Issues in Canadian Geography, Grade 9

Academic — CGC1D

This course examines interrelationships within and between Canada's natural and human systems and how these systems interconnect with those in other parts of the world. Students will explore environmental, economic, and social geographic issues relating to topics such as transportation options, energy choices, and urban development. Students will apply the concepts of geographic thinking and the geographic inquiry process, including spatial technologies, to investigate various geographic issues and to develop possible approaches for making Canada a more sustainable place in which to live.

Prerequisite: None

OVERVIEW

The course has five strands. Instruction and learning related to the expectations in strand A are to be interwoven with instruction and learning related to expectations from the other four strands. Strand A must not be seen as independent of the other strands. Student achievement of the expectations in strand A is to be assessed and evaluated *throughout* the course.

Strand A

A: Geographic Inquiry and Skill Development
Overall Expectations
A1. Geographic Inquiry: use the geographic inquiry process and the concepts of geographic thinking when investigating issues relating to Canadian geography
A2. Developing Transferable Skills: apply in everyday contexts skills, including spatial technology skills, developed through the investigation of Canadian geography, and identify some careers in which a background in geography might be an asset

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Overview *(continued)*

Throughout this course, when planning instruction, teachers should weave the expectations from strand A in with the expectations from strands B–E.

Strands B–E

Overall Expectations and Related Concepts of Geographic Thinking	Big Ideas*	Framing Questions*
B: Interactions in the Physical Environment		
B1. **The Physical Environment and Human Activities:** analyse various interactions between physical processes, phenomena, and events and human activities in Canada (**FOCUS ON:** *Interrelationships; Geographic Perspective*)	Physical processes influence where and how people live, work, and play in Canada. People have different beliefs about the impact of human actions on the natural environment and global systems.	How do the natural characteristics of Canada influence human activity, and how might human activity influence Canada's natural characteristics? In what ways do Earth's natural processes, phenomena, and events influence Canada's natural characteristics? In what ways is Canadian identity tied to our natural landscape?
B2. **Interrelationships between Physical Systems, Processes, and Events:** analyse characteristics of various physical processes, phenomena, and events affecting Canada and their interrelationship with global physical systems (**FOCUS ON:** *Patterns and Trends; Interrelationships*)	Geological, climatic, and hydrological processes, phenomena, and events have shaped, and continue to shape, Canada's natural landscape.	
B3. **The Characteristics of Canada's Natural Environment:** describe various characteristics of the natural environment and the spatial distribution of physical features in Canada, and explain the role of physical processes, phenomena, and events in shaping them (**FOCUS ON:** *Spatial Significance; Patterns and Trends*)	Natural environmental characteristics, such as climate, geology, drainage patterns, and vegetation, define the physical regions of Canada.	
C: Managing Canada's Resources and Industries		
C1. **The Sustainability of Resources:** analyse impacts of resource policy, resource management, and consumer choices on resource sustainability in Canada (**FOCUS ON:** *Interrelationships; Geographic Perspective*)	The way Canada's resources are used has a direct impact on the availability of resources for the future.	How do we balance our needs and wants with sustainable resource development? What criteria should we set for the extraction and development of Canada's natural resources? Which resources and industries would you consider to be most valuable to Canada?
C2. **The Development of Resources:** analyse issues related to the distribution, availability, and development of natural resources in Canada from a geographic perspective (**FOCUS ON:** *Interrelationships; Geographic Perspective*)	People have different points of view about how Canada's natural resources should be developed.	
C3. **Industries and Economic Development:** assess the relative importance of different industrial sectors to the Canadian economy and Canada's place in the global economy, and analyse factors that influence the location of industries in these sectors (**FOCUS ON:** *Spatial Significance; Patterns and Trends*)	Canada's economic well-being relies on the development of both natural and human resources.	

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Overall Expectations and Related Concepts of Geographic Thinking	Big Ideas*	Framing Questions*
D. Changing Populations		
D1. Population Issues: analyse selected national and global population issues and their implications for Canada (**FOCUS ON:** *Interrelationships; Patterns and Trends*)	Global population trends and socio-economic issues can affect Canadian communities.	How might Canada's response to global population issues affect Canadian communities? What criteria should be used to determine Canadian immigration policy? In what ways do demographic characteristics affect communities in Canada?
D2. Immigration and Cultural Diversity: describe the diversity of Canada's population, and assess some social, economic, political, and environmental implications of immigration and diversity for Canada (**FOCUS ON:** *Spatial Significance; Geographic Perspective*)	Immigration and cultural diversity present both opportunities and challenges for Canadian communities.	
D3. Demographic Patterns and Trends: analyse patterns of population settlement and various demographic characteristics of the Canadian population (**FOCUS ON:** *Spatial Significance; Patterns and Trends*)	The distribution and characteristics of human settlement in Canada are determined by many factors and may change over time.	
E. Liveable Communities		
E1. The Sustainability of Human Systems: analyse issues relating to the sustainability of human systems in Canada (**FOCUS ON:** *Interrelationships; Geographic Perspective*)	People have a role in determining the sustainability of human systems, such as food production and transportation, within Canadian communities.	What criteria should we use when determining future development plans for communities? How does one choose between conflicting land-use options for the same space? In what ways does urban growth affect the quality of life of a place? What are some similarities and differences in land use in different Canadian communities?
E2. Impacts of Urban Growth: analyse impacts of urban growth in Canada (**FOCUS ON:** *Spatial Significance; Geographic Perspective*)	The growth of urban settlements has an impact on the economy, the natural environment, society, and politics.	
E3. Characteristics of Land Use in Canada: analyse characteristics of land use in various Canadian communities, and explain how some factors influence land-use patterns (**FOCUS ON:** *Spatial Significance; Patterns and Trends*)	Land is used in a variety of ways, and the way it is used depends upon the needs of a community and the physical features of the site.	

* See page 14 for a discussion of the purpose of big ideas and framing questions.

A. GEOGRAPHIC INQUIRY AND SKILL DEVELOPMENT

OVERALL EXPECTATIONS

Throughout this course, students will:

A1. **Geographic Inquiry:** use the geographic inquiry process and the concepts of geographic thinking when investigating issues relating to Canadian geography;

A2. **Developing Transferable Skills:** apply in everyday contexts skills, including spatial technology skills, developed through the investigation of Canadian geography, and identify some careers in which a background in geography might be an asset.

SPECIFIC EXPECTATIONS

A1. Geographic Inquiry

Throughout this course, students will:

A1.1 formulate different types of questions to guide investigations into issues in Canadian geography *(e.g.,* factual questions: *What factors need to be considered when analysing the impact of expanding a highway?;* comparative questions: *What are the differences in energy resource availability between Ontario and Alberta?;* causal questions: *How does the infrastructure of this community support environmental sustainability?)*

A1.2 select and organize relevant data and information on geographic issues from a variety of primary and secondary sources *(e.g.,* primary: *raw data from field work, both quantitative and qualitative; statistics; photographs; satellite images;* secondary: *newspaper columns, books, atlases, geographic magazines, websites, graphs, charts, digital and print maps),* ensuring that their sources represent a diverse range of perspectives

Sample questions: "How might you use a variety of statistical indicators to analyse patterns and trends in regional economic differences?" "Where might you find this data and information?" "Why is it important to collect accurate locational data? What problems might arise from using inaccurate locational data?"

A1.3 assess the credibility of sources and information relevant to their investigations *(e.g., by considering how the data are constructed to support the author's point of view, the possible bias of the author, the expertise of the author, the accuracy of the text and supporting data, the intended audience, the purpose of the messaging, the context in which the information was presented)*

Sample questions: "Whose point of view does this source represent?" "Do other sources support the interpretation offered by this source?" "Does this source present a single viewpoint or does it consider other points of view?" "How credible are the sources that the author has used?"

A1.4 interpret and analyse data and information relevant to their investigations, using various tools, strategies, and approaches appropriate for geographic inquiry *(e.g., interpret graphs and charts of various statistical indicators to analyse quality of life in Canada and compare it with that in other countries; use graphic organizers, such as cross-classification tables or ranking ladders, to interpret potential economic, political, social, and environmental impacts of a development project)*

Sample question: "Why would it be important to use qualitative data, such as descriptions of people's experiences, as well as quantitative data when analysing an event or phenomenon?"

A1.5 use the concepts of geographic thinking *(i.e., spatial significance, patterns and trends, interrelationships, geographic perspective)* when analysing and evaluating data and information, formulating conclusions, and making judgements about geographic issues relating to Canada *(e.g., use the concept of spatial significance to evaluate competing land-use options, such as*

fruit farming and urban development; apply the concept of patterns and trends to temperature and precipitation data to assess how the climate of a region has changed over time; use the concept of interrelationships to assess how changes in technology affect industry, employment, and the consumption of natural resources; use the concept of geographic perspective to analyse the environmental, social, political, and economic impacts of globalization on various First Nations, Métis, and Inuit communities)

Sample questions: "How does the concept of spatial significance support our understanding of a place's distinctive characteristics?" "What criteria could be used to determine if the characteristics of a place form a pattern?" "Which concept or concepts of geographic thinking could be used to evaluate how a change in the natural environment will affect people?" "How can using the concept of geographic perspective improve our understanding of a complex issue?"

A1.6 evaluate and synthesize their findings to formulate conclusions and/or make judgements or predictions about the issues they are investigating

Sample questions: "What geographic criteria could be used when considering possible changes to Canadian immigration policy?" "Does the financial benefit of extracting natural resources justify related social and/or environmental impacts?"

A1.7 communicate their ideas, arguments, and conclusions using various formats and styles, as appropriate for the audience and purpose *(e.g., a debate for classmates on the criteria that Canada should use to judge the merits of a trade agreement; a video for the local community showing the impact of a natural phenomenon or event in Canada; a written submission to municipal or band councillors recommending or opposing a land-use proposal, using an analysis based on geographic perspective)*

Sample questions: "Who is your intended audience and why do you want to communicate with them? How much do they know about your topic? Do they need information summarized in a way that is easy to understand? Do they need more detailed information and arguments or just an overview?" "What format presents the results of your investigation most effectively?" "Do the symbols or shading used on a map present the intended message accurately and clearly?" "What scale interval should be used on the map or graph to convey the intended message most effectively?"

A1.8 use accepted forms of documentation *(e.g., footnotes, author/date citations, reference lists, bibliographies, credits)* to acknowledge different types of sources *(e.g., websites, blogs, books, articles, films, data)*

A1.9 use appropriate terminology when communicating the results of their investigations *(e.g., vocabulary specific to their inquiry; terminology related to geography and to the concepts of geographic thinking)*

A2. Developing Transferable Skills

Throughout this course, students will:

A2.1 describe ways in which geographic investigation can help them develop skills, including spatial technology skills and the essential skills in the Ontario Skills Passport *(e.g., reading text, including graphic text; writing; oral communication; using maps, graphs, charts, and tables; computer use; use of geographic information systems [GIS], satellite imagery; measurement and calculation; data analysis; decision making; planning; organizing; finding information; problem solving)*, that can be transferred to the world of work and to everyday life

Sample questions: "How could GIS help you decide where you would like to locate a business involving entertainment?" "Why is the incorporation of a global positioning system (GPS) in everyday electronic devices both useful and a concern?"

A2.2 apply in everyday contexts skills and work habits developed through geographic investigation *(e.g., asking questions to deepen their understanding of an issue; listening to and considering multiple perspectives when discussing an issue; collaborating with a team to determine the criteria that need to be considered when making a decision; using quantitative data to support an idea; using spatial skills to determine best routes of travel)*

A2.3 apply the concepts of geographic thinking when analysing current events involving geographic issues *(e.g., to identify locational factors that affect the importance of an issue; to identify patterns and trends that provide context for an issue; to identify interrelationships that clarify the factors involved in an issue; to understand the*

implications of different aspects of an issue and/or different points of view about the issue) in order to enhance their understanding of these issues and their role as informed citizens

Sample questions: "How does the Canadian government use issues related to the spatial significance of global oil reserves to promote the Alberta oil sands? How might you use geographic perspective to assess the strength of the government's arguments?" "What kinds of patterns and trends might you want to consider if you were analysing a news story about climate change?" "What is the relationship between the availability of inexpensive products in Canada and labour or environmental standards in developing countries?" "What concepts of geographic thinking might help you assess the strengths and weaknesses of arguments supporting different approaches to the expansion of public transit?"

A2.4 identify careers in which a geography background might be an asset *(e.g., urban planner, emergency preparedness coordinator, land surveyor, GIS technician, transportation logistics coordinator, forester, politician, community events organizer)*

B. INTERACTIONS IN THE PHYSICAL ENVIRONMENT

OVERALL EXPECTATIONS

By the end of this course, students will:

B1. **The Physical Environment and Human Activities:** analyse various interactions between physical processes, phenomena, and events and human activities in Canada (**FOCUS ON:** *Interrelationships; Geographic Perspective*)

B2. **Interrelationships between Physical Systems, Processes, and Events:** analyse characteristics of various physical processes, phenomena, and events affecting Canada and their interrelationship with global physical systems (**FOCUS ON:** *Patterns and Trends; Interrelationships*)

B3. **The Characteristics of Canada's Natural Environment:** describe various characteristics of the natural environment and the spatial distribution of physical features in Canada, and explain the role of physical processes, phenomena, and events in shaping them (**FOCUS ON:** *Spatial Significance; Patterns and Trends*)

SPECIFIC EXPECTATIONS

B1. The Physical Environment and Human Activities

FOCUS ON: *Interrelationships; Geographic Perspective*

By the end of this course, students will:

B1.1 analyse environmental, economic, social, and/or political implications of different ideas and beliefs about the value of Canada's natural environment, and explain how these ideas/beliefs affect the use and protection of Canada's natural assets

Sample questions: "How does the traditional ecological knowledge of the First Nations, Métis, and Inuit peoples influence their beliefs about the natural environment and its importance to them?" "Is there a current issue that highlights conflicting beliefs about the value of Canada's natural environment and how it should be used or protected? What actions and processes are occurring in order to resolve the conflict?" "What is the difference between a preservation or conservation park system?" "How might the opening of the Northwest Passage affect Canada's claim to Arctic sovereignty?" "How does the protection of wildlife relate to one's beliefs about the value of wildlife?"

B1.2 analyse interrelationships between Canada's physical characteristics and various human activities that they support *(e.g., mountainous landforms support recreation; water bodies and flat land facilitate urban development and transportation)*

Sample questions: "How do the physical characteristics of different regions influence tourism in Canada?" "How would a graph showing seismic activity help planners make decisions relating to urban settlement?" "How would you use GIS to determine the best place to locate a wind farm?" "How do soil, climate, and landscape influence agricultural practices (e.g., contour ploughing, ranching, intensive agriculture)?" "How will the effect of warmer temperatures on caribou migration affect Inuit and other Aboriginal communities in Canada's North?"

Using spatial skills: GIS is a valuable tool for identifying relationships between physical features or events and human activities. For example, students can identify risks to various populations from natural hazards by layering a population density map with maps showing plate boundaries, hurricane paths, and flood lines.

B1.3 assess environmental, economic, social, and/or political consequences for Canada of changes in some of the Earth's physical processes *(e.g., warming in the North is leading to a shorter, less reliable ice season and changes in plant and animal populations [environmental], threatening*

traditional Inuit culture [social], expanding opportunities for resource exploitation [economic], and creating conflict between nation states over territorial claims [political])

Sample questions: "How might a warmer climate affect the skiing industry or the maple syrup industry in southern Ontario or grain farming on the Prairies?" "How do environmental changes affect plants and animals? What are some plants and animals that are now at risk or may become so because of environmental changes?" "How does a change in permafrost affect transportation and infrastructure?" "What influence might warmer temperatures and more frequent severe storms have on high-density urban centres in Canada?" "How can communities respond to shoreline erosion?"

B1.4 explain how human activities can alter physical processes and contribute to occurrences of natural events and phenomena *(e.g., paving over land can alter drainage patterns and cause sink holes; some agricultural practices can contribute to soil erosion; deforestation can make slopes vulnerable to landslides)*

Sample question: "What impact do exhaust emissions from vehicles have on our climate? Why?"

B1.5 analyse the risks that various physical processes and natural events, including disasters, present to Canadian communities, and assess ways of responding to these risks

Sample questions: "Why would people live in an area that is prone to natural disasters?" "What criteria should be used to determine whether rebuilding or relocating is the more sustainable choice after a community has been severely damaged by a natural disaster?" "What can be done to reduce the risk of earthquake damage in tectonically active regions like British Columbia, or flood damage in flood-prone areas along the Red River?" "How do governments and agencies use spatial technologies to monitor natural hazards and predict their occurrence (e.g., violent weather, floods, avalanches, earthquakes, icebergs)?" "How might a community respond to long-term changes in its environment, such as rising sea levels, coastal erosion, or lower lake levels, that threaten its economy or survival?" "How does your personal emergency preparedness plan address natural risks, and what does it look like?"

Using spatial skills: Students can create a choropleth map, using intensity of shading to illustrate areas of Canada that are more at risk from disasters or more exposed to damage from natural processes than others. The shaded areas can then be annotated with comments summarizing the type of risks associated with the area.

B2. Interrelationships between Physical Systems, Processes, and Events

FOCUS ON: *Patterns and Trends; Interrelationships*

By the end of this course, students will:

B2.1 analyse interrelationships between physical processes, phenomena, and events in Canada and their interaction with global physical systems

Sample questions: "What impact might a volcanic eruption or earthquake in Japan have on Canada? Why?" "How does a hurricane that hits New York influence weather in Canada?" "How might the breaking up of continental ice in Greenland and the Antarctic affect Canada's coastline?"

Using spatial skills: Thematic maps of the world can be used to show how plate boundaries and mountain ranges on Canada's West Coast connect to a global Pacific Rim system, how the jet stream in Canada is part of a global northern wind belt system, or how an ocean current from the Caribbean influences Canada's Atlantic coast.

B2.2 describe patterns *(e.g., spatial distribution of earthquakes, floods, ice storms)* and trends *(e.g., increased frequency of forest fires in British Columbia and northern Ontario, increased rainfall in most parts of Canada)* in the occurrence of a variety of natural phenomena and events in Canada

Using spatial skills: Students can use statistical data to map where tornadoes have touched down or earthquakes have occurred in Canada over the past few decades. This will help them identify areas where these events occur most frequently.

B3. The Characteristics of Canada's Natural Environment

FOCUS ON: *Spatial Significance; Patterns and Trends*

By the end of this course, students will:

B3.1 explain how various characteristics of Canada's natural environment *(e.g., landforms, such as mountains and hills; drainage basins; bodies of water)* can be used to divide the country into different physical regions

Sample question: "What determines whether a certain area can be considered a physical region?"

Using spatial skills: Students can identify regional boundaries and develop their understanding of regional characteristics by using overlays of various thematic maps, such as those showing physical features, types of vegetation, and climate patterns. Features on large-scale maps of a community can be related to regional features by using successively smaller-scale maps. A waterway flowing through a municipality, for example, can be identified in this way as part of a watershed within a larger drainage basin. Cross-sectional profiles can be used to illustrate differences in elevation between regions. Climate graphs can be used to compare temperature and precipitation differences between regions.

B3.2 explain how geological, hydrological, and climatic processes formed and continue to shape Canada's landscape *(e.g., folding and faulting formed and continue to shape Canada's western mountains; glacial recession left scoured landscape in Ontario's north and fertile landscape in the south and shaped the Great Lakes drainage system; winds continue to change landform features in the badlands of Alberta)*

Sample questions: "How have climatic processes influenced the physical features of the area in which you live? What evidence illustrates that climatic processes are continuing to affect the landscape?" "How do the climatic characteristics of Canada's prairie region influence the types of vegetation within the region?" "How do the rock types in different regions of Canada affect the topography of the Canadian landscape?" "How did glaciation affect drainage, soil quality, and vegetation in the Canadian Shield as compared to in the Great Lakes–St. Lawrence Lowlands and/or the Hudson Bay Lowlands?"

Using spatial skills: Students can identify areas of potential erosion by layering maps showing the location of waterways with maps showing elevation. A tectonic boundary map can be used to determine where a potential for mountain building or other tectonic activity exists.

C. MANAGING CANADA'S RESOURCES AND INDUSTRIES

OVERALL EXPECTATIONS

By the end of this course, students will:

C1. **The Sustainability of Resources:** analyse impacts of resource policy, resource management, and consumer choices on resource sustainability in Canada (**FOCUS ON:** *Interrelationships; Geographic Perspective*)

C2. **The Development of Resources:** analyse issues related to the distribution, availability, and development of natural resources in Canada from a geographic perspective (**FOCUS ON:** *Interrelationships; Geographic Perspective*)

C3. **Industries and Economic Development:** assess the relative importance of different industrial sectors to the Canadian economy and Canada's place in the global economy, and analyse factors that influence the location of industries in these sectors (**FOCUS ON:** *Spatial Significance; Patterns and Trends*)

SPECIFIC EXPECTATIONS

C1. The Sustainability of Resources

FOCUS ON: *Interrelationships; Geographic Perspective*

By the end of this course, students will:

C1.1 describe strategies that industries and governments have implemented to increase the sustainability of Canada's natural resources *(e.g., green belts, tourism restrictions in environmentally fragile regions, wildlife culling, rehabilitation of aggregate quarries, sustainable yield management of forests and fisheries, recovery of minerals from mine tailings, community composting, recycling and recovery)*, and evaluate their effectiveness

Sample questions: "How effective are the waste management practices in your community in supporting sustainability? What happens to material that is recycled in your community? Is the recycling program reducing the amount of waste people produce?" "How have various mine sites (open pit, quarry, and/or shaft mines) been rehabilitated?" "How have cod stocks responded since the federal government closed the cod fishery in 1992? What problems continue to prevent the recovery of the cod population?"

Using spatial skills: Graphs can help students visualize statistical data about the type and quantity of waste or emissions produced by a given community or industry. Local data on the quantity of material being recycled compared to that going to landfill and on the amount and type of contaminants in that material could also be gathered, graphed, and analysed.

C1.2 assess the impact of Canada's participation in international trade agreements and of globalization on the development and management of human and natural resources in Canada *(e.g., participation in international organizations and accords related to deforestation, pesticide use, cross-border pollution, species protection, free trade, labour standards, intellectual property)*

Sample questions: "What, in your opinion, are the three most important criteria that a trade agreement with another country should meet in order for it to be acceptable to Canada? How important is it that a trade agreement expand the market for Canadian resources? How important is it to address labour and environmental standards in such an agreement?" "How might water or oil shortages in other parts of the world influence Canada's resource development strategies?" "How might foreign ownership of companies extracting resources within Canada affect long-term employment prospects or sustainability policies?" "What impact might the enforcement of international embargoes on oil and gas or conflict diamonds and minerals have

on Canadian resource extraction operations?" "What responsibility does Canada have for ensuring that export commodities such as uranium and potash are used in an ethical manner?"

C1.3 analyse the influence of governments, advocacy groups, and industries on the sustainable development and use of selected Canadian resources *(e.g., International Joint Commission; Niagara Escarpment Commission; Ministry of Natural Resources; First Nations, Métis, Inuit organizations; individual industries; transnational corporations; trade unions; advocacy groups, such as the Forest Stewardship Council, Greenpeace, engineering non-governmental organizations)*

Sample questions: "How has the Forest Products Association of Canada influenced how Canadian forests are used?" "In what ways can the Niagara Escarpment be considered a natural resource? What are some groups that work on sustainability issues relating to the escarpment, and what are their concerns?" "How do government subsidies influence the development and use of Canadian resources?" "What impacts do different kinds of industries have on the environment, and what can they do to operate more sustainably?"

Using spatial skills: Creating thematic maps showing energy production and consumption by political region can help students interpret different regional, economic, and environmental perspectives on the use of various energy sources. The alteration of waterways can be analysed by overlaying a map of rivers and water bodies with a map showing the location of hydroelectric stations. Potential water pollution problems (e.g., thermal, bacterial, chemical, and heavy metal contamination) can be identified by overlaying a map of rivers and water bodies with a map of industrial sites.

C1.4 analyse the roles and responsibilities of individuals in promoting the sustainable use of resources *(e.g., managing one's own ecological footprint, making responsible consumer choices, recycling, advocating sustainable resource-use policies and practices)*

Sample questions: "What does your ecological footprint indicate about your personal impact on the sustainability of Canada's natural resources?" "How can we balance our individual needs and wants against the need for sustainable resource use?" "How might a company's environmental record influence a consumer's decision about buying their products?"

C2. The Development of Resources

FOCUS ON: *Interrelationships; Geographic Perspective*

By the end of this course, students will:

C2.1 explain how the availability and spatial distribution of key natural resources, including water, in Canada are related to the physical geography of the country, and assess the significance of their availability and distribution, nationally and globally *(e.g., the amount of bright sunshine in a region determines the potential viability of solar energy development; a region's rock type determines which mineral resources are available and the way they are mined; a region's precipitation, temperature, and soil type determine the type of agriculture that is practised there)*

Sample questions: "Which Canadian resources do you predict other countries in the world will want to include in trade agreements?" "What are some political issues that are related to the location of rivers and lakes in Canada?" "Is there a relationship between resource availability and economic value?" "How might the distribution of arable land in Canada influence future land-use planning?" "What kinds of political issues (e.g., Aboriginal rights and concerns, boundary disputes, stakeholder concerns) may be related to the location of a resource and its development?"

C2.2 analyse, from a geographic perspective, issues relating to the development, extraction, and management of various natural resources found in Canada *(e.g., export of icebergs for fresh water and potential political controversies relating to ownership of the resource; development of oil and gas pipelines and related economic pressures and social and environmental concerns; management of wild fish stocks and related economic, environmental, social, and political concerns)*

Sample questions: "Who do you think owns a resource, such as water or air, that crosses political borders? What view do First Nations people take of the ownership of such resources?" "What implications would the development of the rich mineral resources of northern Ontario's ring of fire region have for Ontario's economy? For the environment? For First Nations communities in the area?"

Using spatial skills: Examining appropriate thematic maps can help students visualize the lengths of pipelines and the landforms, waterways, boundaries, and other natural and built features that they cross. This will help students identify what is affected by the pipeline and determine whose interests need to

be considered when development of a pipeline is proposed. A polar projection of the Arctic can be used to highlight relationships between geo-political boundary issues and the management of water bodies.

C2.3 assess the renewability and non-renewability of various natural resources in Canada

Sample questions: "How does time affect whether a natural resource is renewable or not?" "Choose two or three flow resources. How sustainable are they in the long term?"

Using spatial skills: Students can create maps illustrating the location of various natural resources, using appropriate symbols to indicate whether a resource is renewable or non-renewable.

C2.4 assess the feasibility of using selected renewable and alternative energy sources *(e.g., solar, wind, tidal, hydro)* to augment or replace existing power sources in various parts of Canada

Sample questions: "What would the costs and benefits of developing a wind and/or solar farm be for your community, a community in southern Alberta, or another location of your choice?" "In what areas of Canada might it be feasible to use tides as an energy source?"

C3. Industries and Economic Development

FOCUS ON: *Spatial Significance; Patterns and Trends*

By the end of this course, students will:

C3.1 compare the economic importance *(e.g., in terms of contribution to gross domestic product [GDP], employment)* of different sectors of the Canadian economy *(i.e., primary, secondary, tertiary, quaternary)*

Sample questions: "How does the contribution of resource-based industries to Canada's GDP compare with that of manufacturing industries and service and knowledge-based industries?" "Does the sector that employs the most people also contribute the most to Canada's GDP?" "Which sectors have grown the most over the past ten years? Have any declined?"

C3.2 identify patterns and trends in imports and exports for various sectors of the Canadian economy

Sample questions: "Which industry sectors does Canada rely on for most of its export income?" "With which countries does Canada do most of its trade?"

Using spatial skills: Students can create proportional flow maps of Canadian imports and exports to help them visualize trade data and analyse the volume and direction of trade flows. Using graphs to depict the value of exports and imports can help students measure and understand trade balances.

C3.3 assess the national and global importance of Canada's service and knowledge-based industries and other industries based on human capital *(e.g., banking, culture and entertainment, education, information technology, scientific research)*

Sample questions: "What are the costs and benefits of hosting an international event such as the Olympics or Pan Am Games?" "How is the Canadian Space Agency involved in international space research? How is its work related to the space industry and the study of geography?" "What are some technological developments that Canada is currently playing a leading role in, exploring, or contributing to?" "How might Canada's involvement in the movie and/or music industry influence the perception of Canada in other countries?"

Using spatial skills: Students can explore satellite images to gain an understanding of the different types of information that can be gathered by satellites. Satellite imagery can also help students develop a sense of spatial orientation.

C3.4 analyse the main factors *(e.g., availability of resources, distance to market, transportation costs, government incentives, labour force)* that need to be considered when determining the location of sites for different types of industries *(e.g., resource extraction industries, manufacturing industries, service industries, knowledge-based industries, cultural industries)*

Sample questions: "How might the key location factors differ for different kinds of farming (e.g., corn, dairy, fruit)?" "What industrial location factors make Sault Ste. Marie an attractive site for alternative energy development?" "What, in order of importance, are the most significant location factors for an entertainment business?"

Using spatial skills: GIS is a useful tool for integrating the many factors that determine the best location for a business or industry. Students can use a base map of Canadian towns and cities and overlay it with maps showing a variety of key location factors to identify the best locations for businesses that they are interested in.

D. CHANGING POPULATIONS

OVERALL EXPECTATIONS

By the end of this course, students will:

D1. **Population Issues:** analyse selected national and global population issues and their implications for Canada (**FOCUS ON:** *Interrelationships; Patterns and Trends*)

D2. **Immigration and Cultural Diversity:** describe the diversity of Canada's population, and assess some social, economic, political, and environmental implications of immigration and diversity for Canada (**FOCUS ON:** *Spatial Significance; Geographic Perspective*)

D3. **Demographic Patterns and Trends:** analyse patterns of population settlement and various demographic characteristics of the Canadian population (**FOCUS ON:** *Spatial Significance; Patterns and Trends*)

SPECIFIC EXPECTATIONS

D1. Population Issues

FOCUS ON: *Interrelationships; Patterns and Trends*

By the end of this course, students will:

D1.1 analyse the impact of selected population trends on people living in Canadian communities *(e.g., aging population increases demand for health care and institutional support; increasing population density affects housing, job, and transportation needs; increased number of working parents with responsibilities for both child and elder care affects family life and housing needs; neighbourhoods that consist largely of a single ethnic or cultural group pose challenges to social integration; growth of First Nations, Métis, and Inuit populations increases need for education, housing, health care, infrastructure, and resolution of land claims and rights disputes)* and their implications for the future *(e.g., aging population will further increase demand for health care, retirement housing, and transit support; increased diversity of newcomers will increase demand for language training)*

Sample questions: "Are most communities in Canada being affected by the same major population trends, or do the trends and impacts vary from one community to another?" "As the number of elderly people increases, what changes will communities have to make to their infrastructure?" "Will today's major population trends remain important in the future? Why or why not?"

Using spatial skills: Students can use population pyramids and graphs to help them analyse the age and sex composition of the Canadian population, make projections of future trends, and predict related social and economic needs. Proportional arrow flow maps can help them identify trends in the countries of origin of immigrants and their Canadian settlement destinations. This information can be used to predict different kinds of socio-economic needs in different parts of Canada and the kinds of supports required to meet these needs.

D1.2 identify global demographic disparities that are of concern to people living in Canada, and assess the roles of individuals, organizations, and governments in Canada in addressing them *(e.g., role of individuals in contributing to charities that provide relief and support to developing countries or in volunteering to assist with aid programs; role of non-governmental organizations in providing relief and supporting development in developing countries; role of federal government in setting immigration and refugee policies and practices, providing aid to developing countries, and contributing to work of UN agencies such as the World Food Programme and UNESCO)*

Sample questions: "How has Canada's spending on foreign aid changed over the past two decades?" "Why should disparities in health care be of concern to everyone? What role does the World Health Organization (WHO) play in monitoring the spread of disease? What other types of aid are associated with health care?" "What role does the Canadian military play in building international relationships?" "How is Canada involved with the work of the World Bank and the International Monetary Fund?"

Using spatial skills: Students can use a Peters projection map, in which the size of land areas is proportional to the magnitude of the variable

being mapped, to help them visualize global disparities with respect to such matters as access to food, water, health care, and education, vulnerability to disease, and freedom from political unrest, consumption of resources, and emissions of carbon dioxide. By comparing differences between the way that a Peters projection shows data and the way that other projections, such as Mercator, do, students can improve their understanding of the purposes for which different projections are best suited. Students can also use scatter graphs to plot statistical data and identify correlations between various socio-economic indicators.

D1.3 determine criteria *(e.g., number of people affected, type of political leadership in region of need, degree and type of support required from Canada, ability to make a difference for the long term)* that should be used to assess Canada's responses to global population issues *(e.g., food and water shortages, lack of health care, illiteracy, displacement, poverty, overcrowding)*

Sample questions: "What would you consider to be the three most important global population issues?" Has Canada responded to these issues? If so, has its response been effective?" "How might a selected global population issue affect Canada now and in the future?"

D2. Immigration and Cultural Diversity

FOCUS ON: *Spatial Significance; Geographic Perspective*

By the end of this course, students will:

D2.1 identify factors that influence where immigrants settle in Canada, and assess the opportunities and challenges presented by immigration and cultural diversity in Canada *(e.g., expansion of business opportunities, cultural enrichment, global engagement and citizenship; neighbourhood segregation and lack of social integration, hate crimes)*

Sample questions: "Why do immigrants settle in a particular location?" "Should governments attempt to control where immigrants settle in Canada?" "Why are workers from other countries sometimes brought into Canada on a temporary basis instead of being allowed to enter as immigrants?" "What types of incentives might companies and/or governments offer to encourage people to settle in a particular location?"

Using spatial skills: Students can use thematic maps and/or circle graphs to analyse factors that influence where particular ethnic groups settle, and use it to determine possible needs for that community.

D2.2 evaluate strategies used to address the needs of various immigrant groups within communities *(e.g., provision of language training, celebration of traditions from various cultures, provision of cultural and social support services in several languages, addressing hate crimes through community policing and education)*

Sample questions: "What support may newcomers need to settle comfortably into a community (e.g., assistance with jobs and housing, language training)?" "What are the advantages and disadvantages of providing supports for immigrant groups within a community?"

D2.3 analyse social, political, and economic impacts of Canada's immigration and refugee policies

Sample questions: "What are the costs and benefits, for refugees and for Canada, of admitting refugees?" "What criteria should be considered to determine the number of refugees Canada accepts?" "How do you think Canada's immigration needs and refugee obligations may change in the future, and how might those changes affect the categories under which immigrants are admitted?" "In what ways can a community's ethnic and cultural composition influence the way it looks and the way it functions?"

D3. Demographic Patterns and Trends

FOCUS ON: *Spatial Significance; Patterns and Trends*

By the end of this course, students will:

D3.1 describe patterns of population settlement in Canada *(e.g., linear, scattered, clustered)*, and assess the importance of various factors in determining population size, distribution, and density *(e.g., landforms; climate; proximity to food and water sources; connections to transportation, communications, energy, and economic networks)*

Sample questions: "Where do people live in Canada and why?" "What pattern or patterns do you see in the location of First Nations reserves across Canada? What are some factors that account for the location of reserves?" "What are some physical factors that may influence the location of a settlement?" "How might access to various forms of transportation

influence the development and density of communities? How would a settlement pattern influenced by highway routes differ from one influenced by flight routes?" "What's the difference between a town, a city, and a census metropolitan area (CMA)? Why might a city prefer to be called a town?" "Why do some settlements grow into large metropolitan areas and others stay as small towns?"

Using spatial skills: Students can use GIS to compare the relative sizes of communities across Canada. Students will need to determine the scale intervals that best facilitate comparisons of community size and enable them to describe related characteristics and patterns of settlement. The comparisons will enable them to identify areas of the country that are congested and areas that could support future growth.

D3.2 identify factors *(e.g., job opportunities, accessibility of transportation and communication networks, availability of social services, availability of natural resources, cultural attitudes)* that influence the demographic characteristics of settlements across Canada *(e.g., ethnic composition, age-sex distribution, types of employment, levels of education)*

Sample questions: "Why do people live where they do? What would you do to attract people to a particular location?" "How can an industry influence the demographics of a community?"

D3.3 analyse the major demographic characteristics of the Canadian population *(e.g., rate of natural increase, growth rate, age-sex distribution, dependency load, doubling time, cultural background)*

Sample questions: "How do the demographic characteristics of your community compare with more general national characteristics?" "How is the percentage of working-age people (20–65) in the total population changing? What are the implications of this change?" "What is the age distribution in your community, and how does it affect your community now?"

Using spatial skills: Students can develop their graphic communication skills by using a variety of graphs (e.g., line, bar, circle) to illustrate statistics relating to Canadian demographics.

D3.4 compare settlement and population characteristics of selected communities in Canada with those in other parts of the country and the world

Sample questions: "Choose two communities other than your own, one with a large population and one with a small population. How do the population characteristics of your community compare with the population characteristics of these communities?" "How do the population characteristics of the three largest cities in Canada compare with each other?" "How do Canada's general population characteristics compare with those of other countries around the world?"

D3.5 analyse trends in the migration of people within Canada *(e.g., increase in First Nations, Métis, and Inuit peoples moving into urban centres, rural residents moving to urban centres, people from central and eastern provinces moving to northern Alberta and the Northwest Territories)*

Sample questions: "Why would people choose to leave a rural life and move to an urban settlement? Why would people choose to move to another province or territory? What are the impacts of these trends on society?"

Using spatial skills: Proportional arrows of varying size and thickness are a useful graphic device for illustrating population flows. They can help students visualize where migrants are coming from, where they are going, and how many people are included in each migration stream.

E. LIVEABLE COMMUNITIES

OVERALL EXPECTATIONS

By the end of this course, students will:

E1. **The Sustainability of Human Systems:** analyse issues relating to the sustainability of human systems in Canada (**FOCUS ON:** *Interrelationships; Geographic Perspective*)

E2. **Impacts of Urban Growth:** analyse impacts of urban growth in Canada (**FOCUS ON:** *Spatial Significance; Geographic Perspective*)

E3. **Characteristics of Land Use in Canada:** analyse characteristics of land use in various Canadian communities, and explain how some factors influence land-use patterns (**FOCUS ON:** *Spatial Significance; Patterns and Trends*)

SPECIFIC EXPECTATIONS

E1. The Sustainability of Human Systems

FOCUS ON: *Interrelationships; Geographic Perspective*

By the end of this course, students will:

E1.1 analyse the effects of food production practices, distribution methods, and consumer choices on the sustainability of Canada's food system

Sample questions: "Do present food production practices support the sustainability of the food system?""Why would it be important to have dairy farming close to urban centres?" "What role does the availability of local food play in making communities more sustainable?" "What options are available to consumers if they wish to make more sustainable food choices?"

E1.2 analyse the sustainability of existing and proposed transportation systems, locally, provincially, nationally, and internationally, and assess options for their future development *(e.g., widening highways, creating high occupancy vehicle lanes, creating bike lanes, improving mass transit infrastructure, upgrading train corridors, opening the Northwest Passage to international shipping)*

Sample questions: "What are the costs and benefits of air travel? How do carbon offset programs mitigate the environmental impact of air travel? Are they enough?" "How can changes in transportation systems help to control urban sprawl?" "Why might some communities consider creating a bike lane as an alternative to widening a roadway? Why might this option be better in some communities than others?"

E1.3 analyse the effects of individual lifestyle choices on energy consumption and production, and assess the implications for sustainability in Canada

Sample questions: "What do we, as consumers, use the largest amounts of energy for?" "How might a community meet the energy needs and wants of its residents with the least environmental impact?" "What is the role of stewardship in supporting a sustainable community?"

E1.4 analyse factors that affect the social and economic sustainability of communities *(e.g., diversified economy; investment in public services and infrastructure, such as transportation networks, health and social services, recreational and cultural facilities; educational opportunities; recognition of heritage; diverse neighbourhoods)*

Sample questions: "What is the multiplier effect? How does the establishment or loss of a major industry affect other businesses in a community?" "How have towns that have lost their major industry been able to survive (e.g., Stratford, Elliot Lake)? Why have some other communities become ghost towns?" "What kinds of public services and infrastructure does a community need to remain socially stable and economically viable?" "What role do taxes have in sustaining a community?" "What are the economic and social characteristics of a diverse neighbourhood, and how do they support sustainability?"

E1.5 propose courses of action that would make a community more sustainable *(e.g., improving community/neighbourhood amenities, establishing local markets, replacing individual ownership of equipment with cooperative ownership, sharing cars, introducing a rental bike network, expanding the amount of green space)*

Sample questions: "What criteria could be used to evaluate a community's progress in achieving environmental sustainability? What economic criteria would a plan to improve environmental sustainability have to meet in order to be practical to adopt and viable in the long term?" "Does your course of action support the cultural needs of the people living in the community?"

E2. Impacts of Urban Growth

FOCUS ON: *Spatial Significance; Geographic Perspective*

By the end of this course, students will:

E2.1 assess the impact of urban growth on natural systems *(e.g., impact of urban sprawl, vehicle use, and waste disposal on water and air quality)*

Sample questions: "How might the draining of marshland for urban development affect drainage patterns, the microclimate, and/or wildlife?" "What impact might an increase in population density have on sewage treatment processes and on nearby bodies of water?" "What effects have increases in the amount of paved land had on groundwater? How have water bodies been affected by increased runoff from paved areas, and how might communities that use that water be affected?" "How do paved areas affect air temperature?"

Using spatial skills: Students can use aerial images to analyse changes in urban size and determine how much the area of urban sprawl has increased over time. Remote sensing images can be used to analyse the amount of vegetation growth in urban locations.

E2.2 analyse various economic, social, and political impacts of urban growth *(e.g., cost of expanding infrastructure and public services; health impacts, such as faster spread of disease in densely populated communities, increases in asthma attacks as a result of poor air quality, and stress related to crowding; traffic congestion and related economic costs; conflict over development priorities)*

Sample questions: "In what ways might urban growth influence the type of policing in a community?" "What types of health care services might be needed in a large urban community? Why might they be different from those needed in a small town?" "How might the increased migration of First Nations people from reserves to urban centres have an impact on both communities?"

E2.3 describe strategies that urban planners use to control urban sprawl *(e.g., green belts, high density residential infill, gentrification)*, and analyse examples of their implementation

Sample questions: "How does the official plan for your community address urban sprawl?" "Should there be maximum size limits for cities?" "Should there be restrictions on the use of farmland for development or on other land uses near urban centres?"

Using spatial skills: Official plans provide abundant opportunities for examining planning strategies within a local context. For example, students can assess the extent to which features, such as green belts, park areas, and bike lanes, that reduce the impact of urban sprawl on natural systems have been incorporated in the plan. They can analyse infrastructure needs and capacity (e.g., the number of access roads, water mains, gas lines, or sewage facilities) to determine whether existing infrastructure is sufficient to meet the needs of a locality, or whether infrastructure should be expanded or population growth capped. They can also create their own maps to determine where water and waste management sites should be located or transportation access provided.

E3. Characteristics of Land Use in Canada

FOCUS ON: *Spatial Significance; Patterns and Trends*

By the end of this course, students will:

E3.1 analyse the characteristics of different land uses in a community *(e.g., size and distribution of transportation corridors, differences in residential types, location of industrial land)*, and explain how these characteristics and their spatial distribution affect the community

Sample questions: "What services does a city's central business district or downtown provide? Why is a thriving central business district important to a city?" "How do the commercial land uses within a community help to unite the community or divide it?" "What benefits do recreational spaces and facilities provide for this community? Are all age groups supported by the recreational spaces available?" "Do all neighbourhoods have equal access to parks and green space?" "Why is industrial land often located on the perimeter of the city?" "Why might the location of a specific kind of land use within a community change over time?" "How

do municipal taxes both influence and reflect the characteristics of land use in the community?"

Using spatial skills: Students can gain useful insights into land use and land-use planning by analysing the official plans of various communities to identify features such as low-, middle-, and high-density residential neighbourhoods and relate their location to commercial areas, institutions, recreational spaces, and industrial areas. They may also use these maps to identify specialized areas within communities (e.g., entertainment districts, ethnic neighbourhoods). There is an opportunity as well for students to create their own maps, using the appropriate colour conventions for different types of land use, to show patterns of land use or to use for land-use analyses.

E3.2 explain how the natural environment may influence land-use patterns within the built environment *(e.g., roads tend to be on flatter land; parks are often near water)*

Sample questions: "How has the physical site of a community influenced land use within it?" "Are there any physical features within the community that might have been built (e.g., hills, lakes, waterfront land)? If so, why were they built?"

Using spatial skills: Students can use topographic maps or official plans to analyse relationships between built features and physical features (e.g., waterways and coastal features can influence settlement location and industrial usage; hillsides may be an obstacle to building or an asset for recreational uses; wetlands may be used as flood control reservoirs, recreational areas, wildlife habitat, or, if drained, as building sites).

E3.3 analyse a land-use map or official plan for a specific community, and describe the spatial significance of the community's land-use pattern

Sample questions: "Which type of land use takes up the most space in the community?" "Where is most of the commercial space?" "What reasons support having that type of land use in that particular location and not somewhere else?"