Canada 2050: Future Population Trends

Lesson Overview
Students are required to analyze population data and a population pyramid projection for Canada. They will then use this analysis as the basis for predictions of future trends in Canadian society and economy. As an extension they will compare the projected characteristics of Canada’s population in 2050 with a developing country.

Grade Level
Senior 11-12

Time Required
75 minutes

Curriculum Connection
Ontario, Canadian and World Issues: A Geographic Analysis

Link to Canadian National Geography Standards
Essential Element #4 (Grades 9-12) - Human Systems
• Population characteristics by world regions, country and regions within countries
• Demographic transition
Geographic Skill #2 (Grades 9-12) - Acquiring Geographic Information
• Systematically assess and value the use of geographic information
• Use quantitative methods of analysis to interpret geographic information
Geographic Skill 4 (Grades 9-12) - Analyzing Geographic Information
• Use quantitative methods of analysis to interpret geographic information
• Make inferences and draw conclusions from maps and other geographic representations
• Use the process of analysis synthesis, evaluation and explanation to interpret geographic information from a variety of sources
Geographic Skill 5 (Grades 9-12) - Answering Geographic Questions
• Evaluate the answers to geographic questions

The Canadian Atlas
See pages 42-43, Canada 2050 or the corresponding pages on the Atlas website at www.canadiangeographic.ca/atlas.

Additional Resources, Materials and Equipment Required
• Copies of question sheets for each student
• Access to Atlas of Canada website and other internet sites.
Additional Resources, Materials and Equipment Required

- Further Reading - Refer the students to these websites for further information on demographic transition:
  - Concentration of Old Age Dependency Ratios in Canada
  - United Nations discussion of the implications of an aging population to 2050

Main Objective

Students will use websites to examine the characteristics of the projection of Canada’s population to 2050 through reading a population pyramid and selecting demographic data. They will then use this predicted data to project and explain possible trends in Canadian society and economy. In the extension they will compare the Canadian projection with that of a developing country with presently higher fertility rates.

Learning Outcomes (Ontario Provincial Curriculum Expectations)

By the end of the lesson, students will be able to:

- describe selected world demographic trends and explain the factors influencing them
- explain how economic and cultural considerations influence a country's population policies
- predict global demographic changes for the future and assess their economic, environmental and social implication
- analyze cause and effect and sequence relationships in geographic data
- evaluate the effectiveness of techniques used to predict the future

Evaluation

Use the attached evaluation rubric.

The Lesson

<table>
<thead>
<tr>
<th>Teacher Activity</th>
<th>Student Activity</th>
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<tbody>
<tr>
<td>Introduction</td>
<td>Respond to questions and discussion</td>
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<tr>
<td>Ask students to calculate how old they will be in 2050.</td>
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<tr>
<td>Open the atlas to pages 42 and 43, &quot;Canada 2050&quot; (or instruct students to go to corresponding pages on the Atlas website at <a href="http://www.canadiangeographic.ca/atlas">www.canadiangeographic.ca/atlas</a>) and refer to the questions.</td>
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### The Lesson (cont’d)

<table>
<thead>
<tr>
<th>Teacher Activity</th>
<th>Student Activity</th>
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<tbody>
<tr>
<td><strong>Introduction</strong> (cont’d)</td>
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<tr>
<td>• Review the questions and select points within each section (if copies are not available read them to the class).</td>
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<tr>
<td>• Review what they know about the current age structure of Canadian society and select terms: demographics, dependency ratio, population pyramid, fertility, life expectancy</td>
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<tr>
<td>• Discuss what a trend is and give examples of current trends which may be related to demographic composition (e.g.: growth of youth culture in the 1960s and 70s as a product of the post WWII Baby Boom, Generation X etc.)</td>
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<tr>
<td>• Indicate that they will be analyzing Canada’s population projection for 2050 and the implications that changes in the age structure may bring to the economy and society.</td>
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<tr>
<td><strong>Lesson Development</strong></td>
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<td>• Direct them to read the evaluation rating scale</td>
<td>• Students read the evaluation</td>
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<tr>
<td>• Have students complete the worksheet using the selected websites indicated</td>
<td>• Students complete the worksheet</td>
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<td>• Submit for evaluation by the teacher.</td>
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<tr>
<td><strong>Conclusion</strong></td>
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<tr>
<td>• Let the student self-evaluate their work with the rating scale at the conclusion of the lesson.</td>
<td>• Students share their answers</td>
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<tr>
<td>• Discuss the answers to the questions in the last section of the worksheet as a class</td>
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### Lesson Extension
- Use the same two websites listed on the Student Activity Sheet to do a similar analysis of a developing country with a higher fertility rate and younger population.

- Using a world map (such as the CIDA World map) students may select a country and then share their analysis with the rest of the class.
Student Activity Sheet:
Canada 2050: Future Population Trends

One factor with a major influence on the economy and society in any country is the age structure of the population. In this activity, you will be examining the characteristics of the population of Canada projected to 2050 and analyzing the potential impact of these changes. You will then predict future trends based on your analysis.

1. How old will you be in 2050?

2. Go to www.os-connect.com/pop
   a) Use the tool "Select a Country Population Clock" at the top. Select Canada from the pull down list. What is the current population of Canada?
   _________________________________________________________________
   b) What is the population projection for 2050?
   _________________________________________________________________
   c) At the side of the page are the titles of subsections of data:
      • Click on Life Expectancy>Sortable Table.
      • Click on the country name to sort countries alphabetically.
      • Click on the “Go to Page” button (at the bottom of the screen) and find "Canada".
      What are current life expectancies for males and females?
      Males: _________________________ Females: ________________________
      d) Click on the button "Population Age". What are the percentages for Canada's population?
      Under 15: _________________ 15-64: ________________ over 64: _________________

3. Download this file from the United Nations:
   a) Examine the data for the age groups from 2000 to 2050. How many people will there be of your sex and age in 2050? How much more or less is this number than in 2000?
   _________________________________________________________________
   _________________________________________________________________
   b) Scroll down to the section "Percentage in older ages". What happens to the number of people 60+, 65+ and 80+ from now until 2050?
   _________________________________________________________________
   _________________________________________________________________
c) Examine the section, "Broad Age Groups (percentage)". What percent of people will be over 60 in 2050? What percent are over 60 today?

_____________________________________________________________________________
_____________________________________________________________________________

d) How does the median age change until 2050?

_____________________________________________________________________________
_____________________________________________________________________________

e) What happens to the dependency ratio up to 2050? (Dependency ratio is the percent of people who are dependent on the other sector of the population for major expenses, such as education and healthcare) paid for through taxes

_____________________________________________________________________________
_____________________________________________________________________________

f) Examine the population pyramids from 1950, 2000 and 2050 at the end of the document and compare them based on the age structure and other information you have recorded.

_____________________________________________________________________________
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Summary and Conclusions
1. Read the introduction on this page "Age" at the Atlas of Canada website: http://atlas.gc.ca/site/english/maps/peopleandsociety/age

Review the maps to see where different age groups are concentrated. Use your knowledge of the projected changing age structure of Canada until 2050 to predict possible trends in the categories listed below:

a) Economy, Jobs and Industry:
b) Healthcare and Education

_____________________________________________________________________________
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_____________________________________________________________________________
_____________________________________________________________________________

c) Transportation and Communications

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d) Housing and Urban and Rural Development

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e) New Products, Services and/or Entertainment

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2. How may knowledge of these trends affect decisions you may make in your own life in the next few years and in the next 10 to 20 years?

_____________________________________________________________________________
_____________________________________________________________________________
_____________________________________________________________________________
_____________________________________________________________________________
## Evaluation Rubric:
### Canada 2050: Future Population Trends

**Student’s Name:** _______________________________________________________

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Mark</th>
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<tbody>
<tr>
<td><strong>Knowledge</strong></td>
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<td>Study shows knowledge and understanding of demographic transition and it's implications to Canadian society and economy.</td>
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<td><strong>Inquiry</strong></td>
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<td>Answers demonstrate the process of analysis, synthesis, evaluation and explanation to interpret and connect geographic information from a variety of sources.</td>
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<td><strong>Communication</strong></td>
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<td>Study communicates clearly using complete sentences with attention to grammar and spelling.</td>
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