Who We Are

Lesson Title
Dealing with Canada’s changing population to 2026 – Analyzing population trends and predicting potential demographic issues.

Lesson Overview
Students will use population data to construct population pyramids, examine population projections to 2026, identify potential issues as a result of the changing population and make suggestions as to how best to prepare for the changes, so as to minimize any negative effects of Canada’s changing population.

Grade Level
Secondary school (Grades 10 – 12)

Time Required
This lesson plan should be completed in two 60-minute periods.

Curriculum Connection
This lesson is designed for Canadian Geography 1202 (Grade 10) Newfoundland and Labrador.

Link to Canadian National Geography Standards
Essential element #4 (Grades 9-12) – Human Systems

• Population characteristics by world regions, country and regions within countries

Geographic Skill #2 (Grades 9-12) – Acquiring Geographic Information

• Systematically locate and gather geographic information from a variety of primary and secondary sources.
• Systematically assess the value and use of 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 processes of analysis, synthesis, evaluation and explanation to interpret geographic information from a variety of sources.

Geographic Skill #5 (Grades 9-12) – Answering Geographic Questions

• Formulate valid generalizations from the results of various kinds of geographic inquiry.
• Evaluate the answers to geographic questions.
• Apply geographic models, generalizations and theories to the analysis, interpretation and presentation of geographic information.
The Canadian Atlas

- "Population Patterns", *The Canadian Atlas*, page 39 or the appropriate section of the online version of the atlas at www.canadiangeographic.ca/atlas.
- "Caring for an Aging Population," *The Canadian Atlas*, page 39 or the appropriate section of the online version of the atlas at www.canadiangeographic.ca/atlas.

Additional Resources, Materials and Equipment Required

  http://www.statcan.ca/english/Pgdb/demo23a.htm
  - Animated Population Pyramid (Canada 1901 – 2001)
- Student Activity Sheet (attached)

Main Objective

The main goal of this lesson is to have students use relevant population data to help identify and analyze demographic trends, predict issues related to these trends and suggest policies that may address these issues.

Learning Outcomes

The broad learning objective is to analyze population issues and propose policies to address such issues. Further outcomes for this lesson include the following:

- By the end of the lesson, students will be able to:
  8.4.3 - Define the term dependency load.
  8.4.4 - From a population pyramid, calculate the dependency load.
  8.4.5 - Describe the potential impact of a high dependency load on such conditions as:
    - housing,
    - tax levels for the working population; and
    - job opportunities.

  *Note: Above is taken from the Newfoundland and Labrador curriculum guide for Canadian Geography 1202*

- By the end of this lesson, students will be able to:
  - Construct population pyramids from data provided to them
  - From the material presented, identify and briefly explain the THREE main demographic issues/problems facing Canada in the next twenty years.
  - Recommend policies to help address the THREE main demographic issues that they have identified.
The Lesson

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<th>Teacher Activity</th>
<th>Student Activity</th>
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<td><strong>Introduction</strong></td>
<td>• Teacher will refer students to “Population Patterns” on page 39 of the <em>Canadian Atlas</em> or the appropriate section of the online version of the atlas at <a href="http://www.canadiangeographic.ca/atlas">www.canadiangeographic.ca/atlas</a>.&lt;br&gt;• Have students read through the article and respond to the appropriate section from the Student Activity Sheet.</td>
<td>• Students will read “Population Patterns” on page 39 of the <em>Canadian Atlas</em> or the appropriate section of the online version of the atlas at <a href="http://www.canadiangeographic.ca/atlas">www.canadiangeographic.ca/atlas</a>.&lt;br&gt;• Once finished they should complete activities 1-4 from the Student Activity Sheet.</td>
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<td><strong>Lesson Development</strong></td>
<td>• Teacher will lead students through Parts 2 and 3 from the Student Activity Sheet.&lt;br&gt;• The teacher may choose to omit giving students the specific Statistics Canada URL and instead have students find the material on their own from the Statistics Canada website.&lt;br&gt;• For teachers who are unfamiliar with the construction of population pyramids (often called age-sex pyramids), they are simply back-to-back horizontal bar graphs that represent the percentage of the total population that is made up by each age group by sex. A look at the population pyramids referred to in question #8 will indicate the layout of the pyramid.</td>
<td>• Students complete parts 2 and 3 from the Student Activity Sheet.&lt;br&gt;• In these activities, students construct population pyramids, calculate dependency loads for various points in time.&lt;br&gt;• Then, having read the article “Caring for an Aging Population” from the <em>Canadian Atlas</em> or the appropriate section of the online version of the atlas at <a href="http://www.canadiangeographic.ca/atlas">www.canadiangeographic.ca/atlas</a>, predict three demographic issues facing Canada in the next twenty years.</td>
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<td><strong>Conclusion</strong></td>
<td>• Teachers will direct students to complete Part 3 on the Student Activity Sheet (activity #9).&lt;br&gt;• In preparation for this activity, teachers may use this time for a class discussion of some of the issues identified by students and some possible solutions that may be reasonable.</td>
<td>• Students complete Part 4 (activity #9) on the Student Activity Sheet.</td>
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**Lesson Extension**
The teacher may consider having students do further research and fully develop a presentation such as the one suggested in activity #9
Assessment of Student Learning

- Successful completion of the activities on the Student Activity Sheet should reflect students’ successful completion of the learning outcomes. These various activities will serve to assess the students’ ability to compare population pyramids, to construct and analyse population pyramids as well as their understanding of demographic terms such as dependency load and baby boom.

- Part 4 of the Student Activity Sheet provides an excellent assessment of the level to which students have been able to synthesize the material presented.

- To fully assess their understanding of this issue, the teacher may consider having students do further research and fully develop a presentation such as the one suggested in Part 4 of the Student Activity Sheet.
Student Activity Sheet: Dealing with Canada’s Changing Population to 2026

Analyzing population trends, predicting potential demographic issues and proposing policies to address these issues.

Part 1: Understanding Population Trends
Carefully read the article “Population Patterns” from The Canadian Atlas or the appropriate section of the online version of the atlas at www.canadiangeographic.ca/atlas and complete the following:

• Compare the population pyramid for 1900 to the one for 2000. Describe the differences.

• The article “Population Patterns” refers to the “Baby Boomers”. What is meant by this, and in which year was the baby boom at its peak? (A look at an animation on the Statistics Canada website allows you to see how population has changed from 1901 - 2001, and may give a better insight into when the baby boom started. Refer to the following URL: http://www12.statcan.ca/english/census01/products/analytic/companion/age/pyramid.cfm.

• Describe “dependency ratio” as explained in the article “Population Patterns”.

• Refer to the definition of “dependency load” in the text Contact Canada. Using this definition as well as the one in question #3, generate your own definition of dependency load.

Part 2: Analysing Population Trends

• Using this data, construct Population Pyramids for Canada for 2006, 2016 and 2026 (for ease of comparison, use the same scale as used in the article “Population Patterns” in The Canadian Atlas or the equivalent section of the online version of the atlas at www.canadiangeographic.ca/atlas. Using the definition you developed in Part 1, calculate the dependency loads for Canada in 1900 (see Atlas) 2006, 2016 and 2026.

Part 3: Predicting Issues Related to Changing Demographics
Read the article “Caring for an Aging Population” from The Canadian Atlas, page 39, or the corresponding section of the online version of the atlas.

• Based on this reading, your previous reading “Population Patterns” and information from your text or other sources, identify and briefly explain the THREE main demographic issues/problems facing Canada in the next twenty years as you see them. Consider such things as employment, housing, taxes, pension plans, advertising as well as social supports such as hospitals and nursing homes.

Part 4: Dealing with and Preparing for Population Change
Consider the following scenario – Based on the research you have done in identifying the THREE main demographic issues/problems facing Canada in the next twenty years, you have been asked to:

• do a presentation to the Federal Government recommending actions that they should take or policies that they should adopt to minimize any possible negative impact of these issues/problems.

• make recommendations for each of the THREE issues that you identified.

• summarize the suggestions or recommendations you would make to government, providing a brief rationale for each.
Rubric

Part 4: Dealing with and Preparing for Population Change

Consider the following scenario – Based on the research you have done in identifying the THREE main demographic issues/problems facing Canada in the next twenty years, you have been asked to:

- do a presentation to the Federal Government recommending actions that they should take or policies that they should adopt to minimize any possible negative impact of these issues/problems.
- make recommendations for each of the THREE issues that you identified.
- summarize the suggestions or recommendations you would make to government, providing a brief rationale for each.

Level 1 – Inadequate

Student lists THREE issues related to an aging population with a greater dependency load, without offering any recommendations.

Example: 1. Not enough people to fill necessary jobs.
2. Not enough people paying taxes and
3. Too much drain on pension plans

Level 2 – Adequate

Student lists THREE issues, and lists, without explanation, a suggested policy or recommendation for all three.

Example: To fill necessary jobs the government should allow more immigrants.

Level 3 – Very Good

Student lists THREE issues and briefly explains the policy or suggestion that is made for each.

Example: By allowing more immigrants into the country there will be more people to fill jobs that are necessary to society, i.e. more doctors will be needed to meet the needs of an aging population. (Students must do this for each of the three issues that were identified)

Level 4 – Outstanding

Student lists and briefly explains the recommendation that is made for each of the THREE issues discussed, with further explanation in each case as to how the suggestion will provide for a solution. Student may also offer a brief discussion of any further problems that may arise as a result of this recommendation. There is a clear link made between the recommendation and how it may resolve the issue.

Example: By allowing more immigrants into the country there will be more people to fill jobs that are necessary to society, i.e. doctors. There will be a major shortage of workers to fill many key jobs as a result of the number of people that will be retiring. For example, though the aging population will mean greater demands on the health system, there may not be enough people within Canada to fill many of the key roles in health care. Even now there are doctor shortages in many parts of Canada.

This problem will only get worse within the next 20 years with greater demands and fewer people of working age. It may be necessary to go outside the country to recruit more doctors. In order to facilitate this it may be necessary to make changes to the immigration system to remove some of the roadblocks that currently exist and / or change the strict licensing requirements that exist for doctors entering Canada, in order to encourage the required doctors to enter the country.

(Students must do this for each of the three issues that were identified)