/or differences do you see? What would you do differently if you could do it all over again?

4. The teacher leads a discussion based on the questions above as well as how words connect to the course units. The teacher also connects words to systems in geography, emphasizing the understanding of systems that be developed throughout the course.
5. The teacher introduces the culminating activity: Making Decisions on the Protection of Ecozones so that the students understand that the activities in the unit enable their completion of the final task.

Assessment

Tool	Purpose	Who	Activity
Checklist	formative	peer	mind map

Accommodations

1. For students with writing difficulties - have them start by using symbols, and/or give them sample headings for their organization
2. Use atlases and other geography books to generate word lists.

Resources

1. A variety of posters and maps for the room
2. Atlases
3. Current geographical periodicals

Activity #2: Identifying Local Regions and Land Use

Time: 75 min

Description

Students are introduced to the concept of region and have the ability to discern regions within their local community or surrounding environment. Students construct a local land-use map using an Ontario Base Map and/or aerial photograph of the community.

Strands & Expectations

Strands: Geographic Foundation: Space & Systems, Understanding and Managing Change, Methods of Geographic Inquiry

Overall Expectations: SSV.01B, SSV.02B, UMV.02B, MIV.01B, MVI.02B

Specific Expectations: SS1.01B, SS1.04B, SS1.05P, SS1.07P, UM1.02B, MI2.01P, MI2.03P, M12.11P, M12.13B

Planning Notes

- Get copies of local community maps from Town Planning Department or Engineering Department.
- Review think-pair-share guidelines
- Review definitions of region and transition zone

Prior Knowledge Required

From the Grade 7 and 8 curriculum, it is expected that the student be familiar with the themes of geographic inquiry and be able to communicate their results. They should be able to use a variety of multi-level information sources and produce maps and graphs for a variety of purposes. The students are also expected to have an understanding of the concepts of sustainable development, the factors that affect population distribution, and the implications for the environment.

Teaching/Learning Strategies

1. Using Think-Pair-Share students identify the various regions that are found within their community. Students identify the factor(s) they considered when thinking of the regions.
2. Teacher identifies and explains the various types of land-use - Residential, Institutional, Industrial, Commercial, Recreational, Transportation, Agriculture/Mining/ Forestry, natural areas, etc.
3. Students use the OBM and the aerial photograph of their local community to construct a land-use map that shows how the community is divided into “land-use” regions. Students need to include all of the basic map requirements. Once students have completed their local land-use maps, they describe the location of the basic land-uses in their community. Students indicate why certain land uses exist where they do. Where land-uses have changed over time, (Abandoned buildings, factory buildings converted to other uses, houses converted into stores) students may identify possible reasons. Students compare the amount of natural space to human space to determine if the community is made up of mainly natural regions or human regions.

Resources

1. Blank map of local community
2. Canada Land of Diversity, 2nd ed.
3. Contact Canada
4. Investigating Canada
5. Canadian Landscape

Accommodations

1. Use of peer-helpers.
2. Have copy of note on land-uses for students as needed.

Assessment

Tool	Purpose	Who	Activity
Map rubric	formative	Peer, Teacher	Land-use map
Paragraph rubric	formative	Self, Teacher	Description of land-uses in local community

Activity #3: Discovering Ecozones Using Thematic Maps and Organizers

Time: 375 min

Description

This activity will introduce students to the concept of ecozones and natural systems. In groups of five, students will construct maps of Canada's Climate, Soils, Vegetation, Landforms and Population Density. On completion of this task they will develop an ecozone map of Canada by overlaying the maps. They will record their findings on an organizer. Once this is completed they will compare their map to the actual ecozone map of Canada. Each group will evaluate their map.

Strands & Expectations

Strands: Geographic Foundations: Space and Systems, Methods of Geographic Inquiry

Overall Expectations: SSV.01B, SSV.02B, SSV.03B, MIV.01B, MIV.02B, MIV.03P

Specific Expectations: SSI.01B, SSI.02B, SSI.06P, MI1.01B, MI2.01B, MI2.03P, MI2.11P, MI2.12B, MI2.13B

Planning Notes

- Produce and distribute blank maps of Canada.
- Organize students into groups.
- Make overheads available if groups choose to use overlay techniques for analysis.
- Book computer lab if ArcVoyager is used as a resource.

Prior Knowledge Required

From the Grade 7 and 8 curriculum, it is expected the student will have an understanding of the methods of geographic inquiry, knowledge of natural regions, decision making models, components of mapping, the ability to analyse, synthesise, evaluate, and communicate information.

Teaching/Learning Strategies

1. The teacher reviews the concept of regions, introduce ecozones (definition and purpose) and discuss the diversity in Canada's ecozones.
The teacher also reviews principals of collaborative learning and proper cartographic conventions.
2. The student reviews the activity and collaboratively select the map each construct (Climate, Soils, Vegetation, Landforms and Population Density).

- Students conduct research into the regions contained on their map, and share the results of their research with the group. They then use the overlays to produce their own ecozone maps.
- Students compare their map to the actual ecozone map and complete an ecozone organizer such as the following:

Ecozone	Landforms	Climate	Soils	Vegetation	Population Density

Assessment/Evaluation Techniques

Tool	Purpose	Who	Activity
rubric	formative	teacher	map
rubric (Appendix H)	formative	peer/self	group work
rubric	formative	teacher	chart

Resources

- Canadian Oxford School Atlas, 6th or 7th Edition, Oxford University Press, Toronto.
- Canada: Exploring New Directions, Fitzhenry and Whiteside.
- Enviro-Canada Series 1 Posters
- Canada's Landform Regions, NFB
- ArcVoyager CD, ERSI Canada
- Environment Canada: Ecozone of Canada, <http://www.ec.gc.ca/~vignettes/default.htm>
- Connections, Bruce Clark

Accommodations

Students may be paired with peer helpers.

Appendix

- Canada's Ecozones Map (Appendix J)

Activity #4: Researching Ecozones

Time: 150 min

Description

Students build on previous lessons on ecozones. The teacher models the research activity using the ecozone in which they live. Student expert groups research a specific ecozone in Canada and share their findings with others in the class. Students complete a comparison chart at the end of the activity.

Strands & Expectations:

Strands: Geographic Foundation: Space & Systems, Methods of Geographic Inquiry

Overall Expectations: SSV.01B, SSV.03B, MIV.01B

Specific Expectations: SS1.02B, SS1.06P, MI1.02B, MI1.03P, MI2.14B

Planning Notes

- Students need the ecozones map completed in a previous activity
- Plan to review with students how to work in small and large groups, and be prepared to teach them how to chair, record notes and to report back to their home groups
- Work in conjunction with teacher librarian

Prior Knowledge Required

From the Grade 7 and 8 curriculum, it is expected that the student be familiar with the themes of geographic inquiry, locating relevant information from a variety of sources, the production of maps, Canadian climate patterns, communicating the results of their inquiries for specific audiences and purposes, and the production and interpretation of climate graphs. The students are also expected to be able to demonstrate an understanding of the causes of natural vegetation patterns and the concept and implications for the environment of sustainable development.

Teaching/Learning Strategies

1. The teacher models what is expected for the research activity using the local ecozone. Students use a variety of sources to find information. Volunteers put their answers onto the blackboard. Students then use the example of their local ecozone to gather information about the other ecozones.
2. Students work in home groups (with the number of students in each group equaling the number of ecozones being examined.) Students are given a list of all of the ecozones, and work be divided amongst them - one student per region.
3. Students meet the other students working on the same ecozone and form expert groups. Each expert group research their chosen ecozone. Students should be directed to Atlases, and other resources suggested by the teacher to gather their information as follows:

Research Guidelines

- Ecozone Name
 - Location - Provinces/Territories
 - Vegetation - types, special adaptations
 - Landforms - characteristics, major bodies of water
 - Soils - characteristics
 - Climate - Average January and July temperatures, annual precipitation, # of growing degree days
 - % of Ecozone protected
 - Animals - major species, special adaptations, endangered species
 - Environmental Issues
 - Summary Statement about ecozone
4. Once students have finished gathering the information, they share their information with each other. Students fill in the information for each of the ecozones as required by the template for Research Guidelines above.
 5. Students answer questions such as the following based on the ecozone map:
Which ecozone: is your community located in? occupies most of coastal B.C.? occupies much of the Mackenzie River drainage basin? occupies most of southerly Canada? matches the area known as the Hudson Bay Lowlands? matches the area known as the Near North? matches the

southern portion of the physiographic region called the Interior Plains? contains over 50% of the population of Canada? contains portions of at least 5 provinces?...

Assessment/Evaluation Techniques:

1. Assessment:

Tool	Purpose	Who	Activity
Group work rubric	formative	peer group/ self	participation in expert group
Communication rubric	formative	peer group/ self	presenting research notes to home group

Resources

1. State of Canada's Environment Report
2. Ecozones of Canada poster set
3. Canada and the World: An Atlas Resource, 2nd edition
4. Outline Map of Canada
5. Internet Access
6. CD-ROMs
7. Encyclopedias
The Canadian Oxford School Atlas, 6th or 7th edition
The Monograph, Volume 49, Winter 1998, pages 25-28

Accommodation

This activity can be accomplished as a geotechnology project using the OAGEE Grade 9 Tool Kit.

Activity #5: National Parks: Mapping and Decision Making

Time: 225 min

Description

Students brainstorm to identify the purpose of National Parks and the teacher then elaborates and summarizes. Students locate, using overlays (can be done with GIS) the location of National Parks in relation to the ecozones in Canada. Students complete a decision making matrix as to which Natural Park they would like to visit. The matrix include information on the park's physical and human characteristics, as well as possible recreational activities that would be available in the park.

Strands & Expectations

Strands: Geographic Foundations: Space & Systems, Human-Environment Interaction, Methods of Geographic Inquiry

Overall Expectations: SSV.01B, SSV.02B, SSV.03B, SSV.04B, HEV.01P, MIV.01B, MIV.02B, MIV.03P

Specific Expectations: SS1.01B, SS1.02B, SS1.03B, SS1.06P, SS2.01P, HE1.03B, MI2.01P, MI2.03P, MI2.09B, MI2.10P, MI2.11P, MI2.12B, MI2.13B.

Planning Notes

- Students use the ecozones map completed in a previous activity, as well as their research notes
- Have tracing paper/overhead sheets with markers ready, one per student
- Can be adapted to use ArcVoyager, etc.

Prior Knowledge Required

From the Grade 7 and 8 curriculum, it is expected that the student be familiar with the organizational themes used in geography, using a variety of sources to locate information, the factors that affect population distribution, the concept of sustainable development, Canadian climate patterns, the production of maps for a variety of purposes, and other methods for communicating the results of inquiries.

Teaching/Learning Strategies

1. Students brainstorm the purpose of National Parks. Once students have finished generating their list, they compare their list with a partner, looking for similarities.
2. The teacher gives students the purpose for having National Parks:
“...’National Park’ defines an area set aside as a public heritage or trust, to preserve forever outstanding examples of the Nation’s scenery, wilderness, geology, natural phenomena or native flora and fauna...dedicated to public use and enjoyment by the citizens of the country to which they belong.” (Lothian, A Brief History of Canada’s National Parks)
3. Students use an overlay (tracing paper, overhead sheet) to identify the location of Canada’s National Parks on top of their ecozones map. Students create a list of Canada’s National Parks and state which ecozone each one is in.
4. Once students have completed their overlay map, they write a series of summary statements about the distribution of National Parks: relation to population centres, most/least protected, animals at risk, implications/consequences, etc.
5. Students complete a decision making matrix to decide which National Park they would like to visit. (See Appendix A)
6. Students write a report in which they state the problem, the decision making process they followed, and a conclusion which consists of their decision statement about which National Park they visit.

Assessment/Evaluation Techniques

Tool	Purpose	Who	Activity
Check List	formative	self	National Parks overlay map
Decision Making Rubric	summative	teacher	Decision Making Matrix
Rubric - report	summative	teacher	Report - decision making process

Resources

1. Ecozones of Canada poster set
2. Canada and the World: An Atlas Resource, 2nd edition
3. Overhead sheets/tracing paper
4. A Brief History of Canada's National Parks, W.F. Lothian
5. The Canadian Oxford School Atlas, 6th or 7th edition
6. A Visitor's Guide: Canada's National Parks, Marylee Stephenson, Prentice Hall Canada Inc.
7. CD-ROMs
8. Internet

Accommodations

1. use computer/tape recorder as an alternative to written work
2. scribe for student if necessary

Activity #6: Creating A National Parks Brochure

Time: 450 min

Description

Students work in groups of 2 or 3 and use Microsoft Publisher (Ministry licensed) to produce an informative, attractive, and detailed six-panel brochure to illustrate the National Park that they would most like to visit. Suggestions for inclusions in the National Parks brochure are location, climate, vegetation, wildlife, landforms, significant historical or geographic facts, camping, recreation, tours/excursions, attractions, events/festivals/celebrations, accommodations, travel tips, etc.

Strands & Expectations:

Strands: Geographic Systems: Space and Systems, Understanding and Managing Change, Methods of Geographic Inquiry

Overall Expectations: SSV.01B, SSV.02B, SSV.03B, UMV.01B, MIV.01B, .02B, .03P

Specific Expectations: SS1.01B, .02B, .03B, SS1.05P, SS1.06P, SS2.01P, SS3.01P, UM1.02B, MI1.01B, .02B, MI2.01P, 03P, 04B, 06B, 09B, 08P, 11P, 13B, 14B

Planning Notes

- Obtain a substantial number of magazines and travel publications and consult with teacher Librarian for other sources.
- Provide students with contact information for the various tourism associations and agencies and be given time to contact these for resources. (See Appendix C)
- Provide students with suggested web sites at which they may begin their internet research but should also be encouraged to search out their own.
- Though Microsoft Publisher has brochure templates to follow, students should be encouraged to create their own text/word art/graphics boxes, and to edit the template to meet their own needs for creativity.

- English teachers may assist students with the written text of their brochures and technology teachers may assist with the computer aspects of the activity.
- Book the resource room, computer lab, and internet access for at least four classes to complete this project.

Prior Knowledge Required

Since this is a culminating activity for the unit, the student is expected to be familiar with all of the material from preceding activities as well as those concepts from the Grade 7 and 8 curriculum previously identified.

Teaching/Learning Strategies

1. The teacher shows samples of professional travel brochures, discussing their contents, organization and colourful language.
2. In groups of 2 or 3, students select one of Canada's National Parks. Using a hard copy of the blank brochure template from Microsoft Publisher students begin discussing possible contents and organization of their brochure as well as sources of information and graphics.
3. Provide demonstrations on scanning and exporting graphics, downloading graphics from the internet and converting them to .pcx or .bmp files, accessing information from the school resource center and/or computer data-bases and encyclopedia CD-ROMs, creating graphics using desktop publishing software, and importing graphics and entering text into the brochure template in Microsoft Publisher. (See Appendix B.)
4. Students gather information and graphics from a variety of sources including the internet, computer databases and encyclopedias, magazines, travel publications, atlases and texts, as well as a variety of organizations including local travel agencies and Chambers of Commerce, provincial/territorial tourist associations, and government tourism agencies. Students are encouraged to produce their own graphics using available desktop publishing software (e.g. Corel Draw/Chart/PhotoPaint, Claris Works, Microsoft Works, all Ministry licensed) and GIS (e.g. ArcView; K-12 program includes ArcCanada, an extensive data-base that contains information on all Canada's ecozones).

Note: Microsoft Publisher not recognize .jpeg or .gif files downloaded from the internet.

Students have to use a graphics converter such as Lview Pro (shareware) to change these to .pcx or .bmp file formats.

If using ArcView, simply export a view or layout as a Windows Bitmap.

Assessment/Evaluation Techniques

Tool	Purpose	Who	Activity
rubric (Appendix F)	formative	peer	group work
rubric (Appendix G)	summative	teacher	National Parks brochure

Resources:

- Texts: Canada: Exploring New Directions
- Atlases: Canada and the World: An Atlas Resource (2nd ed.)
- Canadian Oxford School Atlas (7th ed.)
- Magazines: Canadian Geographic
- A Visitors Guide: Canada's National Parks, Marylee Stephenson, Prentice Hall Canada Inc.
- Computer Databases:

- Groliers
- Encyclopedia Britannica
- Info-Finder
- Facts on File
- Software:
 - Microsoft Publisher
 - Corel Draw/Chart/PhotoPaint
 - Paint or Super Paint
 - Claris Works
 - Microsoft Works
 - Lview Pro (tu cows.com)
 - GIS (ArcView, Idrisi, MapInfo, SpansMap)
- Provincial and Regional Travel Publications
- Web Sites: http://canada.gc.ca/canadiana/cdaind_e.html

Activity #7: Which Ecozone is Most in Need of Saving?

Time: 150 min

Description

This decision making matrix exercise is designed to help the students apply their knowledge of ecozones to a practical problem. They select an ecozone that most needs to have more area protected according to a set of individual and clearly defined criteria.

Strands & Expectations:

- | | |
|-------------------------------|---|
| Strands: | Geographic Foundations: Space & Systems, Understanding & Managing Change, Methods of Geographic Inquiry |
| Overall Expectations: | SSV.02B, SSV.03B, U MV.01B, MIV.01B, MIV.02B, MIV.03P |
| Specific Expectations: | SS1.01B, SS1.02B, SS1.03B, SS1.04B, SS1.06P, SS2.01P, UM1.02B, MI1.01B, MI1.02B, MI2.01P, MI2.03P, MI2.04B, MI2.08P, MI2.09B, MI2.10P, MI2.11P, MI2.14B, MI3.01B. |

Planning Notes

Students should be reminded that their criteria must be clear, measurable and something they can quantify (e.g. % of land protected, number of species endangered, etc.).

Prior Knowledge Required

Students are expected to use the concept of ecozone, effectively locate and interpret information from a variety of sources, and to understand the idea of criteria in decision making.

Teaching and Learning Strategies

1. The teacher reviews the purpose of National Parks, and leads a discussion on the necessity for protecting lands.

2. Students complete a decision making matrix which compare five different ecozones in order to decide which of the ecozones most needs to have more protected lands. (See Appendix I)
3. Students complete a written report once they have finished their decision making matrix.

Assessment & Evaluation Techniques

1. *Performance Assessment (Rubrics Checklists, Rating Scales, Anecdotal Records)*
2. Written Report
3. Decision making matrix
4. *Paper & Tests/Quizzes*
5. Analytical Report
6. Criteria Based Evaluation
7. Problem Based Evaluation (includes calculation based)

Resources

1. Atlas - Texts - CD-ROM applications - GIS software (ARCVIEW)- Internet sites.
<http://www.ns.ec.gc.ca:4000/envcan.html>
<http://www.cmc.ec.gc.ca/climate/>
<http://199.212.18.77/~vignettes/terr.html>
2. Research notes from Ecozones (previous lesson)
3. National Parks overlay and Ecozones Map (previous lesson)
4. Sample instruction sheet
5. Suggested model for the criteria chart.
6. Data sheet for a suggested model.
7. Blank Criteria Chart
8. Assessment Tool

Unit # 2: Human Systems

Time: 25 hours

Unit Developer(s):

Development Date: April 7, 1999

Unit Description

Students apply the knowledge and skills in a culminating activity in which they develop and complete a Locality Study and Business Plan for a secondary, tertiary or quaternary industry that incorporates demographics, future considerations, and locational factors.

In this investigation of human systems students are given the opportunity to develop skills in geographic inquiry through the creation, analysis and interpretation of a variety of geographic representations including graphs, maps, data charts and organizers. The relationship between human systems and ecozones are also explored.

Strand(s) and Expectations

Strand(s): Space & Systems, Human-Environment Interactions, Global Connections, Understanding & Managing Change, Method of Geographic Inquiry

Overall Expectations: SSV.01B, SSV.02B, SSV.03B, SSV.04B; HEV.01P; GCV.01P, GCV.02B; UMV.01B, UMV.02B, UMV.03B, MIV.01B

Specific Expectations: SS1.01B, SS1.03B, SS1.04B, SS1.05P, SS1.07P, SS2.01P, SS2.02P, SS2.03P, SS2.04P, SS3.02B, UM1.01B, UM1.02B, UM1.03P, UM3.03P, UM3.04P, M11.02B, M12.01P, M12.02B, M12.03P, M12.04B, M12.05B, M12.06B, M12.09B, M12.08P, M12.10P, M12.11P, M12.12B, M12.13B, M12.14B, M13.01B, M13.04P

Activity Titles (Time + Sequence)

Activity 1	Mapping & Graphing Canada's Population Distribution	250 min
Activity 2	Mapping and Graphing Canada's Population Density	250 min
Activity 3	Investigating Canada's Changing Demographics	250 min
Activity 4	Investigating Immigration: Past & Present	75 min
Activity 5	Who Immigrates to Canada?	75 min
Activity 6	Migration Within Canada	150 min
Activity 7	Understanding the Movement of People, Goods and Ideas	225 min
Activity 8	Locality Study and Business Plan	225 min

Unit Planning Notes

Prior Knowledge Required

Teaching/Learning Strategies

Assessment/Evaluation

Resources

Activity #1: Mapping and Graphing Canada's Population Distribution

Suggested Time: 270 minutes

Description

Students map, graph, and examine the variations in provincial/territorial populations across Canada. They study Canada's ecumene and the rationale behind the distribution of our country's people. Students receive direct instruction focused on the concepts of population distribution, graphing and mapping. Students use the data they discover to analyse the factors which affect the distribution of Canadians.

Strands & Expectations

- Strands:** Geographic Foundations: Space & Systems, Understanding & Managing Change, Methods of Geographic Inquiry
- Overall Expectations:** SSV.02B, SSV.04B; UMV.01B; MIV.02B, MIV.03P
- Specific Expectations:** SS1.04B, SS1.07P, SS2.03P; UM1.03P; MI1.02B, MI2.01P, MI2.09B, MI2.11B

Planning Notes

This activity can be completed using computer technology:

- Construct the graph using a spreadsheet program such as MicroSoft Works, Corel Chart, or Claris Works (all Ministry licensed).
- Construct choropleth maps using a GIS, such as ArcView, or a desktop publishing program such as Corel Draw or Claris Works (both Ministry licensed) or Paint or SuperPaint. In this case the teacher should provide students with a .pcx or .bmp file containing a base map of Canada. Teacher may wish to do an isodemographic map instead.

Prior Knowledge Required

From the Grade 7 and 8 curriculum, it is expected that students will be familiar with basic cartographic, graphing and mathematical skills and will understand the concepts of rural and urban population distribution and density, urbanization, CMAs, and primary/secondary/tertiary industries.

Teaching/Learning Strategies:

1. Ask "Where would you like to live in Canada?" and "Why?", and explore the factors that affect those choices: human systems and natural systems. Focussing on where people are the teacher show students a dot map of Canada's population distribution (e.g. the inside cover of the Canadian Intermediate Oxford Atlas or on p.10-11 of the Canada and the World: An Atlas Resource, 2nd ed.), introduce the concepts of population distribution, population density, ecumene, core and periphery, heartland and hinterland, Quebec-Windsor axis, etc., and have students brainstorm patterns and rationale for the demographic variations across the country.
2. Students use a dot map showing Canada's population distribution, an atlas containing several thematic maps of Canada, and a base map of Canada to construct a table showing provincial territory and population, a pie graph and a choropleth map to illustrate Canada's population distribution.

3. Students describe the location of the provinces/territories with the highest and lowest populations and study the dot map of Canada's population distribution to complete the following table to explain why so many Canadians live where they do:

Many Canadians live:	because...	Examples are:
within 200 km. of the Canadian-U.S. border	* the climate is warmer,...	* Winnipeg, ...
along the ocean coastlines		
along major rivers		
along the Great Lakes and St. Lawrence Seaway		
near major resource bases		
etc.		

4. The teacher introduces the culminating activity for the unit, a Locality Study and Business Plan, to set the stage for the activities in the rest of the unit which develop the skills and concepts needed.

Assessment/Evaluation Techniques

The product of this assignment can be assessed according to the:

- accuracy, neatness, and elements of the graph and map;
- the validity, completeness, detail, and depth of the analysis.

Planning Notes

Prior to students completing the above activity teachers should:

- make copies of the base map of Canada for all students.
- book facilities if students be completing the circle graph or chloropleth map using computers.

Resources

- Canada and the World: An Atlas Resource (2nd Edition)
- Canadian Oxford School Atlas (7th Edition)
- E-Stats
- ArcCanada (GIS database for use with ArcView)
- Microsoft Works, Claris Works, Corel (Ministry Licensed Desktop Publishing, Word Processing, and Spreadsheet Software)

Accommodations:

Appendices:

Activity #2: Canada's Population Density CGA.1P

Suggested Time: 265 minutes

Description

This activity is designed to establish an understanding of Canada's population distribution and of the concept of population density. Linkages to the previous unit are provided by the establishment of statistics for Canadian population density by ecozone. Students are re-introduced to skills of choropleth mapping and graphing.

Strands & Expectations

Strands: Geographic Foundations: Space and Systems, Understanding and Managing Change, Methods of Geographic Inquiry.

Overall Expectations: SSV.02B, SSV.04B, UMV.01B, MIV.01B, MIV.02B, MIV.03P

Specific Expectations: SS1.04B, SS1.05P, SS1.07P, SS2.02P, SS2.03P, UM1.03P, UM2.01B, UM3.04P, MI1.02B, MI2.01P, MI2.02B, MI2.03P, MI2.09B, MI2.08P, MI2.11P, MI2.12B, MI2.13B,

Prior Knowledge Required

Students are expected to have completed the distribution exercise which precedes this activity. In addition, students are expected to have successfully completed the expectations from grades seven and eight which deal specifically with an understanding of geographic inquiry, map and graphing skills, the effect of physical patterns on human activity, the role of natural resources in population distribution, and patterns in human geography.

Teaching/Learning Strategies

The teacher will:

- a. Review the concept of "population density" and have students brainstorm :
 - i. areas of Canada with high and low population densities and the explanations behind each of these patterns;
 - ii. how Canada's overall population density compares with that of other countries;
 - iii. advantages and disadvantages of having a high or low population density in your country.
- b. Review with students the construction of a bar graph and a choropleth map.
- c. provide students with a base map of the ecozones. (See Appendix J)

Students complete the following task:

1. a. Differentiate between the concepts of "population distribution" and "population density".
 - b. What does a low (high) number for population density mean? Where in Canada would you expect there to be a low (high) population density? Why do you think the population density is so low (high) in this area?

c. Refer to the following chart and:

Province/ Territory	Population (people)	Area (km ²)	Population Density (people km ⁻²)	% of Canada's Total Pop.
NF	551792	371634.6	1.48	1.91
PEI	134557	5660.4	23.77	0.47
NS	909282	52840.8	17.21	3.15
NB	738133	71569.2	10.31	2.56
Que	7138795	1357811.7	5.26	24.75
ON	10753573	916733.7	11.73	37.28
Man	1113898	547703.8	2.03	3.86
Sask	990237	570113.5	1.74	3.43
Alta	2696826	638232.7	4.23	9.35
BC	3724500	892677	4.17	12.91
Yukon	30766	531843.6	0.06	0.11
NWT	64402	3246389.5	0.02	0.22
Canada	28846761	9203210.5	3.13	100

(1996).

- i. Construct a bar graph to show how population density varies across Canada.
 - ii. Analyse the graph and account for observations you make. (e.g. What province or territory is most densely populated? Even though Ontario and Quebec have large populations, their population densities are not as large as some others, why? Why are the population densities for the Yukon and NWT so low? etc.)
- d. Does Canada's overall population density give a clear picture of how Canada's population is distributed? Why/why not?
2. a. Refer to the following chart:

Ecozone	Population (People)	Area (km ²)	Population Density (People/km ²)	% of Canada's Total Pop.
1	1047	239216	0.00438	0.00428
2	16328	1433362	0.0114	0.0667
3	10314	775734	0.0133	0.0422
4	21429	563241	0.038	0.0876
5	33589	1268623	0.0265	0.137
7	2510203	196449	12.8	10.3
8	14016101	113431	123.6	57.3
9	707695	656970	1.08	2.89
10	3851089	440537	8.74	15.7
11	309	245865	0.126	0.00126
12	30839	432128	0.0714	0.126
13	2504393	195554	12.8	10.2
14	751761	461198	1.67	3.07
15	9938	350318	0.0284	0.0406

- i. Construct a choropleth map to show how population density varies across Canada.
- ii. Analyse the map and account for observations you make.

- b. Do the population densities of the provinces/territories or the population densities of the ecozones give you a clearer picture of where most people live in Canada?
3. Suppose that 1000 people from all over Canada were coming to your school to see a concert in the auditorium. Assuming that these people are a perfect representation of Canada's demographic make-up calculate the number that are from:
 - a. each province;
 - b. Atlantic Canada (NF, NB, NS, PEI), Central Canada (ON, Que), the Prairies (Man, Sask, Alta), Western Canada (BC), Northern Canada (Yukon, NWT); and,
 - c. each ecozone.

Assessment/Evaluation Techniques

A rubric is provided for the activities listed in the exercise (see Appendix E). Others may be used. In addition to the rubrics for these activities, self and peer evaluation is suggested.

Planning Notes

Teachers should be sure to understand all of the terminology and procedures involved in the activity before starting. All charts and data sheets should be prepared before hand. Copies of the distribution assignment answers should also be present.

Resources

1. Canada and the World: An Atlas Resource (2nd Edition)
2. Canadian Oxford School Atlas (7th Edition)
3. E-Stats
4. ArcCanada (GIS database for use with ArcView)
5. Microsoft Works, Claris Works, Corel (Ministry Licensed Desktop Publishing, Word Processing, and Spreadsheet Software)

Accommodations

This activity can be completed using computer technology:

- Construct the graph using a spreadsheet program such as MicroSoft Works, Corel Chart, or Claris Works (all Ministry licensed).
- Construct choropleth maps using a GIS, such as ArcView, or a desktop publishing program such as Corel Draw or Claris Works (both Ministry licensed) or Paint or SuperPaint. In this case the teacher should provide students a .pcx or .bmp file containing a base map of Canada. Have students research statistics to go in chart.

Appendices

Rubric for Assessment (Appendix B)

Activity #3: Canada's Changing Demographics

Suggested Time: 250 Minutes

Description

Students will understand the terminology and concepts behind the study of Canada's changing population. The focus will be on the application of population change data to questions centering on Canada and its place in the world with regards to population change. Students will refine skills of graphing, charting, mapping and data analysis.

Strands and Expectations

- Strands:** Geographic Foundations: Space and Systems
Understanding & Managing Change
Methods of Geographic Inquiry
- Overall Expectations:** SSV.02B, SSV.04B, UMV.01B, UMV.02B, MIV.01B, MIV.02B, MIV.03P
- Specific Expectations:** SS1.04B, SS2.03P, UM1.02B, UM1.03P, MI1.02B, MI2.01P, MI2.04B, MI2.09B, MI2.08P, MI2.11P, MI2.12B, MI2.13B

Prior Knowledge Required

The student must understand the concepts from the grade 7 and 8 curriculum:

- creating maps and graphs to organize information,
- identifying patterns of settlement,
- factors affecting population distribution,
- the terms describing population characteristics,
- the correlation between population characteristics, analysis, synthesis and evaluation of data,
- the identification of push and pull factors in population change.

The students must be able to communicate the results of specific inquiries.

Teaching/Learning Strategies

- a. Students:
 - i) brainstorm the factors that account for and influence population change;
 - ii) postulate on the regions of Canada experiencing the largest and slowest population growth rates, the rationale behind these trends, and the problems that may result.
 - iii) consider how population growth in Canada compares to that in other parts of the world and the explanations for such variations.
- b. Teach the concepts of Population Growth Rate, Percentage Population Change, Birth rate, Death rate, Rate of Natural Increase, Life Expectancy, and Population Pyramid (Age-Sex Structure).
- c. Review how to produce a multiple-line graph and choropleth map.
- d. Provide students with a base map of Canada's Provinces and Territories.

The student will complete the following activity:

1. a. Produce a multiple line graph with two vertical axis to illustrate the data below:

Canada	1951	1956	1961	1966	1971	1976	1981	1986	1991	1996
Population (millions)	14.0	16.1	18.2	20.0	21.6	23.0	24.3	25.3	27.3	28.9
Growth Rate (%)		14.8	13.4	9.7	7.8	6.6	5.9	4.0	7.9	5.7

- b.
 - i. Describe what has happened to Canada’s population since 1951.
 - ii. Describe what has happened to Canada’s growth rate since 1951.
 - iii. Why do you presume the growth rate was so high from 1951-61?
 - iv. Why do you think the growth rate has fallen since this time?
 - v. What may eventually happen to Canada’s population if the growth rates continues its decline? Why might this be a problem?
 - vi. How might Canada stop this from happening?

2. a. In groups of four, construct population pyramids to represent Canada’s age-sex structure for the following years: 1971, 1986, 2001, 2016: (projections for 2001 and 2016 are based on medium growth rates)

Year	0-4m	0-4f	5-9m	5-9f	10-14m	10-14f	15-19m	15-19f	20-24m	20-24f
1971	4.27%	4.08%	5.27%	5.04%	5.41%	5.18%	5.01%	4.85%	4.54%	4.50%
1986	3.61%	3.43%	3.59%	3.40%	3.55%	3.39%	3.91%	3.70%	4.83%	4.61%
2001	3.10%	2.94%	3.35%	3.18%	3.42%	3.25%	3.41%	3.26%	3.39%	3.25%
2016	2.84%	2.69%	2.87%	2.71%	2.92%	2.76%	3.04%	2.87%	3.28%	3.12%
Year	25-29m	25-29f	30-34m	30-34f	35-39m	35-39f	40-44m	40-44f	45-49m	45-49f
1971	3.83%	3.66%	3.13%	2.99%	3.02%	2.84%	2.99%	2.86%	2.84%	2.86%
1986	4.83%	4.70%	4.38%	4.38%	3.99%	3.92%	3.24%	3.14%	2.58%	2.53%
2001	3.46%	3.37%	3.74%	3.68%	4.32%	4.23%	4.28%	4.24%	3.75%	3.78%
2016	3.40%	3.28%	3.47%	3.37%	3.45%	3.36%	3.41%	3.35%	3.47%	3.45%
Year	50-54m	50-54f	55-59m	55-59f	60-64m	60-64f	65-69m	65-69f	70-74m	70-74f
1971	2.40%	2.45%	2.18%	2.21%	1.76%	1.82%	1.36%	1.49%	0.95%	1.16%
1986	2.39%	2.37%	2.32%	2.38%	2.05%	2.30%	1.61%	1.93%	1.25%	1.61%
2001	3.36%	3.36%	2.57%	2.61%	2.00%	2.08%	1.74%	1.88%	1.48%	1.75%
2016	3.77%	3.75%	3.59%	3.65%	3.03%	3.19%	2.56%	2.75%	1.79%	2.04%
Year	75-79m	75-79f	80-84m	80-84f	85-89m	85-89f	90+m	90+f		
1971	0.64%	0.85%	0.39%	0.54%	0.19%	0.27%	0.06%	0.11%		
1986	0.81%	1.17%	0.45%	0.75%	0.19%	0.40%	0.08%	0.21%		
2001	1.09%	1.52%	0.63%	1.07%	0.31%	0.66%	0.12%	0.40%		
2016	1.18%	1.48%	0.78%	1.14%	0.44%	0.81%	0.22%	0.67%		

- b. Analyse the graphs and answer the following questions:
 - i. Explain the “bulge” in the younger age cohorts of the 1971 pyramid (i.e. who are they, when were they born, why are there so many of them, etc.)

- ii. What has happened to birth rates since this time? (i.e. Have the “baby-boomers” had as many children as their parents did?) How can you tell by looking at the pyramids? Why do think they have changed?
- iii. What has happened to life expectancies since this time? How can you tell by looking at the pyramids? Why do think they have changed?
- iv. The “baby boomers” are now in the middle age (working-class) cohorts. How might this be good and how might it be bad at the present time?
- v. By 2016 many of the “baby boomers” have retired. How might this be good and how might it be bad at that time?
- vi. Once the baby-boomers begin to pass on, what may happen to Canada’s population? What are the two ways that this may be avoided? Which is Canada focusing on now? Why?

The following data tables be helpful in answering the above questions:

Average Family Size					
1971	1976	1981	1986	1991	1996
3.7	3.5	3.3	3.1	3.1	3.0

Canadian Families by Number of Children at Home						
YEAR	0	1	2	3	4	5
1976	30	23.5	23.5	12.5	6	4
1991	35	26.5	26	9.5	2	.5

(Notice: How have the number of children had by Canadian families changed? How might this impact Canada’s population size and structure in the future?)

Family Structure		
	1976	1991
Husband-Wife Families	90.2	87.0
Female Lone-Parent Families	8.1	10.7
Male Lone-Parent Families	1.7	2.3

(Notice: What’s happening to the traditional family structure of the past? Will this impact on the number of children families choose to have? How and why?)

Percentage of Married Males/Females for Selected Age Groups										
YEAR	20-24		25-29		30-34		35-39		40-44	
	m	f	m	f	m	f	m	f	m	f
1976	32	54	71	81	85	87	89	88	90	87
1991	17	33	51	65	70	75	78	78	81	78

(Notice: Are people waiting longer to get married these days? Why? and, Are a greater or lesser percentage of us getting married as compared to before? Is there a relationship between these two trends and the number of children people are having today?)

Life Expectancy at Birth															
1920-22		1930-32		1940-42		1950-52		1960-62		1970-72		1980-82		1990-92	
m	f	m	f	m	f	m	f	m	f	m	f	m	f	m	f
59	61	60	62	63	66	66	71	68	74	69	76	72	79	75	81

(Notice: What has happened to Canada's life expectancy? How this impact on our population structure in the future? What it mean for Canadians?)

3. a. Refer to the following chart:

Province / Territory	1996	1991	Absolute Change	Percentage Change
Canada	28 846 761	27 296 859	1 549 902	5.7%
Nfld	551 792	568 474	16 682	-2.9%
PEI	134 557	129 765	4792	3.7%
NS	909 282	899 942	9340	1.0%
NB	738 133	723 900	14 233	2.0%
Que	7 138 795	6 895 963	242 832	3.5%
ON	10 753 573	10 084 885	668 688	6.6%
Man	1 113 898	1 091 942	21 956	2.0%
Sask	990 237	988 928	1309	0.1%
Alta	2 696 826	2 545 553	151 273	5.9%
BC	3 724 500	3 282 061	442 439	13.5%
Yukon	30 766	27 797	2969	10.7%
NWT	64 402	57 649	6753	11.7%

(1996).

- b. Produce a choropleth map showing the percentage population change for the provinces and territories.
- c. Do the following:
 - i. Name the provinces/territories that have experienced percentage population change above and below the national average. Provide explanations for these variations.

Assessment/Evaluation Techniques

1. Summative assessments may be made of the various products the students produce
2. The inclusion of examples of student work in a portfolio for evaluation at the end of the unit is a suggested evaluation technique. In this unit, such inclusions would contain a map, a graph, a chart, a population pyramid and a sample of student analysis of the various visual tools they have produced to display geographic data.
3. A rubric for the assessment of such portfolios is included in Appendix E.

Planning Notes

The teacher should be prepared in advance of this activity to teach the concepts of Population Growth Rate, Percentage Population Change, Birth Rate, Death Rate, Rate of Natural Increase, Life Expectancy, Population Pyramid (Age-Sex Structure), and Dependency Ratio.

Resources

- Canada and the World: An Atlas Resource (2nd Edition)
- Canadian Oxford School Atlas (7th Edition)
- E-Stats
- ArcCanada (GIS database for use with ArcView)

- Microsoft Works, Claris Works, Corel (Ministry Licensed Desktop Publishing, Word Processing, and Spreadsheet Software)

Accommodations

This activity can be completed using computer technology:

- Construct the graph using a spreadsheet program such as Microsoft Works, Corel Chart, or Claris Works (all Ministry licensed).
- Construct choropleth maps using a GIS, such as ArcView, or a desktop publishing program such as Corel Draw or Claris Works (both Ministry licensed) or Paint or SuperPaint. In this case the teacher should provide students a .pcx or .bmp file containing a base map of Canada.

Appendices

Evaluation Rubric for portfolios containing a map, a graph, a chart, a population pyramid and a sample of student analysis of the various visual tools they have produced to display geographic data. (Appendix E)

Activity #4: Immigration Past and Present

Suggested Time:

Description

Students understand why and how people immigrate to Canada. They understand the reasons why people move from one place to another. The concept is expanded to a view on why people move to new countries. Students analyse a graph showing immigration between 1851-1996. Students then look at how people immigrate to Canada (classifications, point system, quotas). Finally, students write a letter to their MP stating an informed opinion about immigration.

Strands and Expectations

Strands: Geographic Foundation: Space & Systems
Methods of Geographic Inquiry

Overall Expectations: SSV.02B, UMV.01B, UMV.03B, MIV.03P

Specific Expectations: SS1.04B, SS2.03P, SS3.04P, UMV.02B, MI2.08P, MI1.06B, MI2.05B

Planning Notes

Get the address for MP ahead of time.

Prior Knowledge Required

From the *Grade 7 & 8* curriculum document:

- Identify factors that affect migration and mobility.
- Demonstrate an understanding of the ways in which cultures are affected by migration.
- Describe patterns and trends in immigration and their effects on Canada.

- Use a variety of geographic representations, tools and technologies to gather, process, and communicate geographic information.

Teaching/Learning Strategies

1. Teacher polls students to see how many times they have moved (house/apartment/dwelling). Summarize the results. Ask students for reasons a person might move. List positive and negative factors that determine movement.
2. From the local example, determine why people immigrate (the push and pull factors). Compare these factors to the positive and negative things that make people move locally.
3. Show video on Canadian immigration (ex.: Canadian Immigration by Classroom Video, 23 minutes) Discuss the video.
4. Teacher uses immigration data to have students determine trends in immigration from a current text/atlas reference. What years have the highest immigration? What years have the lowest immigration?
5. As a class, discuss reasons for highs and lows (poor economic times, good economic times, depression, expansion of the West, WWI, post war boom, WWII, Government concern over falling birth rates, etc.) Students should add these reasons to their notes.
6. Why do people immigrate to Canada? Go over the classification system with students - Refugee, Independent, Family. Have students complete a chart which includes a description as well as assessment. (See appropriate text) Go over the points system with students, looking at the different factors and how they are assessed (see resources for web pages with up to date points system). Finally discuss the idea of a government quota.
7. Discuss the benefits of having immigrants come to Canada. (Different foods, different languages, contacts with other countries, etc.)
8. Review the impacts of declining growth rates on Canada's population and establish the importance of immigration. Students write a letter to the government stating whether or not they think the Government should increase, decrease or leave the same the number of people they allow to immigrate to Canada. (They must refer back to the work on demographics to do this).

Assessment

Tool	Purpose	Who	Activity
rubric	formative	teacher	letter to immigration ministry

Resources

- [Contact Canada](#)
- [Canada Land of Diversity](#)
- Websites: <http://cicnet.ci.gc.ca/english/faq/ask-14c.htm>
<http://cicnet.ci.gc.ca/english/faq/ask-14c.htm>
<http://cicnet.ci.gc.ca/english/faq/ask-14c.htm>
<http://cicnet.ci.gc.ca/english/faq/ask-14c.htm>

Activity #5: Who Immigrates to Canada and where do they go?

Suggested Time: 75 minutes

Description

Students complete a graph showing source countries for Immigrants to Canada. On a Canada map, students illustrate, using a choropleth map, where immigrants go when they arrive in Canada. Students complete a graduated symbols map to illustrate metropolitan immigration by the top ten Metropolitan Areas. Students complete a decision making matrix for the best location to settle in Canada.

Strands & Expectations

Strands: Geographic Foundation: Space and Systems, Understanding and Managing Change, Global Connections

Overall Expectations: SSV.01B, SSV.02B, SSV.04B, UMV.01B, GCV.02B, MIV.01B, MIV.02B, MIV.03P

Specific Expectations: SS1.04B, SS2.02P, SS2.04P, SS3.02B

Planning Notes

Prior Knowledge Required

Grade 7 & 8

- Identify factors that affect migration and mobility.
- Demonstrate an understanding of the ways in which cultures are affected by migration.
- Describe patterns and trends in immigration and their effects on Canada.
- Use a variety of geographic representations, tools and technologies to gather, process, and communicate geographic information.

Teaching/Learning Strategies

1. Students discuss: Where would you want to go if you were a new immigrant to Canada? Where do immigrants go when they arrive in Canada? Do all immigrants go to the same place? Do many immigrants move into your community?
2. Students gather information about sources of immigrants to Canada (see appropriate text/atlas resource) and complete the following:
 - a. Students complete a choropleth map showing immigration by province
 - b. Students complete a proportional circle map showing immigration to the top 10 Metropolitan Centres.

Immigration by Province, 1995

NFLD	PEI	NS	NB	QUE	ONT	MAN	SASK	ALTA	BC	YK	NWT
585	167	3581	639	27182	115681	3603	1949	14329	44541	108	91

Immigration by top 10 Metropolitan Areas

Toronto	Montreal	Vancouver	Calgary	Edmonton	Ottawa	Winnipeg	Hamilton	Halifax	London
71964	38422	37134	8574	7530	6153	4292	3102	2471	2138

- Students complete a decision making matrix to determine the best place to move to in Canada. Use the template for decision making from unit one. Ideas for criteria to use include: unemployment rate, employment types, recreation, climate, culture, housing prices, etc. The teacher can gather the stats ahead of time from the internet - Statistics Canada, or let the students gather the relevant information themselves.

Assessment

Tool	Purpose	Who	Activity
Overhead of completed graph	formative	self	graph showing source countries for immigrants
Rubric	formative	peer/self	graded shading map
Rubric	formative	teacher	graduated symbols map
Rubric	formative	teacher	decision making matrix

Activity #6: Migration within Canada

Suggested Time: 150 minutes

Description

Students create a flow line map showing migration into and out of Ontario. Students will also complete a chart showing net gains and losses due to migration. The teacher lead a discussion on regional economic disparity as it applies to migration, and students will finish with writing a formal paragraph on this.

Strands & Expectations

Strands: Space and Systems, Understanding and Managing Change, Methods of Geographic Inquiry

Overall Expectations: MVI.01B, MVI.02B, MVI.03P

Specific Expectations: SS1.03B, SS1.04B, SS1.05P, SS2.04P, UM1.03P, MI1.02B, MI2.02B, MI2.09B, MI2.10B, MI2.11B, MI2.14B, MI3.01B

Planning Notes

Have blank maps of Canada for each student and an overhead of blank map of Canada.

Prior Knowledge Required

Grade 7 & 8

- Use a variety of geographic methods to gather, process and communicate geographic information.

- Demonstrate an understanding of geographic inquiry.
- Identify and explain patterns in geography.
- Identify factors that affect migration and mobility.
- Demonstrate an understanding of the ways in which cultures are affected by migration.
- Describe patterns and trends in immigration and their effects on Canada.

Teaching/Learning Strategies

1. Teacher leads discussion: If you could live anywhere in Canada, where would it be? Lead into a discussion on movement/migration in Canada - people are free to move around within Canada, Economics often decide where people go, etc.
2. Students create a flow line map showing migration into and out of Ontario from other provinces/regions. See Appendix A for instructions. The teacher may want to model how to do a flow line map on the overhead to get students started.
3. Once students have completed their flow line map, the teacher leads the class in a discussion about regional economic disparity as it links to migration - depressed areas versus booming areas, the types of natural resources available to an area, the economic base (one-industry towns versus towns with a variety of industry), transportation network in place, etc. (any good grade 9 textbook have a section on regional disparity.)
4. Teacher and students will generate a note on the board about the discussion, which students then copy into their notes.

Assessment

Tool	Purpose	Who	Activity
Rubric	formative	teacher	flow line map

Resources

1. Text (Canada Land of Diversity, Contact Canada, etc.)
2. Base Map of Canada, overhead of base map
3. Statistics Canada

Accommodations

- Note on board could be produced using word processor
- Computer generated graphs and maps
- ESL students could share culture with class

Student Worksheet

Migration In to and Out of Ontario

A flowline map shows the movement of goods/people/etc. from one location to another. The width of the arrow indicates the amount of goods/people/etc. being moved. A wider arrow means that more is being moved. A narrower arrow means less is being moved. The width of the arrow along with what each represents is indicated in the legend.

1. Create a flowline map to show migration out of Ontario to other provinces in Canada.

# people leaving Ont.	Destination Province/Region	Width of arrow (mm)
7927	Saskatchewan and Manitoba	_____
13 292	Alberta	_____
24 280	British Columbia	_____
17 177	Quebec	_____
17 432	Atlantic Provinces	_____

- a. For your map, 1 mm = 1000 people.
- b. You first need to round the number of people leaving Ontario to the different destinations to the nearest thousand. For example, the arrow for Saskatchewan and Manitoba will be 8 mm wide because 7927 rounds up to 8000.
- c. You have 5 arrows starting from Ontario in total.
- d. Colour the arrows red.

2. Add to your map the number of people arriving in Ontario from the other provinces.

# people moving to Ont.	Province/Region of Origin	Width of arrow (mm)
8882	Saskatchewan and Manitoba	_____
11 528	Alberta	_____
10 949	British Columbia	_____
27 596	Quebec	_____
19 706	Atlantic Provinces	_____

- a. 1 mm = 1 000 people
- b. You have five arrows arriving in Ontario (one from each of the provinces/regions of origin).
- c. Colour the arrows green.

3. Complete the following chart showing Provincial Migration, 1992.

Province/Region	Gained	Subtract	Lost	Equals	Net Gain/Loss
Ontario	78 031	–	80 108	=	
Quebec	27 245	–	41 551	=	
Atlantic Provinces	30 412	–	36 602	=	
Saskatchewan & Manitoba	30 365	–	44 515	=	
Alberta	57 747	–	60 142	=	
British Columbia	78 831	–	40 343	=	

Activity #7: Understanding the Movement of People, Goods, and Ideas

Suggested Time: 225 min

Description

Students investigate modes of transportation and communication.

Strands & Expectations

- Strand(s):** Geographic Foundations: Space and Systems, Human-Environment Interactions, Global Connections, Methods of Geographic Inquiry, Understanding and Managing Change
- Overall Expectations:** SSV.01B, SSV.02B, SSV.03B, SSV.04B, HEV.01P, GCV.01P, MIV.01B, MIV.02B, MIV.03P, UMV.01B,
- Specific Expectations:** SS1.04B, SS1.05P, SS1.08P, SS2.01P, HE1.03B, UM3.01P, MI1.02B, MI2.03P, MI2.04B, MI2.11P, MI2.12P, MI2.14B, MI3.02P

Planning Notes

- When brainstorming modes of transportation, accept all creative comments (electric car, spaceship, skipping) but for the accompanying exercises, focus on the five main modes of transportation.
- When brainstorming modes of communication, accept all creative comments (smoke signals, morse code, body language) but for the accompanying exercises, focus on more common modes of communication.
- Students should realize that even as passive radio or television listeners/viewers, they are receivers in a communication process.

Prior Knowledge Required

- demonstrate an understanding of region and movement as well as the factors affecting transportation and communication
- produce a wide variety of graphs and charts to organize and present information
- locate information from primary sources
- identify regions of Canada with high and low population density
- communicate the results of inquiries using charts and maps
- demonstrate an awareness of an economic system and how goods are distributed

Teaching/Learning Strategies

1. *“There was a time in this fair land when the railway did not run
When the wild majestic mountains stood alone against the sun
Long before the white man, long before the wheel,
When the green dark forest was too silent to be real”*

From The Railroad Trilogy, Gordon Lightfoot

Use this quotation or play a version of the song to lead into a discussion of Canada as an extensive area of natural systems which we have overlaid with human systems. What are the systems that we have built? How do we use them? How do we rely on them in our daily life? What activities do we use them for? How have these activities changed with time?

2. Brainstorm a list of different modes of transportation used today.
3. Read together (or individually) suitable text section or article on Modes of Transportation.
4. Individually or in partners, complete a worksheet on Comparing Modes of Transportation (rail, road, water, air, pipeline) with a column for advantages and a column for disadvantages.
5. Develop an Organizer for “Which mode is best?” (Use the following as a starting point – using real situations, each student will decide on a mode of transportation and provide reasoning to support their decision along with information on principal transportation networks from an atlas to support the decision.)

Cargo	Mode of Transportation	Reasoning for your decision	Atlas Information to support decision
Meat from Regina to Winnipeg			
1000 textbooks from Toronto to Ottawa			
Oil from Alberta to Ontario			
Live lobsters from PEI to Ottawa			
25 000 t of potash from Saskatchewan to the Netherlands			
Fresh Tomatoes from Leamington to Churchill Man.			
6 cars from Oshawa to a dealer in Moncton NB.			

6. Brainstorm modes of communication and try to get as detailed as possible to demonstrate the variety of modes. Develop definitions for the terms direct and indirect communication (use an appropriate textbook). Develop an organizer that displays the modes of communication, whether each one is indirect or indirect, and the time required to receive the information.
7. Ask the students to list their most frequently used modes of communication. What are some factors that would prevent you from using these modes? Have them complete an activity such as a worksheet comparing a variety of communications (e.g., Toronto business ordering materials from an English manufacturer; Kingston business ordering paper supplies from a Toronto supplier; family in Smalltown, Ontario announcing the birth of a child to their family in Ireland; student asking for information on a university program in Boston, USA; students in Ontario communicating with students in Alberta; sending birthday greetings to someone who lives in the same town or city etc.) as to how they would have been carried out 100 years ago, today, and in the future. Have them describe how and why communications have changed.
8. Show the need for good communication systems by playing “telephone” – people whispering a message to each other. Only the first person gets to see the message; the last person announces the message to the class. This game illustrates the effects of an inadequate communications medium.

9. Discuss the use of directories to help us locate information so that people can communicate more easily and quickly. Use your local phone book and the Canadian Postal Code Directory (a copy is probably available in the school office) as examples. Give the students an assignment to carry out a comparison of how geographically-based codes are used for phone and postal systems using the headings: coding systems; geographic pattern of codes; size of code areas; reason for variation of size; information needed to use the directory (e.g., name, address etc.) codes for all Canadian capital cities. Include questions requiring use of the directories to locate specific information. As an extension discuss how the internet can be used to locate address information (e.g., 411 site). And how do you find out what someone's e-mail address is?
10. Introduce the idea of the increasing costs with distance traveled using e.g., a taxi's fare. Have students examine rate structures of various transportation and communication modes either by giving them the data or having them collect the data by themselves as a homework assignment (using the Internet or making some phone calls). Have each student in a group create a scatter graph for one of the sets of data. Have them share their results with the rest of the group, describing the correlation the graph produces.
11. Have students use the data to consider four destinations (local, provincial, national, and international) and decide which mode of transportation/communication would be most economic and efficient for the movement of people, goods, and ideas (see Appendix D). (Have students locate the destinations on a world map.)
12. Have students compare the cost of having five people from two different cities in two different time zones (give each pair of students a different pair of cities) meet in person or have a conference call. Have them describe any problems created by the different time zones, and how they would solve them.

Assessment/Evaluation Techniques

Personal Communication:

Instructional questions

Performance Assessment (Rubrics Checklists, Rating Scales, Anecdotal Records)

Written Assignments

Paragraph

Demonstrations (Live, Tape)

Co-operative group work

Resources

- Canada: Land of Diversity textbooks
- Canada and the World Atlases

Accommodations

- Use of peer-helpers when developing organizer
- Provide individual assistance where needed
- Provide a set of reference notes

Appendices

Rate Structures for Specific Transportation and Communication Modes (Appendix D)

Activity #8: Locality Study and Business Plan

Suggested Time: 225 min

Description

Students develop and complete Locality Study and Business Plan for a secondary, tertiary, or quaternary industry that:

- reflects Canada's present demographic structure, i.e. large percentage of populace in middle and working age cohorts.
- contains projections for future expansion or change in function based on projected changes to Canada's demographic structure, i.e. the aging of Canada's population.
- is located in one of Canada's ecozones and is based on the *locational factors* for industry, the ecozone data that they has been collected in Units 1 and 2, and Canada's existing infrastructure.

Strands & Expectations

Strands: Geographic Foundations: Space & Systems, Understanding & Managing Change, Methods of Geographic Inquiry

Overall Expectations: SSV.04B, UMV.01B, MIV.01B, MIV.02B, MIV.03B

Specific Expectations: SS1.01B, SS1.03B, SS2.01D, UM1.02B, UM3.02D, UM3.04D, UM3.05P, MI2.02B, MI2.09B, MI2.10B, MI2.11D, MI2.12B, MI3.01B, MI3.04D

Planning Notes

Teachers should:

- invite a business teacher or community member to discuss the writing of business plans.
- download a business plan template from the web site of any banking institution or obtain one through visiting the local Business Self Help Office or Economic Development Office.
- prepare a list of *locational factors* of industry in the event that the brainstorming session does not reveal all of them.
- remind students that they must bring to class all of their notes and work from Units 1 and 2 as it be used in this activity.
- book appropriate facilities if computers are being used as a resource for this activity.

Prior Knowledge Required

Students should:

- have the prerequisite knowledge for this activity including the ability to differentiate between the various forms of industry.
- be able to differentiate between the various types of industry.
- understand Canada's changing demographic structure.
- know the location and general physical and human characteristics of Canada's ecozones.
- have an understanding of Canada's transportation and communications infrastructure.

Teaching/Learning Strategies

The teacher will:

- review Canada's changing demographic structure;

- discuss with students the impacts on consumerism that the aging of Canada's population initiate (e.g. less demand for goods and services required by youth and the middle-aged, greater demand for goods and services required by the aged);
 - review the differences between primary, secondary, tertiary, and quaternary industries;
 - discuss expansion or changing functions of businesses and industry (using local examples wherever possible);
 - have students brainstorm and discuss the *locational factors* of industry such as nearness to water, access to utilities, proximity of market, adequate labor force, availability of resources, proper infrastructure, appropriate climate, etc. (Teachers may wish to separate these into site and situation factors);
 - instruct students to construct a basic business plan;
 - divide the class into groups of 2 to 3 students and review the following instructions.
1. Select an important local business or industry and, using the list constructed by the class, identify the significant *locational factors* that would explain why it is situated where it is.
 2. Describe the site and situation characteristics of their locality and, by examining this list, record and provide a rationale for three industries or businesses that would likely flourish in their area.

Culminating Activity

3. Choose a secondary, tertiary, or quaternary industry that produces or provides consumer goods or services for the youth or middle-aged population of Canada and may either expand or change in the future to reflect Canada's aging population. For example,

	Secondary	Tertiary
Present	Sport Shoes	Catering Business
Future	Orthopaedic Shoes	Home Food Service

4. Review the:
 - *locational factors* for industry,
 - the ecozone data collected during Units 1 and 2, and,
 - the information on Canada's existing infrastructure from Unit 2.

Using this information, record a list of the factors that would be most important in selecting the best ecozone for their business or industry.

5. Construct a decision-making matrix that has the factors recorded above as the criteria and five chosen ecozones as the alternatives; e.g.,

Ecozone	Population Density	w	Freshwater Area		Forest Resources		Climate Statistics		Proximity of Major Highways	
		r								
Total Points:		p								

w - weight
 r - rank
 p - points

note: $p = w \times r$

Alternatives:

Instead of using ecozones teachers may choose to use:

- CMAs, census divisions, or cities within the province or country (if so, Stats Can Web Site is an excellent source of data); or,
- commercial or industrial lots within the local community or region (if so, local planning or engineering departments should have data on available lots or buildings, zoning, utilities, roads, protected greenspace, slope, drainage, etc.)

6. Construct a business plan that includes:

- a description of the business (i.e. description of the product or service, plant, basic industrial process, output, market, and target consumer group),
- its potential location (supported by the decision-making matrix constructed above),
- a comprehensive marketing plan, and,
- projections for future expansion or change in function to reflect Canada's changing demographics.

Note: Business plans must be accompanied by at least one choropleth map and one graph.

7. Present their business plans to the class, complete with supportive visuals. The teacher may choose to do this as a simulation by selecting a group of students, colleagues, or members of the community to act as:

- representatives from a lending institution who have the responsibility of approving a loan for the new business venture; or,
- potential shareholders considering investing their money into the business.

Assessment/Evaluation Techniques

1. Teacher Assessment of Business Plan
2. Teacher and Peer Assessment of Presentation
3. Teacher Assessment of Group Performance
4. Peer Assessment of Partner's Contributions

Resources

1. [Contact Canada](#)
2. [Canada: Land of Diversity](#)
3. [Canada and the World: An Atlas Resource](#)
4. [Canadian Oxford Intermediate Atlas](#)
5. [Canadian Oxford School Atlas](#)
6. GIS (e.g. ArcView, Idrisi, MapInfo, SpansMap, MF Teach, etc.)
7. GIS databases (e.g. ArcCanada, ArcVoyager, etc.)
8. Stats Can Web Site
9. Estats

Accommodations

- Students could use National Parks and Park Activities as the decision making basis for their business plan and Location study.

Appendix A

National Parks Visit: Decision Making

Activity: Choosing the best national park to visit in Canada, based on a selection of personal preferences variables.

Materials:

- Climate data from Environment Canada
- Decision-making matrix
- Ecozone Regions of Canada Map (student supplies)
- Data on days of sunshine for selected locations in Canada
- Information on tourist activities in the National Parks
- Transportation Map of Canada
- Physiographic, Climate, Vegetation, Soils Maps of Canada (student supplies)
- Research notes on the different ecozones in Canada (student supplies)

Task:

1. Choose 3 National Parks that may appeal to you as a place to visit. Print each name under alternatives on a chart similar to the one below:

	Criteria and Weighting								
Alternatives	Criteria 1	W	Criteria 2		Criteria 3		Criteria 4		Criteria 5
Alternative 1		r							
		p							
Alternative 2		r							
		p							
Alternative 3		r							
		p							

W - weighting

r - rank

p - points

2. The information columns represent different types of personal preferences such as “hours of sunshine”, “type of wildlife” or “proximity to ski areas” for each location. These are things to be considered when making the decision about where you go. They be known as different criteria. Select 5 criteria that you wish to evaluate for your 3 national parks. Print the description of your chosen criteria in the spaces at the top of each column.
3. Print in the data for the three national parks that you selected, for each type of criteria. This information should be written to the upper left of each diagonal line.
4. Rank the national parks under each criterion by giving them a score with “3” for the best and “1” for the worst. Please note the highest numbers mean the best conditions for you. For example, if a higher number of days with frost makes a location less desirable for you, you would give this area a lower score, even though the criteria you are measuring associates a higher value (more days with frost) with the national park.
5. Add the total scores and write a preliminary statement about the best national park for you to visit.

Weighted Criteria

1. Different criteria have different values to people. Some people do not mind frost; for others, the amount of sunshine a place receives is far more important than the amount of cold, etc. To try and make the decision-making more accurate it is necessary to give each criteria a weighted value based on your personal preference. Start this process by determining which of your criteria is of least value. All scores in this column will be multiplied by 1X. Now decide which of the criterion

is the next least valued. Decide how much more important it is than the previous criterion. If you decide it is twice as important, all its scores be multiplied by 2X. Repeat this process for each of the five criteria. Now add up the totals. Write a statement in which you explain which is the best National Park for you to visit in Canada.

Writing Your Report

You must now write a report in which you state the problem by way of introducing the report, and then write the decision making process you followed, with a paragraph each for either each criteria, or for each national park. Your conclusion consist of your decision statement about which National Park in Canada most appeals to you as a place to visit.

In summary, your report be structured as follows:

- Introduction: make a problem statement, state the national Park alternatives and the criterion you used
- Body: Decision making process - why did I rank as I did? 1 paragraph per criteria, or per National Park.
- Conclusion: Decision statement.

Appendix B

Downloading *jpeg*s from the Internet and Converting to *bmp* files to Import into *Microsoft Publisher* (Lview Pro)

<ol style="list-style-type: none"> 1. Right-click on any picture or icon on a web page 2. Select Save as... 3. Insert disk into drive 	<ol style="list-style-type: none"> 4. Change drive to a: 5. Type an appropriate name in the File name field 6. Click O.K.
<p>(Since most graphics on the internet are <i>jpeg</i> or <i>gif</i> files, you must convert them into <i>bmp</i> or <i>pcx</i> format so they may be imported into <i>Microsoft Publisher</i>)</p>	
<ol style="list-style-type: none"> 1. Start LView Pro 2. Click on the File menu 3. Insert your disk into the drive 4. Change the drive to a: 5. Change the File type to jpeg 	<ol style="list-style-type: none"> 6. Double-click on the file you want 7. After the picture appears, click on the File menu again 8. Select Save as... 9. Change the File type to bmp 10. Click O.K.
<p>(Repeat the above steps for each of your <i>jpeg</i> files)</p>	

Travel Brochure Assignment (scanner) (PaperPort)

<ol style="list-style-type: none"> 1. Click Start 2. Go to Programs, then PaperPort, then click the PaperPort option 3. Place picture on the Scanning Bed and Close Lid 4. Click Scan Button on Task Bar 5. Accept default and Click Scan Button 6. Click Options Button 7. Click on the ruler 8. Click on Specify Custom Size Option 9. Change the number in the Width field so that the file fit on your disk 10. Click O.K. button 11. Click Accept Button 	<ol style="list-style-type: none"> 12. Click File in the Pull-down Menus 13. Click Export Option 14. Ensure “Export Files of Type” is set to Bit Map (*.BMP) 15. Change “Drives” is to a: 16. Click in the “File Name” Field, delete “*.bmp”, and type in the a name of your picture 17. Click O.K. Button 18. Close this Window <i>(REPEAT STEPS 3-18 FOR ALL PICTURES)</i> 19. Click File in the pull-down menus 20. Click Exit Option 21. Close PaperPort Window
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Travel Brochure Assignment (importing graphics and entering text) (Microsoft Publisher)

<ol style="list-style-type: none"> 1. Start Microsoft Publisher 2. Select Use a Page Assistant Wizard and choose three-panel brochure 3. Follow instructions on screen, then click O.K. and close the Cue Cards 4. Click on any text box and delete contents 5. Begin entering your text (Font size, type, colour, and style can be changed in Format -Character) <i>(REPEAT STEPS 3-5 for all text boxes)</i> 	<ol style="list-style-type: none"> 6. Click on any graphics box 7. Click File in the pull-down menus 8. Select Import Picture 9. Change Drive to a: (make sure your disk is in) 10. Togle down to ?.bmp under Picture Name and click on it 11. Click O.K. 12. Select Frame to fit the Picture 13. Click O.K. <i>(REPEAT STEPS 6-13 for all graphics boxes)</i>
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NOTE: GRAPHICS AND TEXT BOXES CAN BE CREATED BY CLICKING ON PICTURE AND TEXT ICONS ON THE LEFT SIDE TOOL BAR THEN LEFT-CLICKING AND DRAGGING. GRAPHICS AND TEXT BOXES CAN BE RESIZED BY SELECTING THEM AND GRABBING AND DRAGGING THEIR HANDLES. WHEN RESIZING GRAPHICS BOXES, HOLD DOWN THE “SHIFT” KEY WHILE YOU CLICK AND DRAG TO PRESERVE THE DIMENSIONS OF THE PICTURES. AND AVOID DISTORTION.

Appendix C

NATIONAL PARKS

Gwaii Haanas National Park Reserve
Haida Heritage Site
P.O. Box 37
Queen Charlotte, B. C.
V0T 1S0

Pacific Rim National Park Reserve
Ucluelet, B.C. V0R 3A0

Mount Revelstoke and Glacier National Parks
Box 350
Revelstoke, B.C. V0E 2S0

Kootenay National Park
Box 220
Radium Hot Springs, B.C.
V0A 1M0

Waterton Lakes National Park
Waterton Park, Alberta T0K 2M0

Banff National Park
Box 900
Banff, AB T0L 0C0

Banff/Lake Louise Tourism Bureau
Box 1298
Jasper, AB T0E 1E0

Jasper National Park
Box 10
Jasper, AB T0E 1E0

Elk Island National Park
RR#1, Site 4
Fort Saskatchewan, AB T8L 2N7

Kluane National Park Reserve
P.O. Box 5495
Haines Junction, Y.T. Y0B 1L0

Yukon Tourism
P.O. Box 2703
Whitehorse, Y.T. Y1A 2C6

Ivvavik National Park
Box 1840
Inuvik, NWT X0E 0T0

Nahanni National Park Reserve
P.O. Box 348
Fort Simpson, N.T. X0E 0N0

Nahanni-Ram Tourism Association
Box 177, Dept. VG
Fort Simpson, N.T. X0E 0P0

Wood Buffalo National Park
Box 750
Fort Smith, N.T. X0E 0P0

Prince Albert National Park
Box 100
Waskesiu, SK S0J 2Y0

Canadian Heritage
Parks Canada
Grasslands National Park
Box 150
Val Marie, SK S0N 2T0

Riding Mountain National Park
Wasagaming, MB R0J 2H0

Pukaskwa National Park
Hwy. 627, Hattie Cove
Via: Heron Bay, ON P0T 1R0

Bruce Peninsula National Park
P.O. Box 189
Tobermory, ON N0H 2R0

Bruce Peninsula Tourist Association
RR#2
Hepworth, ON N0H 1P0

Fathom Five National Marine Park
P.O. Box 189
Tobermory, ON N0H 2R0

Georgian Bay Islands National Park
Box 28
Honey Harbour, ON P0E 1E0

Point Pelee National Park
RR#1
Leamington, ON N8H 3V4

St. Lawrence Islands National Park
RR#3
Mallorytown Landing, ON
K0E 1R0

Parks Canada
La Mauricie District
Place Cascade
794, 5th Street C.P. 758
Shawinigan, QC G9N 6V9

Chief, Visitor Services
Saguenay-St. Lawrence Marine Park
182, de l'Eglise Street
Tadoussac, QC G0T 2A0

Auyuittuq National Park Rserve
Box 353
Pangnirtung, N.T. X0A 0R0

Forillon National Park
Box 1220
Gaspé, QC G0C 1R0

Kouchibouguac National Park
Kouchibouguac, N.B. E0A 2A0

Fundy National Park
Alma, N.B. E0A 1B0

Department of Canadian Heritage Parks
Canada
Prince Edward Island National Park
2 Palmers Lane
Charlottetown, PEI C1A 5V6

Kejimikujik National Park
Box 236
Maitland Bridge, N.S. B0T 1L0

Cape Breton Highlands National Park
Ingonish Beach
Cape Breton, N.S. B0C 1L0

Gros Morne National Park
Box 130
Rocky Harbour, NF A0G 2L0

Terra Nova National Park
Glovertown, NF A0G 2L0

Ellesmere Island National Park Reserve
P.O. Box 353
Pangnirtung, NT X0A 0R0

Vuntut National Park
P.O. Box 390
Dawson City, Y.T. Y0B 1G0

Aulavik National Park
General Delivery
Sachs Harbour, N.T. X0E 0T0

Tuktut Nogait National Park
Box 1840
Unuvik, N.T. X0E 0T0

Wapusk National Park
c/o Churchill Office
P.O. Box 127
Churchill, MB R0B 0E0

Appendix D

Rate Structures for Specific Transportation and Communication Modes

Railway Transportation from Toronto

	Cost from Toronto
Ottawa	
Thunder Bay	
Calgary	
Vancouver	

Air Transportation from Toronto

	Cost from Toronto
Ottawa	
Vancouver	
Tokyo, Japan	
Wellington, New Zealand	

Long Distance telephone calls

	Cost from Toronto
Ottawa	
Halifax	
London, England	
Moscow, Russia	

Postage Costs through the mail system

	Cost from Toronto
Ottawa	
Edmonton	
Los Angeles, U.S.	
Buenos Aires, Argentina	

Movement – Economic & Efficient

In each of the destination columns, decide which mode is most economical/efficient for the movement of people, goods, and ideas. In a brief sentence, explain your decision below.

Mode	To Nearest City	Other Ontario City	To Vancouver	To Sydney Australia
Road				
Rail				
Air				
Water				
Pipeline				
Mail				
Radio				
Satellite				
Fax				
Internet				

Local Movement (to Toronto)

People:

Goods:

Ideas:

Provincial Movement (to Thunder Bay)

People:

Goods:

Ideas:

National Movement (to Vancouver)

People:

Goods:

Ideas:

International Movement (to Sydney, Australia)

People:

Goods:

Ideas:

**Appendix E: Rubric for Assessment
Population Density Activities Evaluation Rubric**

Categories	50-59% (Level 1)	60-69% (Level 2)	70-79% (Level 3)	80-100% (Level 4)
Knowledge / Understanding	The Student: Demonstrates a limited understanding of population density; Has difficulty creating choropleth maps; Demonstrates a limited ability to follow the directions for the activity	The Student: Demonstrates some understanding of population density; Demonstrates some understanding of choropleth maps; Demonstrates some ability to follow the directions for the activity	The Student: Demonstrates a considerable understanding of population density and can apply the understanding to problems; Can create and explain a choropleth map; Follows directions with very few exceptions.	The Student: Demonstrates a strong understanding of population density and is able to use the idea easily; Demonstrates a thorough understanding of choropleth mapping, could apply the concept to another project without further instruction; Follows the directions for the activity
Thinking/ Inquiry Weight x 0.20	Is able to use information from the graphs with limited effectiveness; Has difficulty seeing relationships between population, provinces and ecozones;	Is able to get some information from the graphs; Is able to make some conclusions about population characteristics of provinces and ecozones;	Is able to draw facts from the graphs; Draws clear relationships between population and the provinces and ecozones;	Uses the graphs to see relationships, trends and can make predictions from the graph; Draws extended conclusions from the data, can make predictions for other areas based on observations.
Communication Weight x 0.10	Communicates information through graphs with limited clarity; Can not clearly illustrate concepts through mapping ; Has a writing style which limits expression of the main ideas.	Communicates information through graphs with some clarity; Uses maps with some effectiveness; Has a writing style which allows the expression of the main ideas.	Communicates information through graphs with considerable clarity; Communicates information through maps with clarity; Has a writing style which clearly expresses and supports the main ideas.	Is able to create maps which are clear, informative and pleasing to look at; Communicates information through maps with a high degree of clarity; Has a writing style which increases the reader's understanding of the main ideas and shows strong supporting ideas.

Application Weight x .40	Demonstrates difficulty in applying the concepts of population density and distribution;	Demonstrates some understanding of the concepts of population density and distribution;	Clearly understands and uses the concepts of population density and distribution;	Is able to use the concepts of population distribution and density in a consistent manner;
	Has difficulty applying the information in graphs;	Applies the information in graphs in some instances to solve other problems	Applies the information in graphs without any apparent difficulty.	Applies the graph information in a highly effective manner and with ease.
	Has difficulty applying the information in choropleth maps;	Applies the information in choropleth maps in some instances to solve other problems	Applies the information in choropleth maps without any apparent difficulty.	Applies the choropleth map information in a highly effective manner and with ease.
	Applies calculations and data to extended circumstances in a limited manner.	Applies calculations and data to extended circumstances with some effectiveness	Applies calculations and data to extended circumstances with considerable effectiveness.	Applies calculations and data to extended circumstances in a highly effective manner.

Overall Level: _____

Mark: _____

Student Name: _____

Appendix F

Self and Peer Evaluation of National Parks Brochure Project

	0-----1-----2-----3-----4-----5			
	Totally Disagree	Mostly Disagree	Totally Agree	
	Somewhat Disagree		Somewhat Agree	
	Mostly Agree		Totally Agree	
Criteria			Self	
I/He/She clearly understood the project and what was expected by the teacher.	① ② ③ ④ ⑤	① ② ③ ④ ⑤	① ② ③ ④ ⑤	① ② ③ ④ ⑤
I/He/She helped with planning (e.g. design, tasks, meeting times, etc.)	① ② ③ ④ ⑤	① ② ③ ④ ⑤	① ② ③ ④ ⑤	① ② ③ ④ ⑤
I/He/She was present each time the group worked on the project.	① ② ③ ④ ⑤	① ② ③ ④ ⑤	① ② ③ ④ ⑤	① ② ③ ④ ⑤
I/He/She did my/his/her fair share of the work.	① ② ③ ④ ⑤	① ② ③ ④ ⑤	① ② ③ ④ ⑤	① ② ③ ④ ⑤
I/He/She made valuable contributions to the project.	① ② ③ ④ ⑤	① ② ③ ④ ⑤	① ② ③ ④ ⑤	① ② ③ ④ ⑤
I/He/She did what was expected of them between group meetings.	① ② ③ ④ ⑤	① ② ③ ④ ⑤	① ② ③ ④ ⑤	① ② ③ ④ ⑤
I/He/She stayed focused on the task when the group met.	① ② ③ ④ ⑤	① ② ③ ④ ⑤	① ② ③ ④ ⑤	① ② ③ ④ ⑤
I/He/She tried to keep the group focused and on task.	① ② ③ ④ ⑤	① ② ③ ④ ⑤	① ② ③ ④ ⑤	① ② ③ ④ ⑤
I/He/She got others involved by asking questions and requesting input.	① ② ③ ④ ⑤	① ② ③ ④ ⑤	① ② ③ ④ ⑤	① ② ③ ④ ⑤
I/He/She participated in group discussions, decision-making, and planning.	① ② ③ ④ ⑤	① ② ③ ④ ⑤	① ② ③ ④ ⑤	① ② ③ ④ ⑤
I/He/She did not try to dominate the group by making all of the decisions and disregarding the ideas of others.	① ② ③ ④ ⑤	① ② ③ ④ ⑤	① ② ③ ④ ⑤	① ② ③ ④ ⑤
I/He/She was receptive to the ideas and thoughts of others.	① ② ③ ④ ⑤	① ② ③ ④ ⑤	① ② ③ ④ ⑤	① ② ③ ④ ⑤
I/He/She made positive, encouraging remarks about the contributions of others.	① ② ③ ④ ⑤	① ② ③ ④ ⑤	① ② ③ ④ ⑤	① ② ③ ④ ⑤
I/He/She expressed ideas clearly and effectively.	① ② ③ ④ ⑤	① ② ③ ④ ⑤	① ② ③ ④ ⑤	① ② ③ ④ ⑤
TOTAL	/70		/70	
COMMENTS (continue on back)				

Appendix G

National Parks Brochure Evaluation Rubric

Categories	50-59% (Level 1)	60-69% (Level 2)	70-79% (Level 3)	80-100% (Level 4)
Text	<p>The brochure: addresses a minimal number of ecozone components: climate, vegetation, wildlife, landforms;</p> <p>contains only minimal colourful and descriptive, yet concise and accurate, language with appropriate style and a confident tone;</p> <p>contains frequent spelling and grammatical errors;</p> <p>contains text that has all been copied directly from information sources.</p>	<p>The brochure: addresses some ecozone components: climate, vegetation, wildlife, landforms;</p> <p>contains some colourful and descriptive, yet concise and accurate, language with appropriate style and a confident tone;</p> <p>contains occasional spelling and grammatical errors;</p> <p>contains some text that is written in the personal language of the student.</p>	<p>The brochure: addresses most ecozone components: climate, vegetation, wildlife, landforms;</p> <p>contains considerable colourful and descriptive, yet concise and accurate, language with appropriate style and a confident tone;</p> <p>contains rare spelling and grammatical errors;</p> <p>contains text that is mostly written in the personal language of the student.</p>	<p>The brochure: addresses all ecozone components: climate, vegetation, wildlife, landforms;</p> <p>contains a multitude of colourful and descriptive, yet concise and accurate, language with appropriate style and a confident tone;</p> <p>is free of spelling and grammatical errors;</p> <p>contains text that is all written in the personal language of the student.</p>
Graphics	<p>incorporates a minimal number of different types of graphics such as pictures, maps, graphs, charts, etc.;</p> <p>rarely demonstrates clear linkages between graphics and text;</p> <p>contains graphics that reflect some of the components of the ecozone;</p> <p>contains no student-generated graphics.</p>	<p>incorporates some different types of graphics such as pictures, maps, graphs, charts, etc.;</p> <p>occasionally demonstrates clear linkages between graphics and text;</p> <p>contains graphics that reflect some of the components of the ecozone;</p> <p>contains at least one student-generated graphic.</p>	<p>incorporates a considerable variety of graphics such as pictures, maps, graphs, charts, etc.;</p> <p>frequently demonstrates clear linkages between graphics and text;</p> <p>contains graphics that reflect a variety of the components of the ecozone;</p> <p>contains at least one well developed, student-generated graphic.</p>	<p>incorporates all types of graphics including pictures, maps, graphs, charts, etc.;</p> <p>consistently demonstrates clear linkages between graphics and text;</p> <p>contains graphics that reflect most of the components of the ecozone;</p> <p>contains well developed, student-generated graphics.</p>

Organization/ Lay-out	contains frequent flaws in the logical arrangement of content; contains frequent inconsistencies in font type, size, and style between similar sections; does not demonstrate appropriate and balanced emphasis on the various ecozone components.	contains occasional flaws in the logical arrangement of content; contains occasional inconsistencies in font type, size, and style between similar sections; demonstrates some degree of appropriate and balanced emphasis on the various ecozone components.	frequently demonstrates a logical arrangement of content; displays considerable consistency in font type, size, and style between similar sections; demonstrates a high degree of appropriate and balanced emphasis on the various ecozone components.	consistently demonstrates a flawless logical arrangement of content; displays perfect consistency in font type, size, and style between similar sections; demonstrates appropriate and balanced emphasis on the various ecozone components.
Creativity	demonstrates minimal creative use of colour, backgrounds, borders, textual style, and graphics; demonstrates no template alterations (e.g. additions, deletions, and resizing of graphics and text boxes)	demonstrates occasional creative use of colour, backgrounds, borders, textual style, and graphics; demonstrates at least one template alteration suitable to purpose (e.g. additions, deletions, and resizing of graphics and text boxes)	demonstrates some creative use of colour, backgrounds, borders, textual style, and graphics; demonstrates occasional template alterations suitable to purpose (e.g. additions, deletions, and resizing of graphics and text boxes)	demonstrates frequent creative use of colour, backgrounds, borders, textual style, and graphics; demonstrates several template alterations suitable to purpose (e.g. additions, deletions, and resizing of graphics and text boxes)

Overall Level:_____

Mark:_____

Appendix H

Presentation Evaluation Rubric

Categories	50-59% (Level 1)	60-69% (Level 2)	70-79% (Level 3)	80-100% (Level 4)
Communi- cation	<p>The presenter(s):</p> <p>rarely demonstrated a confident voice tone with appropriate variance or eye contact, frequently “read off”, and lacked enthusiasm and mobility;</p> <p>did not engage the audience in two-way dialogue, thought-provoking questions, and/or participatory activities.</p>	<p>occasionally demonstrated a confident voice tone with appropriate variance, maintained eye contact, an avoidance of “reading off”, and enthusiasm and mobility;</p> <p>rarely engaged the audience in two-way dialogue, thought-provoking questions, and/or participatory activities.</p>	<p>frequently demonstrated a confident voice tone with appropriate variance, maintained eye contact, an avoidance of “reading off”, and enthusiasm and mobility;</p> <p>occasionally engaged the audience in two-way dialogue, thought-provoking questions, and/or participatory activities.</p>	<p>consistently demonstrated a confident voice tone with appropriate variance, maintained eye contact, an avoidance of “reading off”, and enthusiasm and mobility;</p> <p>frequently engaged the audience in effective two-way dialogue, thought-provoking questions, and participatory activities.</p>
Presenta- tion	<p>did not deliver an introduction that provided sufficient background information;</p> <p>rarely demonstrated a clear focus and effective sequencing;</p> <p>rarely maintained smooth flow, pace, and timing;</p> <p>lacked uniqueness and creativity, involving only one presentation technique, and lacked usage of audios and/or visuals;</p> <p>no apparent conclusion.</p>	<p>delivered an introduction that provided sufficient background information;</p> <p>occasionally demonstrated a clear focus and effective sequencing;</p> <p>occasionally maintained smooth flow, pace, and timing;</p> <p>was somewhat unique, creative, and interesting, involving more than one presentation technique, and making usage an audio and/or visual;</p> <p>ended with a conclusion.</p>	<p>delivered an introduction that caught the audience’s attention and provided sufficient background information;</p> <p>frequently demonstrated a clear focus and effective sequencing;</p> <p>frequently maintained smooth flow, pace, and timing;</p> <p>was unique, creative, and interesting, involving a variety of presentation techniques, and making usage of a variety of audios and/or visuals;</p> <p>ended with a conclusion that affected the audience, delivering “food for thought” and/or a “call to action”.</p>	<p>delivered an intriguing introduction that grasped the audience’s attention and provided ample background information;</p> <p>consistently demonstrated a clear focus and effective sequencing;</p> <p>consistently maintained smooth flow, pace, and timing;</p> <p>was extremely unique, creative, and interesting, involving several presentation techniques, and making effective usage of a wide variety of audios and/or visuals;</p> <p>ended with a powerful conclusion that impacted the audience, delivering compelling “food for thought” and/or an emphatic “call to action”.</p>

Knowledge	did not provide the audience with a summary sheet;	provided the audience with a summary sheet;	provided the audience with a somewhat efficient, informative, and interesting summary sheet;	provided the audience with an efficient, informative, and interesting summary sheet;
	rarely demonstrated a detailed and in-depth understanding of the issue;	occasionally demonstrated a detailed and in-depth understanding of the issue;	frequently demonstrated a detailed and in-depth understanding of the issue;	consistently demonstrated a detailed and in-depth understanding of the issue;
	provided little evidence to validate the thesis.	provided some evidence to validate the thesis.	provided sufficient evidence to conclusively validate the thesis.	provided ample evidence to conclusively validate the thesis.

Overall Level: _____ **Mark:** _____

Appendix I

Instruction Sheet for Decision Making Matrix

Activity: Choosing an ecozone that most is in need of having more land protected.

Materials: Atlas
Ecozones Map of Canada (student supplied)
Ecozones Research notes (student supplied)
National Parks Information (student supplied)
Webpages for Parks Canada

Task:

1. Choose five ecozones (from the 15 known in Canada), that you feel are the most threatened. Print each name under the options column on the matrix.
2. The information columns represent different types of criteria such as "% protected land", "environmental hazards", "location in relation to populated areas", or "number of visitors". These are things to be considered when making the decision about which ecozone needs to be protected the most. Print the description of your chosen criteria in the spaces at the top of each column.
3. Print in the data for the five ecozones you have selected, for each type of criteria. This information should be written to the upper left of each diagonal line.
4. Rank the ecozones under each criterion by giving them a score of 5 for the best and 1 for the worst. Please note that the highest numbers mean the ecozone is under the biggest threat.
5. Add the total scores and write a preliminary statement about the ecozone that most needs to have more land protected.

Weighted Criteria:

Different criteria have a different value to people. Some people feel that an ecozone with very little protected lands most needs to be protected, whereas others feel that an ecozone with a high population density most needs more protected lands. To try and make the decision-making more accurate it is necessary to give each criteria a weighted value based on your personal preference.

Start this process by determining which of your criteria is of least value. All scores in this column be multiplied by 1. Now decide which of the criterion is the next least valued. Decide how much more important it is than the previous criterion. If you decide it is twice as important, all its scores be multiplied by 2. Repeat this process for each of the five criteria. Now add up the totals.

Writing Your Report:

You must now write a report in which you state the problem by way of introducing the report, and then write the decision making process you followed, with a paragraph each for either each criteria, or for each ecozone. Your conclusion will consist of your decision statement about which ecozone in Canada most needs to have more protected land.

In summary, your report be structured as follows:

Introduction: Make a problem statement, state the ecozone alternatives and criteria you used.

Body: Decision making process - why did I rank as I did? 1 paragraph per criteria, or per ecozone.

Conclusion: Decision statement.

Appendix J

CANADA'S ECOZONES

