UNIT 1

World Human Patterns

> **How do patterns in human geography affect people around the world?**

Canada's population is small compared to the size of the country. What are the advantages of this? What problems could it cause?

Some nations have large populations living in a smaller area of land. What are the benefits of a more densely concentrated population? What drawbacks can you think of?

Canada is a developed country. How does technology contribute to our standard of living?

How could standard of living be improved in countries with less advanced technology?

What's the Big Idea?

Take a look at the photographs on these pages. Human patterns set countries apart from one another. In Canada, we have no shortage of land, and many opportunities to enjoy a good standard of living. Other countries might have limited resources, or have more limited access to technology. Human patterns of population, community, development, and technology vary widely from one country to another. To help identify these patterns, geographers create maps and graphs. They also use different geographic sources to investigate and report their findings. In this unit, you will use the same methods as geographers to investigate and analyze world human patterns.

Key Terms

site, situation, rural, urbanization, developed, developing, population distribution, population density, birth rate, death rate, net migration, gross domestic product, gross national product, correlation, literacy rate, life expectancy

What You Will Learn in this Unit

- What are the main patterns of settlement and population?
- What factors affect land use?
- How can I compare population and quality of life in different places?
- How can I gather, analyze, and report information using geographic sources?
- How can I produce and interpret maps and graphs to show human patterns?
- How can I use population pyramids to predict trends in developed and developing countries?

Recognizing Community Patterns

Rio de Janeiro, Brazil

Making Connections
List what you like about the community you live in. Create a wish list for what you think your community is missing.

Share your ideas in a small group. How might you modify your list?

WORDS MATTER

landmark a prominent object or landform, such as a hill or building, that identifies a place

Which of these two communities would you most like to visit? Rio de Janeiro, Brazil, is a huge metropolis, with a large ocean harbour, sandy beaches, and surrounding mountains. Lunenburg is a small Nova Scotia fishing town, filled with historic structures. Both communities have important **landmarks** that set them apart, making them unique.

Every community has its own distinct character, created by geography and history. Human geography is the study of the imprints people make on the face of the earth. In this chapter, you will see that places such as Rio de Janeiro and Lunenburg, although different, share important characteristics in location and land use. This will help you recognize geographic patterns in your own community. It will also support this unit's Big Idea: **How do patterns in human geography affect people around the world?**
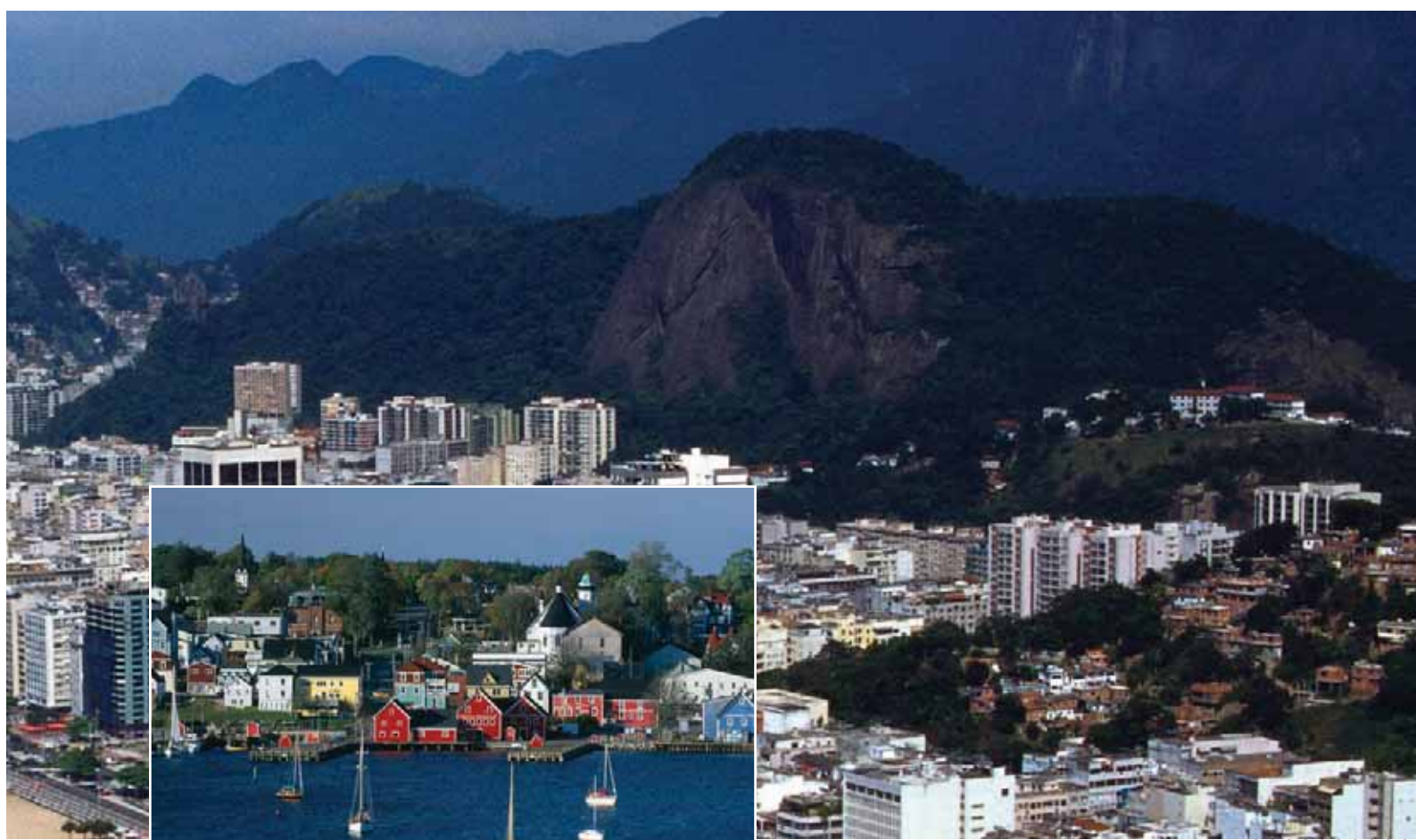
Lunenburg, Nova Scotia

Questions to Consider as You Read this Chapter

- What are the different types of communities?

- How do site and situation influence settlement patterns?

- How can I identify different types of land use in my local community?

- What factors affect urbanization, industry, and transportation?

- How can I use maps to interpret information about patterns in human geography?

How Are Communities Different?

During READING

Checkpoint

Remember to examine what you see in the picture and also question what you do not see. Consider: Who took the photo? Why? Refer to the Skills Tool Kit pages on analyzing images (pages S 12– S13).

The subject of **geography** has been around for more than two thousand years. Like geographers today, the ancient Greeks were interested in connections between people and the earth. These early geographers often compared conditions in different places and regions to gain a better understanding of the world around them. Why is making such comparisons an important theme in geography? Let's apply the focus of geography to comparing three different types of communities: rural, urban, and suburban.

Rural Settlements

Do you live in the city, in the country, or somewhere in between? **Rural areas** usually have a population of fewer than 1000 people, and include farms and small communities. There are many countries with large rural populations, particularly in the **developing nations**, where many people farm or fish to feed themselves and their families. A century ago, more than half of Canada's population was rural. The landscape was dotted with small farms, and nearby villages provided basic services. Today, Canadian farms are much larger. Many hamlets and villages have simply disappeared. Most rural people drive to the nearest large town or city to buy what they need.

Droughts, storms, floods, insects, and crop diseases can threaten farmers in all areas of the world. Some communities may also face political unrest, war, and poverty. How do these factors affect where Canadians settled in the past? In the present?

Urban Settlements

You probably live in an **urban settlement.** Eighty percent of Canadians now live in cities or towns. **Urbanization**, which is the growth of urban places, has been one of the most important changes in human geography patterns since about 1950. That year, only a little more than 25 % of the world's population was urban. By 2007, according to United Nations estimates, 50 % of the world's people lived in urban settlements.

All around the world, people are leaving rural areas and moving to urban centres in search of opportunities for a better life. Often, cities in developing nations fail to meet the hopes of these rural migrants. Rapid urban growth can also cause other types of problems in developed nations. Housing shortages, high-cost housing, and the "tent cities" of the homeless—those who live without water services or electricity—are also found in countries such as Canada.

During **READING**

Checkpoint
Remember to add this information to your fishbone organzier.

WEB LINK •••••••••••••••••••
For more information about city populations around the world, visit our Web site.

In some cities in developing nations, housing shortages are severe and conditions are very crowded. Most rural migrants cannot afford to pay for water or electricity. Unemployment rates are usually high, leaving many residents in poverty. If you were the mayor of this city, what could you do to improve the lives of these people?

Housing shortages can also affect Canadian cities. In the case of Fort McMurray, Alberta, an employment boom led to so many new arrivals that there was a shortage of housing. Hundreds of workers scrambled to find homes. Many ended up living in trailers.

Suburban Settlements

Does your family have more than one car? Two-vehicle households are common in the suburbs of North America. The growth of suburbs has been a population trend in **developed nations** since about 1950. Widespread car use is both a cause and a result of urban growth and **suburban settlements**—residential areas on the outskirts of urban areas. Suburbs have grown because the car makes travel easier and more convenient. However, families often rely on their vehicles to travel to work, stores, and other activities. Increased use of cars adds to air pollution, as well as decreasing the exercise a person might get from walking or cycling to their destinations. Suburban growth can also gradually connect separate cities together.

The Greater Ottawa Area

Legend
— Provincial highway
— Secondary highway
+—+—+ Railway line
▨ Built-up area
• Municipality

0 2 4 km
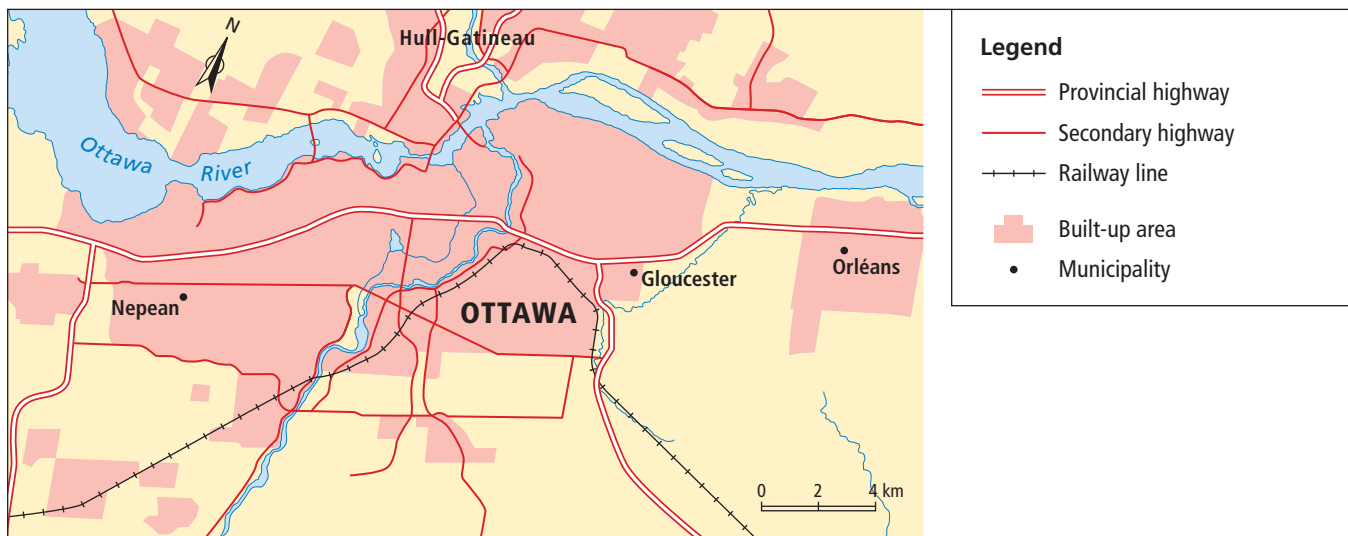
Which areas on the map have suburban settlement? How do you know?

WORLD RECORDS

Megalopolis, U.S.A.

Imagine an urban area with over 50 million people in it! The world's first mega-city stretches along the American east coast from Boston, Massachusetts, south to Washington, D.C. The heart of this megalopolis is New York City. Can you guess why geographers call it "Bosnywash?"

THINKING It Over

1. Use the text and table of contents to make a web that identifies examples of patterns in human geography. How does the web help you better understand the topic? **k c**

2. **a)** Why are cities in the developed nations growing so fast? **k**

   b) Why have suburbs grown so rapidly in the developed world? **k**

   c) How has suburban settlement helped to create "Bosnywash?" **k**

3. Make a chart organizer to summarize the following information from the photos in this section: a) a description of the photo, b) challenges faced by the community shown. **k c**

Where Communities Locate

Would you like to visit Walt Disney World in Florida? Better still, how would you like to live there year-round? Imagine life in Celebration, a unique community planned and built by the Disney Corporation. This Orlando suburb is located near the gates of Walt Disney World, and is designed to create the neighbourly feeling of a small town. Many people who have enjoyed the theme park want to move to Celebration. To them, it is the perfect community, with an ideal **site** and **situation**.

What makes the location of Celebration, Florida, so popular? How might locations in Canada compare?

What Is Situation?

In geography, situation describes the regional surroundings of a community. Favourable situation factors help explain why a community is growing and prospering. This "big picture" of location includes landforms, waterways, labour force, and highways. Communities in the same region often share the same situation factors. For example, Celebration is one of many Florida communities that enjoy a warm and sunny winter climate.

Physical Situation Factors	Human Situation Factors
• landforms	• population
• climate	• labour force
• waterways	• transportation
• natural resources	• market

What Is Site?

Every community has a site, or the exact spot where it is located. The site has certain characteristics that attracted people to build there in the first place, such as reasonably flat land for homes and a fresh water supply. Aboriginal communities were often near water (lakes, rivers, and seacoasts). In addition, there are four kinds of sites which have favoured the growth of communities. As you read, discuss some possible drawbacks that each site may have.

Harbour Site	Natural Resource Site
Many cities in the world have developed around natural harbours. Deep, ice-free harbours shelter boats from storms, and provide space to build docks and warehouses. Think of San Francisco, California, and Halifax, Nova Scotia.	Communities develop where natural resources are either gathered or processed, such as near mines or waterfalls. Minerals might be processed on site. Think of gold mining communities such as Kalgoorlie, Australia, and Dawson City, Yukon Territory.
Strategic Site	**Meeting Point Site**
During times of strife, people build defences and settlements at strategic sites. These places provide protection as well as control over territory. These locations are often sites where elevated land overlooks an important route. Think of Edinburgh, Scotland, and Québec City, Québec, both of which grew around a citadel placed on a hill.	Settlements develop at transportation junctions. In the past, crossroads were a favoured location to build rural schools, places of worship, and community halls. Basic commercial services soon followed. Meeting point sites could also occur along waterways. This is the case for London, England, and Thunder Bay, Ontario.

Site Factors
• natural harbour
• meeting point of transportation routes
• access to a resource
• elevated land
• flat land for building
• fresh water supply

Hamilton emerged as Canada's major steelmaking centre more than a century ago. Using the list as a guide, what site factors can you identify in this photo? What are the potential challenges of this location?

Map Skills and Location

An atlas includes many **thematic maps** covering different regions and themes. These include landforms, waterways, population, transportation, and other aspects of situation. Before you use an atlas to determine the situation of a place, let's review map-reading skills.

Symbols and Legends

Geographers can read maps by interpreting meaning from symbols, colours, and designs. They use map legends to identify the meaning of three types of symbols—area, line, and point.

Area Symbols	Line Symbols	Point Symbols
Colours used for larger areas such as natural features, lakes, parks, and cities	May connect places (roads, railroads, rivers) or divide them (boundaries)	Small designs used for towns, lighthouses, and other human activities

Direction and Distance

To use a map, you must understand where places are in relation to one another, and how far apart they are. The direction from one community to another is determined using compass direction. One way to describe the **relative location** of a place is to describe its direction and distance from some other place. For example, Hamilton is located southwest of Toronto, 69 kilometres by road. The **compass rose** represents the major directions pointed out by a magnetic compass. The top centre of most maps is located at north (unless it is marked differently).
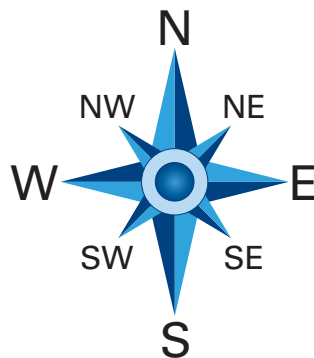
A compass rose. Since Hamilton is located southwest of Toronto, what direction would you travel to go from Hamilton to Toronto?

Look for the map **scale** if you want to measure distance on a map. There are three types of scale:

- statement scale: 1 cm = 1 km means that every centimetre on the map represents one kilometre on the earth's surface

- ratio scale: 1:100 000 means that each unit on the map (for example, one centimetre) represents 100 000 of the same unit on the earth's surface (that is, 100 000 centimetres or one kilometre)

- line scale: a ruler can be placed along this type of scale to measure map distance. Look at the diagram for an example.

1 cm = 1 km

kilometres   Scale 1:100 000

1   0   1   2   3   4   5

0   1   2   3   4   5
cm
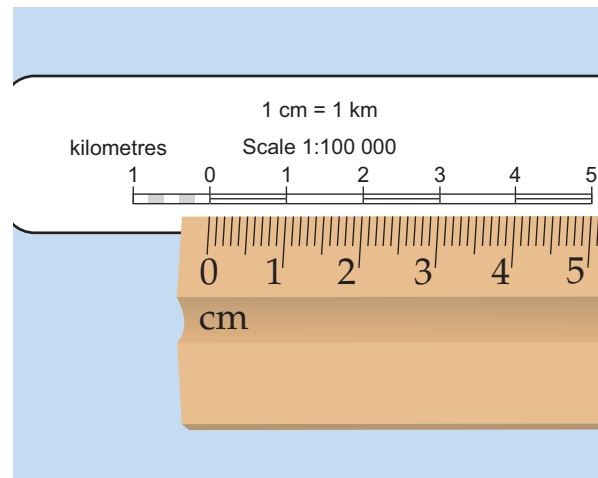
Absolute Location

The **absolute location** of a place can be found using two different systems. The easiest one is the **alphanumeric grid**, which uses lettered squares along one edge and numbered squares along the other. Another location method is **latitude and longitude**. With this system, you use the lines to find location, not the squares, as with the alphanumeric grid. This method is ideal in determining site.

	1	2	3	4	
A					A
B			B3		B
C					C
D					D
	1	2	3	4	

Place	Page	Grid Location	Latitude	Longitude
Rio de Janeiro, Brazil	123	E4	22° 50' S	43° 17' W
Lunenburg, Canada	72	C2	43° 23' N	64° 19' W

Pearson School Atlas, 2003

Hamilton: Situation Factors

Legend

Administration

Boundaries
- ━ ━ ━ International
- ───── Regional
- - - - - Municipal

Communications
- ═══ Major highway
- ─── Other highway
- ┼─┼─┼ Railway
- ✈ Airport

Urban population
- ● Over 1 000 000
- ● 500 000 – 1 000 000
- ◉ 100 000 – 500 000
- ◎ 25 000 – 100 000
- ⊙ 10 000 – 25 000
- • under 10 000

Settlement
- ▨ Urban area

Relief and physical features

Elevation
- 1000
- 500
- 200
- sea level

Sea depth
- 200 m
- 4000
- 6000

Water features
- River
- Canal
- Lake/Reservoir

THINKING It Over

1. Identify the absolute location of Hamilton using the alphanumeric grid and approximate latitude/longitude.

2. Use compass directions to describe Hamilton's location in relation to a) Toronto, b) Niagara Falls, c) Guelph.

3. Use the map scale to measure the distance from the Hamilton airport to the centre of each of the three cities in question 2.

4. Use the map to record information about Hamilton's situation in southern Ontario:
   - Physical factors: landforms, waterways, climate, natural resources
   - Human factors: transportation, electrical energy, labour force, customers for products

Using a Topgraphic Map to Analyze Site

You used a regional map on page G 13 to interpret Hamilton's situation factors. It has a ratio scale of 1:1 000 000, a view from above that you might see from a high-altitude jet. The map on the next page is 1:250 000 in scale. This view is much closer to the earth, like the view from a helicopter. This is a **topographic map**, ideal for analyzing a city site.

WORDSMATTER

topographic map a very detailed map showing physical and human features through the use of contour lines and other symbols

Step 1   Identify Physical Symbols and Patterns

Physical features are shown in the colours most common in nature: brown, green, black, and blue.

Area colours	Line symbols	Point symbols
■ body of water	— elevation contour	∴ sand
■ forest	∼ stream	

Look closely at the map on the next page. What do the tightly bunched brown contour lines forming a pattern around Hamilton Harbour indicate? The main part of the city is located below these cliffs, which are part of the Niagara Escarpment, a steep ridge that crosses Ontario from Niagara Falls to Manitoulin Island.

Step 2   Identify Human Symbols and Patterns

Pink, red, and black are the colours commonly used for human features on topographic maps.

Area colours	Line symbols	Point symbols
■ built-up area	=⟨403⟩= divided highway	⊙ Com 333 communiation tower
	—— secondary highway or major street	⊙42 chimney

Examine the map. How have major transportation routes been affected by the Niagara Escarpment in the Hamilton area?

Use the map symbols to identify physical and human features.
What makes this an ideal city site? What are the possible limitations?
Explain.
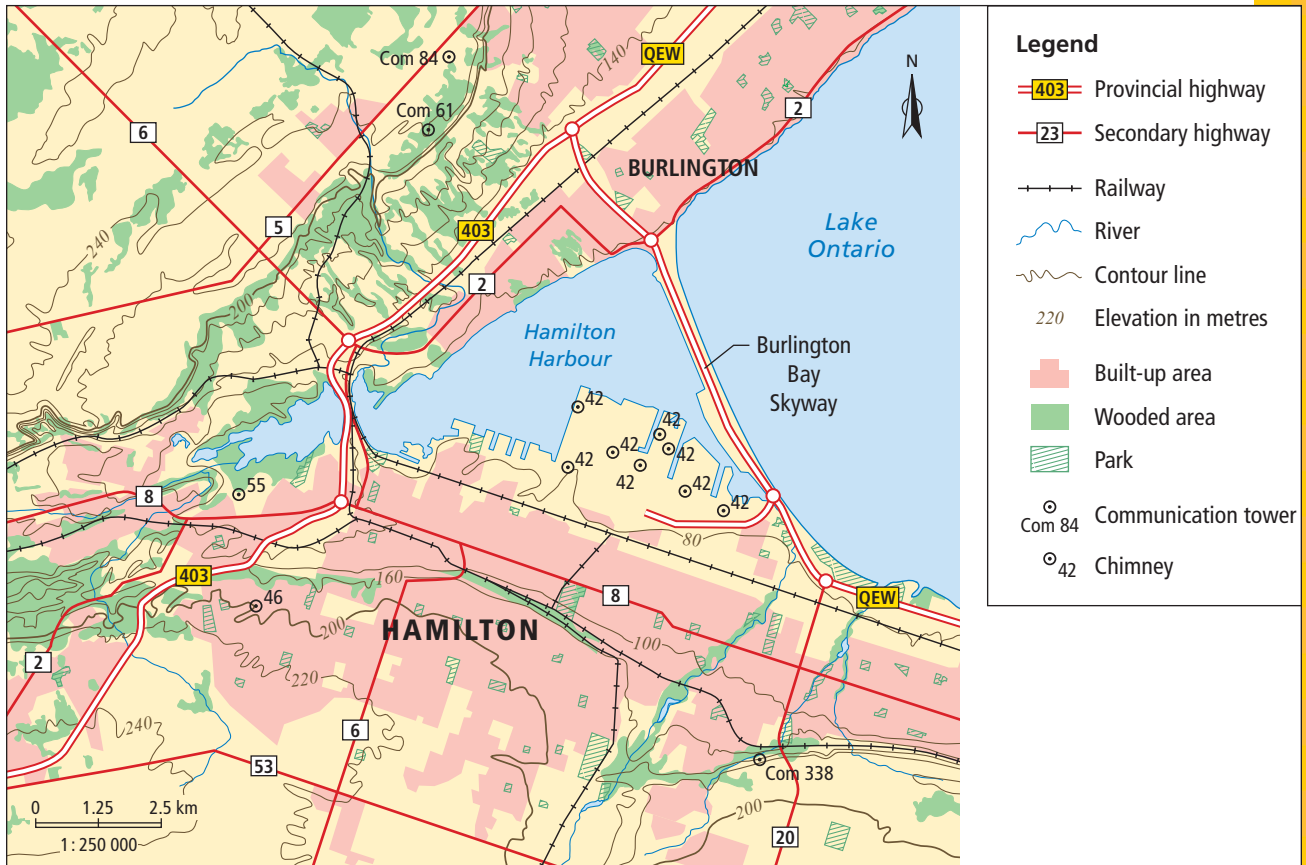
APPLY It

1. Use the physical symbols to list and briefly explain site factors for Hamilton. 𝗆

2. Use the human symbols in the same way. 𝗆

3. Find the location of the photograph from page G 10 on this map. How can you tell? Why are the steel mills located here? 𝗆

4. Make a simple sketch map of the Hamilton area. On it, draw and label the city site factors you identified in the preceding questions. 𝗆

Patterns Inside Communities

Imagine that you could design the perfect community. How would it be different from the place where you live now? What sorts of attractions and services would be available? How would people get from place to place, and how much "green space" would there be? How would people in the community earn a living? Think about these questions as you read the next few pages. You will have a chance to draw that ideal community.

Communities around the world have different patterns within them. Farm fields, homes, a park, or commercial businesses are all different land uses. **Land use** is the purpose for which people use a particular area. The patterns differ within a community, and from one town to the next. But any urban place will have most of the following types of land uses.

What factors might affect city planning in the future?

During READING

Checkpoint

Refer back to the wish list you created at the beginning of this chapter. Do you have new information that might change your list?

Land Uses in the North American City

Land Uses (x-axis), % of Land (y-axis)

Legend:
- Residential
- Transportation
- Public Buildings
- Parks
- Industrial
- Commercial
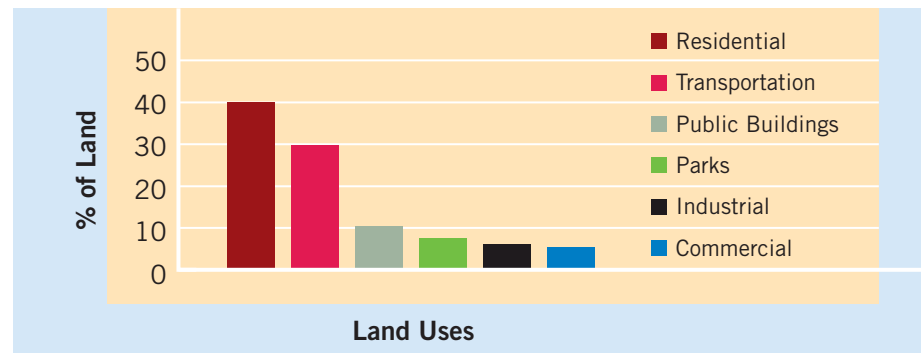
In your ideal community, which of these land uses would take up more space? Which would use less space?

Simplified Land Use Pattern

Farms / Low-density residential / High-density residential / Commerical
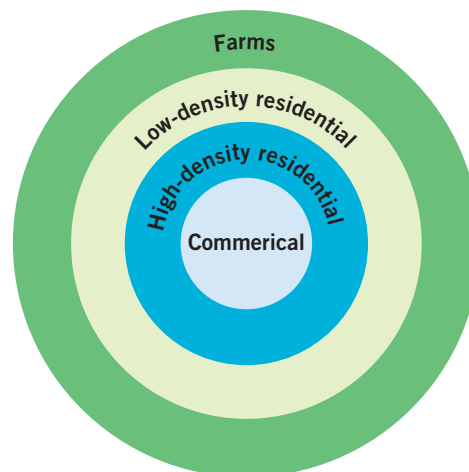
Where do you think industries would most often be located in this diagram? Where would you put parks and open space?

Check Your Neighbourhood

Look close to home to learn about land use patterns. In a rural area, there may be agricultural land all around you. In an older urban centre, streets may be laid out in a grid pattern of straight lines, with stores and services at major intersections and along **traffic arteries**. Schools and places of worship are likely in these locations too. There may not be much parkland or open space, unless the older neighbourhood is near a river valley or a shoreline. Older urban areas usually grew without much planning.

Land use patterns are different if your home is in a newer suburban area. Residences there are often located on quiet crescents and courts to reduce local traffic, while the whole area is designed around schools and parkland. Curving streets that lead into the neighbourhood connect it with local shopping centres and other services. The land use patterns here didn't just happen—they were planned before anything was built. Community planning in Canada has only happened in the last sixty years.

In Canada, land use is controlled. **Urban planners** prepare a land use map showing uses for different areas. When the land use map is approved by the local government it becomes law, called the Official Plan. Only land uses which conform to the Offical Plan are permitted in each part of the community.

Land Use Patterns
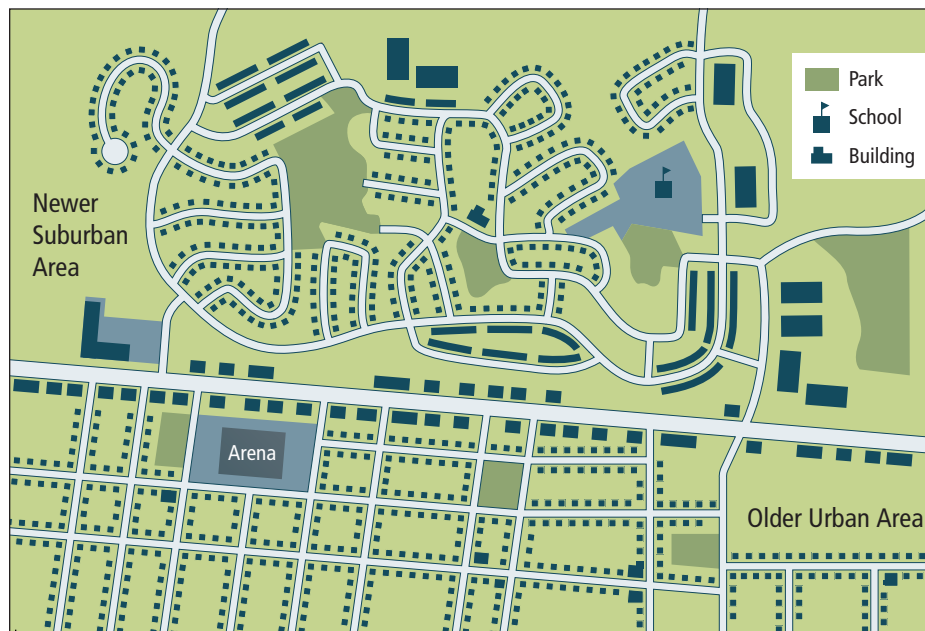
How do land use and street patterns differ in the older and newer parts of a community?

Urban planners also plan for people's needs. Wheelchair users, for example, need ramps and wider sidewalks to make public spaces accessible.

WEB LINK •••••••••••••••••
Discover the community patterns of Toronto using an interactive map. Visit our Web site.

Community Land Uses

Residential

Communities often include different types of residential land use. They can range from detached houses on big estate lots to linked homes or high-rise apartments. Apartment buildings are often located along major streets with good access to stores and public transportation. What types of residential land use are found near your home?

Transportation

Streets, highways, and parking lots cover nearly one-third of the space in a typical North American city. People and products continually flow along transportation systems. Highways, railways, and water routes carry raw materials and finished products between manufacturers and customers. What are the main transportation routes near your home?

Institutional

There are many different types of public buildings in a community including schools, hospitals, religious centres, libraries, public arenas, and government offices. Often, the largest institutions are located in or near the downtown area. Many public buildings, such as schools and places of worship, are scattered throughout the community, to better serve the public. Which institutional land uses are located near your home?

Parks and Open Space
Residential land uses are often close to parks and open space. Urban planners also use parkland to screen residential areas from the noise of traffic or industry. Parkland along trails and streams may divide one urban neighbourhood from another. How far is your home from open space?

Industrial
Industrial land uses bring business into the community and create jobs. They often cover large areas of land close to important transportation routes. Older industries may be located near the centre of the community, along waterways or railroads. New clusters of manufacturing and warehousing businesses, called industrial parks, are usually built along major highways on the outer edge of town. Where are the industrial areas in your community?

Commercial
Most places have a central business district located in the middle of the community. Some communities have thriving downtown areas, while others are dying out because of competition from shopping malls and "big box" stores in the suburbs. Like industrial parks, these commercial areas use up large amounts of land. How far do you live from the nearest large shopping centre?

How can communities become more **sustainable**? "Greener" places in which to live can use clean alternative energy sources and extensive public transportation systems. They could have more efficient garbage disposal and recycling, and feature natural areas. Should care for the environment be part of community planning? How might a small community deal with environmental concerns *and* new economic opportunities?

Make a "greener communities" web chart. Share knowledge or do research to add details or examples for each topic.

WEB LINK ••••••••••••••••••••••

For more information on sustainable cities, visit our Web site.

Communities Change

The photos on the previous pages show some important changes taking place within communities. Green space is now used to separate land uses such as industry and homes. More industries locate on the urban edge than in the city centre, and many downtown businesses struggle to survive against suburban mall competition.

Changes also take place in rural communities due to the growth of "cottage country" or economic development. The diagram below shows factors that create change in communities. Are any of these factors changing land use in your community? Which types of change are shown in the news story below?

Types of Change
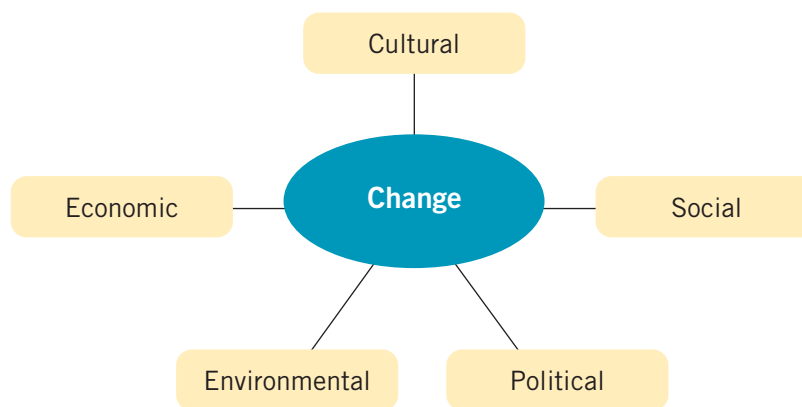
City's Downtown Population Surges

October 26, 2007
John Spears *Toronto Star*

The explosion of high-rise condominiums in Toronto's downtown isn't an illusion. The population of the downtown core has grown by 65 percent in the past 30 years, and nearly 10 percent in the past five.

That makes downtown Toronto one of the fastest-growing communities in Greater Toronto, says a new report by the city's planning staff.

And the newer residents are wealthier, better educated, and less likely to have children than their downtown neighbours.

"Downtown may be the fastest-growing area of the city, but it's not sucking the life out of other neighbourhoods," said Barbara Leonhardt, director of policy and research in the planning department. "We're seeing growth in other areas as well—all the areas where we want to see it happen: the North York centre, the Scarborough centre, the Etobicoke centre and along the avenues."

A photo of Rio de Janeiro, Brazil, appeared at the beginning of this chapter. Like some cities in developing countries, its land use patterns are quite different from those of Canadian cities. Large urban places in Latin America, Asia, and Africa have experienced tremendous migration from rural areas. Migrant newcomers are not always supported, and the cities can be encircled by large slums where there is high unemployment and few basic services. By contrast, the outlying suburbs in North American cities are usually well-planned neighbourhoods with services such as garbage collection, sewers, water, and electricity. Most people commute to work.

Latin America has some of the largest cities in the world. There is great contrast between the wealth in the city centre and the poverty in the outer edges. Most of the commercial activity and employment in Mexico City, São Paulo, Buenos Aires, and Rio de Janeiro is found downtown. Many tall office buildings and luxury apartments are also downtown, surrounded by high-quality housing. Between these homes and the outer slums is a middle zone, where people who came to the city years before are gradually improving their homes.

Five Biggest Cities, 2005 (Population in millions)	
1. Tokyo, Japan	35.2
2. Mexico City, Mexico	19.4
3. New York, USA	18.7
4. São Paulo, Brazil	18.3
5. Mumbai, India	18.2
– Buenos Aires, Argentina	12.6
– Rio de Janeiro, Brazil	11.5

THINKING It Over

1. Describe your neighbourhood street and land use patterns. Are they rural, urban, or suburban? Explain. **k** **t**

2. How do cultural, environmental, and political changes affect your community, or another location in this section? Do more research if necessary. **t**

3. Use a chart organizer to compare city land use patterns in Canada and Latin America as follows: a) the city centre, b) the outer edges, c) the zone in between. **k** **c**

4. Draw a map or a diagram to show your ideal community or neighbourhood. Include at least four different land uses, as shown in the photos on pages G 18 and G 19. **c** **a**

PUTTING IT ALL TOGETHER

You have seen that many community patterns are different around the world. Rural, urban, and suburban places each have their own characteristics and problems in both developed and developing countries. You learned that all communities form at a location that offers certain advantages of site and situation. You also saw that inside each community there are different land use patterns that make each place unique. These patterns continually change for a variety of reasons. Finally, you learned that land use patterns in developing countries can be different from those in developed countries such as Canada. This information helped you in your study of the unit's Big Idea: **How do patterns in human geography affect people around the world?**

After **READING**

Use the Main Ideas to Summarize the Text

When you summarize a text, you should show the important ideas and information. In this chapter, you studied the differences between communities. Now summarize the information in the chapter by using your fishbone organizer. How do the main ideas relate to the concept that "communities are different?" What details support the main ideas? Create your summary by writing a short paragraph in your own words. All of the main ideas on the fishbone should be included in the summary.

THINKING It Through

1. Describe Québec City's location on the map of eastern Canada on the opposite page. Where is it situated in relation to waterways and human transportation? Is Québec City well situated for trade and shipping? Why or why not? Explain. **k m a**

2. Examine the close-up map of Québec City. Use map evidence to prove that the city developed as a) a harbour site, b) a meeting point site, and c) a strategic site. **k m a**

3. a) Imagine that a magnetic compass sits in the centre of the close-up map. Use the eight directions of the compass and the term "middle" to describe locations for these land uses in Québec City: i) parks and open space, ii) industrial, and iii) central business district. Explain your reasons by using map evidence. **k m a**

   b) Name three different examples of institutional land uses you can read from the map of Québec City. **k m a**

Québec City: Situation Factors

Legend

——	Provincial highway
—	Secondary highway
✈	Airport

Elevation

- 1000
- 500
- 200
- sea level

QUÉBEC

Québec

Montréal

ONTARIO

U.S.A.

NEW BRUNSWICK

PRINCE EDWARD ISLAND

NOVA SCOTIA

St. Lawrence River

Gulf of St. Lawrence

ATLANTIC OCEAN

0   75   150 km
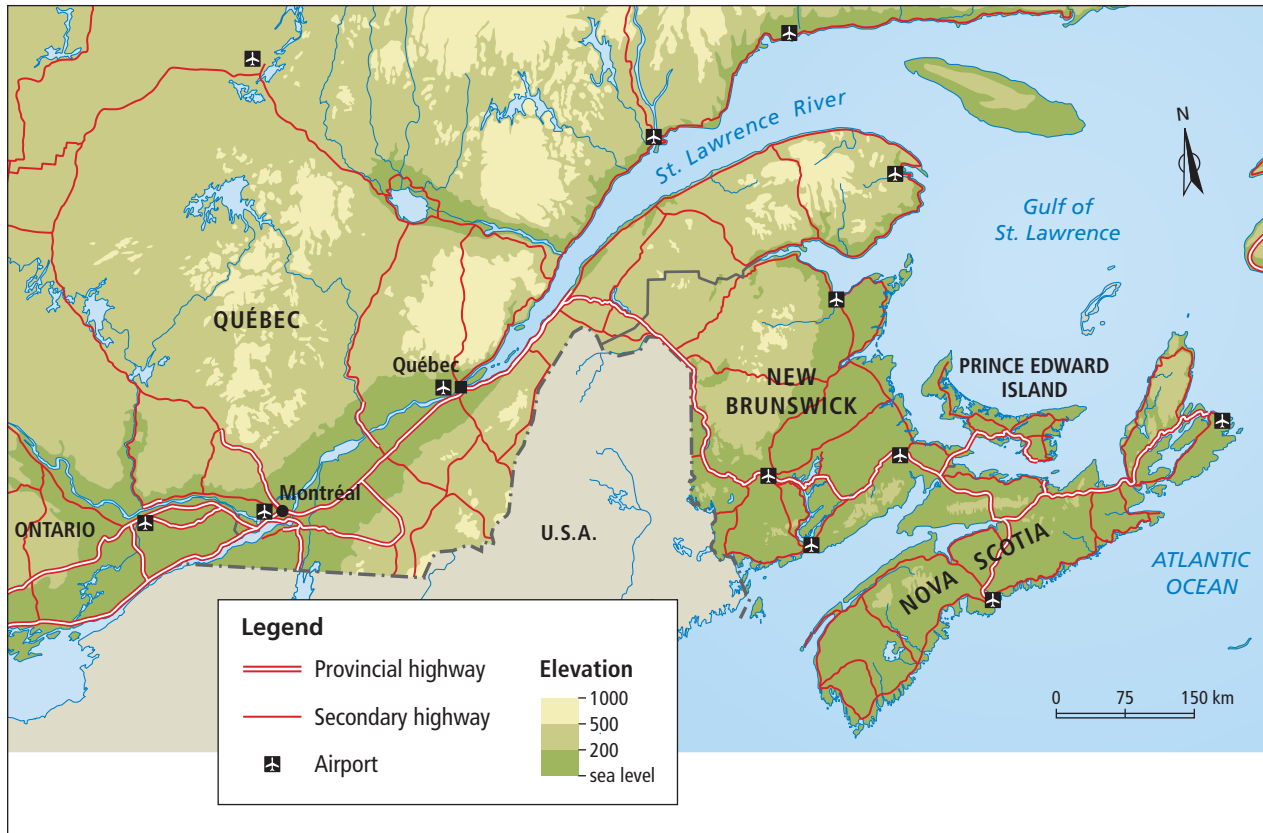
Québec City: Site Factors

Legend

440	Provincial highway
138	Multi-lane principal highway
23	Secondary highway
——	Main road
+++	Railway
⧓	Bridge
∿∿	Contour line
101	Elevation in metres
■	Large building
(pink)	Built-up area
(green)	Wooded area
(hatched)	Park

Pulp and paper mill

Warehouses

Saint-Charles River

Hospital

Arena

Hospital

QUÉBEC CITY

City hall

Parliament buildings

Citadel

St. Lawrence River

0   .5   1 km

1 : 50 000

Exploring Population Patterns

Thousands of people enjoy a sporting event in England

Before READING

Making Connections

Think about your neighbourhood. Where are most homes located? Why is this? Now, look at a population map of Canada. Using your knowledge of physical geography, predict why you think certain areas have larger communities.

People are complex social animals. They can live, work, and play in big crowds, but they need some privacy and quiet too. Are you a person who likes the excitement and commotion of busy places or big events, or would you rather take a quiet walk? Do you prefer living, working, and playing in large or small groups? There are some regions of the world with such great numbers of people that you regularly find yourself surrounded by crowds and noise. At the same time, there are regions so empty that you would often be in a small group or even alone.

In this chapter, you will interpret patterns of population distribution and density, and learn about the main factors affecting world population trends. A strategic card game will allow you to practise your understanding of population growth and decline. You will also construct a population pyramid to make predictions about Canada's population in the future. This chapter will give you insight into the unit's big idea: **How do patterns in human geography affect people around the world?**

Gardens can offer space for quiet reflection.

Questions to Consider as You Read this Chapter

- What do linear, scattered, and clustered settlement patterns tell about population and land use?

- What factors can I use to compare places with high and low population densities?

- What are the main factors affecting population distribution?

- How can I predict job skills that will be needed as Canada's population grows?

- How can I construct population pyramids to predict population trends?

Thinking About Literacy

Reading Graphs

At the end of this chapter you will be asked to create a population pyramid. A population pyramid is a type of graph that shows information about age groups of people in a country. As you go through this chapter, you will see different types of graphs used to study and present geographical information. You can read more about graphs in the Skills Tool Kit, page S 16.

While you read: Add to the following chart for each graph you find in this chapter.

Page #	Graph/Type	Notes

Population Distribution and Density

Rate your views on each population issue below using a scale from 1 to 5, as shown in the margin. Record your answers by letter and number in your notebook. Afterward, compare your views with others.

a) A small community is the ideal place to live.

b) The population of our community is too large.

c) A country with a large population is more important in the world.

d) At 33 million, Canada already has enough people.

e) The earth has the resources to support a larger population.

f) At 6.6 billion, our world is dangerously overpopulated.

Canada had 1/200th of the world population in 2007.

There are no right or wrong answers to these questions. For example, the earth does have abundant natural resources, but there are two basic problems—many people badly misuse these resources, and each person in a developed country like Canada uses a much greater share than someone in a developing country such as Nigeria. You will learn more about this imbalance in Chapter 3.

WEB LINK •·······················

To study maps of Canada's population, visit our Web site.

Type of Place	Typical Population	Examples	Population (2006)
hamlet	Fewer than 200	Scandia, AB Ballymote, ON	137 100
village	200–1000	Saint-Célestin, QC Burk's Falls, ON	762 893
town	1000–10 000	Lillooet, BC Smooth Rock Falls, ON	2324 1473
small city	10 000–50 000	Moose Jaw, SK Kenora, ON	32 132 15 177
city	50 000–100 000	Red Deer, AB Sault Ste. Marie, ON	82 772 74 948
metropolitan area	More than 100 000	Halifax, NS Ottawa, ON	372 858 812 129

Which type of community do you live in? How might this have affected your answers to the questionnaire at the top of the page?
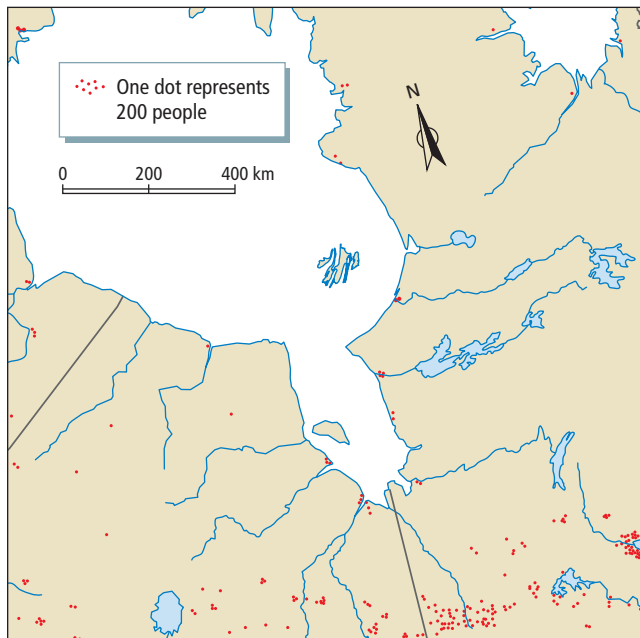
Population Distribution

Rural, urban, and suburban communities would look different if you saw them on a **dot distribution map**. This type of map uses dots to show the spread of population. Each dot represents a certain number of people. For example, in the maps on these pages, one dot represents 200 people. Larger populations mean a greater concentration of dots. The arrangement of dots may form a pattern following a natural or human feature, such as a shoreline or a highway. Geographers use dot distribution maps to identify three **population distribution** patterns: scattered, clustered, and linear.

Scattered Population

Picture this TV commercial. A man struggles through Canada's treeless northern tundra. He finally reaches an isolated store, only to find that his favourite soft drink is not sold there. Disappointed, he begins to search for another place that sells his brand.

He will not find another store soon, because people are far apart in the North. **Scattered population** occurs where resources are limited and can support only small numbers of people. Australia's interior is mostly dry desert, where people may work on isolated ranches or in mining towns. The settlement pattern of northern Canada is similar, but for different reasons. Cold conditions and rocky terrain have resulted in a scattered pattern of settlement, based on hunting, mining, and support services. Aboriginal populations in the past also followed this population pattern.

One dot represents 200 people

0   200   400 km

Scattered Population
Use a map of Canada to find the area shown here. Then, suggest two reasons why this region has a scattered population.

During **READING**

Checkpoint
Imagining a picture in your mind is called visualization. Good readers visualize whenever they read.

Our Environment

Fragile Environments
Regions with widely scattered populations often have fragile environments easily affected by human activity. Permanently frozen ground called permafrost underlies large areas of northern Canada. Global climate change is melting the upper layers of the permafrost zone, causing buildings and roads to sink and collapse.

Use information on climate change in Canada to make a flow chart showing the effects of climate change on the arctic environment.

Clustered Population

Clustered population patterns form when many people settle together in a relatively small area. This may happen where there is a favourable climate, rich natural resources, and major transportation routes. These situation advantages draw people and industry. There are 27 **census metropolitan areas** in Canada, from Victoria, British Columbia, to St. John's, Newfoundland and Labrador. Metropolitan Toronto is the largest, with 5 406 300 people (2006).

One dot represents 200 people

0   200   400 km
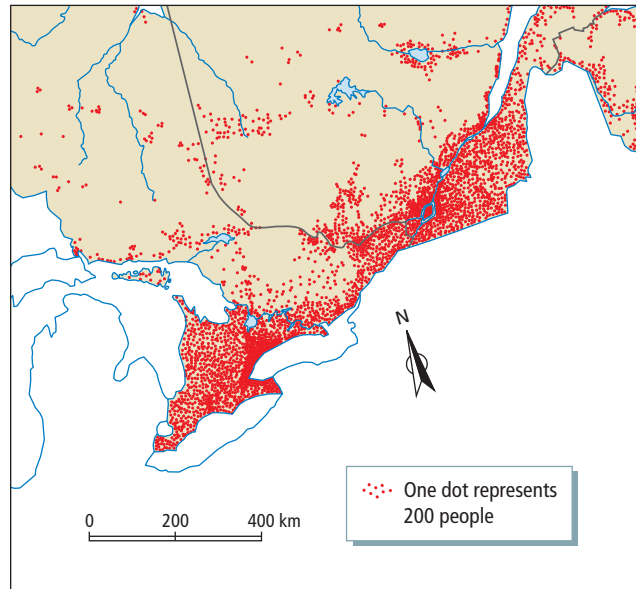
Clustered Population
Use a map of Canada to find the area shown here. Suggest two reasons why this region has a clustered population.

Linear Population

A **linear population** pattern occurs where natural and human-made routes cause settlement to be arranged in a line. Rivers such as the St. Lawrence in Canada and the Nile in Egypt have communities along their banks. These settlements probably developed when the

One dot represents 200 people

0   200   400 km

Linear Population
Use a map of Canada to find the area shown here. Then, suggest two reasons why this region has a linear population.

rivers were the main transportation routes. When railways were built across the Canadian West, stations were built at intervals along the lines. Communities developed at most of these places because the trains stopped there for passengers and grain shipments.

World Population Densities
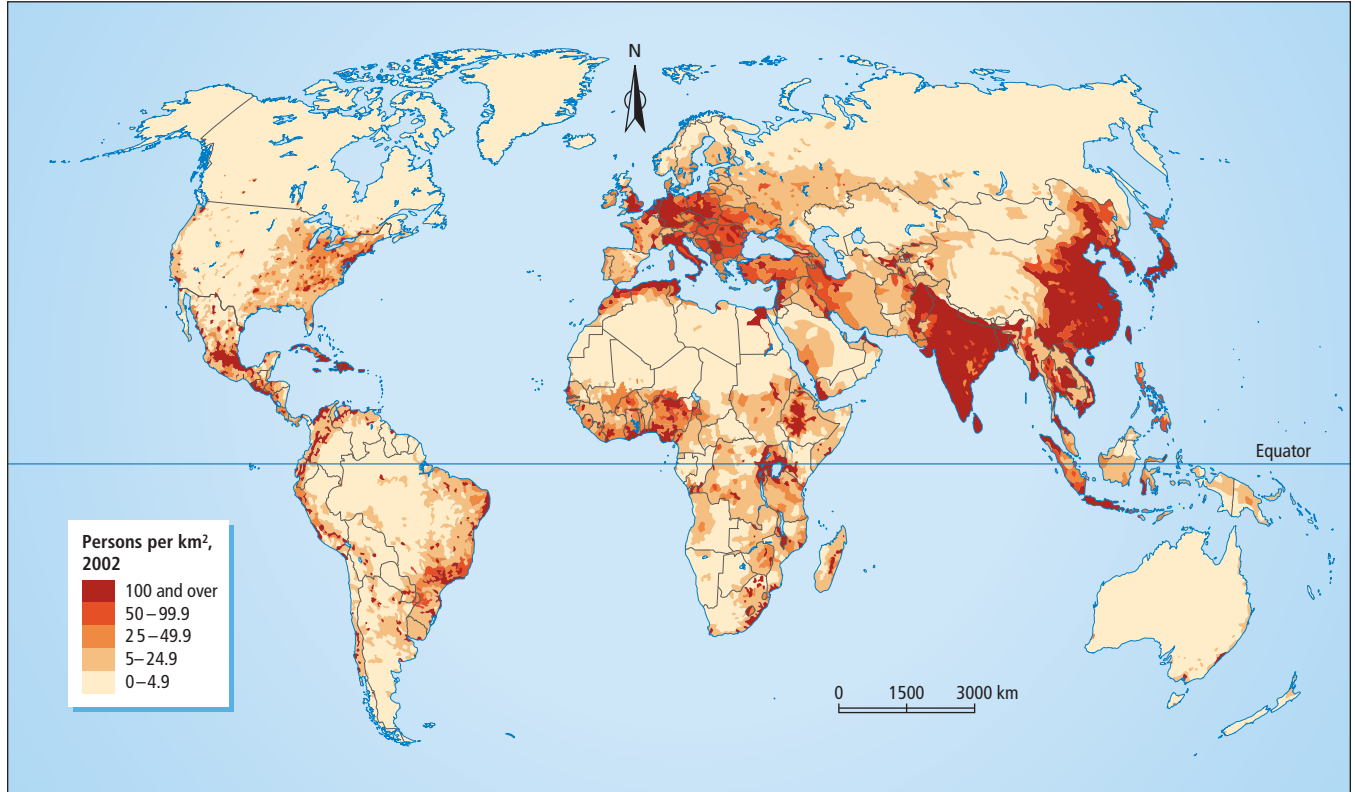
How does Canada's population distribution and density compare to other areas of the world? What factors can help explain this?

Population Density

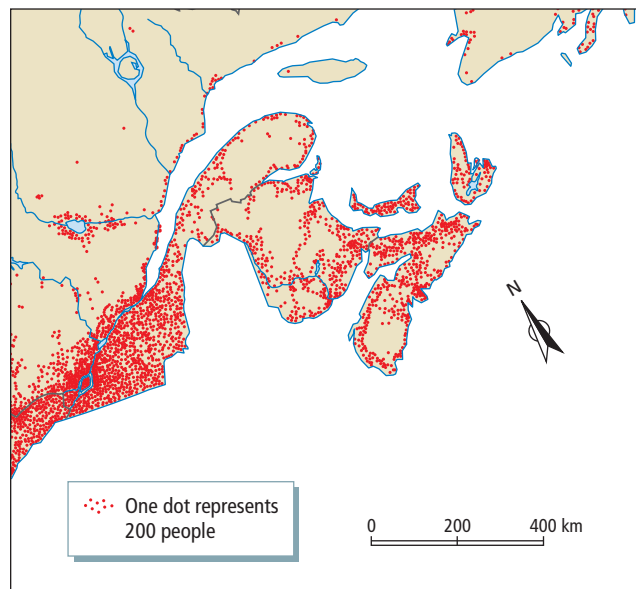**Population density** is a measure of how many people occupy an area of land. Your classroom has an area of about 100 m². When just one person is in the classroom, the population density of the room is 1 person per 100 m². This is the same as 10 000 people per km².

Bangladesh, in Asia, has about 1100 people per km², one of the highest densities in the world. Each person in Bangladesh has less space than one small school—just 9 classrooms. The small Asian territory of Macau has an amazing density of 16 205 people per km². Each person there has only as much space as about half of your classroom.

In contrast, Canada's population density is only about 3 people per km², one of the world's lowest. That is like having one person wandering through 3000 empty classrooms!

WORDS MATTER

population density number of people occupying a certain area, calculated using the formula above

**High Density: India
(Above 150 people per km^2)**

Area: 3 287 263 km^2

Population: 1 134 403 000

Density: 345 people per km^2

Urban centres in India are densely populated. Millions have left rural areas and added to the soaring populations of cities such as Mumbai, Kolkata, or Delhi. High population density means that many farms are too small to allow rural families to achieve a decent standard of living.

**Moderate Density: Egypt
(Between 50 to 150 people
per km^2)**

Area: 1 000 250 km^2

Population: 72 850 000

Density: 73 people per km^2

Deserts cover large areas of Egypt, so the population is not evenly distributed. Instead, it is concentrated in the valley and the delta of the Nile River. The community shown here, Port Ghalib, is on the Red Sea. The cities of Cairo and Alexandria are very densely populated compared to isolated desert communities.

**Low Density: Australia
(Below 50 people per km^2)**

Area: 7 682 300 km^2

Population: 20 310 000

Density: 2.6 people per km^2

Vast areas of Australia's interior desert are completely uninhabited or support only tiny populations. Most of the north is tropical rain forest where few people live. Australians largely occupy only the eastern edge and the southeastern and southwestern corners of the continent. Five cities alone hold half of Australia's total population.

How Is Population Density Used?

The profiles of Egypt and Australia have shown you how uneven population density can be. Even relatively empty Australia is crowded along the beautiful beaches of its famous "Gold Coast." Dividing a country's population by its area gives a very general picture. However, density is useful when comparing countries to one another. Population densities of regions and cities help governments plan hospitals and other services where they are needed most.

Country	Area (km^2)	Population (2005)	Population Density
Afghanistan	652 225	25 067 000	
Albania	28 748	3 154 000	
Algeria	2 381 741	32 854 000	
Angola	1 246 700	16 095 000	
Argentina	2 766 889	38 747 000	
Australia	7 682 300	20 310 000	
Austria	83 855	8 292 000	
Azerbaijan	86 600	8 352 000	
Bahamas	13 939	323 000	
Bahrain	691	725 000	

WORLD RECORDS

Macau: The Highest Population Density

Area: 28.2 km^2

Population: 456 989

Density: 16 205 people per km^2

Macau is located on the coast of China. It is almost entirely urban; most food, water and energy must be imported. Tourism and manufacturing pay for these necessities. However, Macau is changing as it works to reclaim land from the sea.

THINKING It Over

1. Use a provincial road map to locate examples and record the population of a hamlet, village, town, small city, city, and metropolitan area. Who might need to know this information? Explain. **k** **t**

2. Which type of settlement pattern does the region around your community have: scattered, linear or clustered? Using a map, suggest three reasons why this type of pattern is found in your area. Find a region in another country that has a similar pattern. Why are the patterns similar? **k** **a**

3. Construct a chart organizer for India, Egypt, Australia, and Macau. Include facts about population, distribution, and density. Use this information to assess and justify which location you would prefer to live in. **k** **c**

4. Calculate the population densities from the table above, and classify them as high, moderate, or low. Locate and label these places and the others from this section on a world map. Use three different colours to represent low, moderate, and high population density. **k** **m**
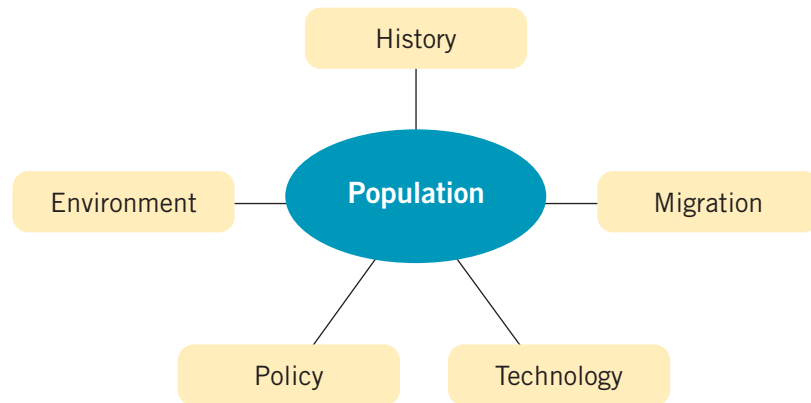
What Factors Affect Population?

You have seen that patterns of population distribution and density differ from place to place. In this section, you will explore five factors that combine to explain why some regions have more people than others.

Population Factors

Most Favourable Environments
• fertile agricultural land
• abundant natural resources
• water: coastlines and rivers
• city sites: meeting points, natural harbours

Least Favourable Environments
• mountains and infertile soils
• scarce natural resources
• extreme climate conditions: desert, polar
• isolated locations: continental interior

Environment and History

The environment may shape human choices, but it does not rule them. People are inventive and can use technology to overcome obstacles. For example, air conditioning has supported a population explosion in hot and humid Florida. Technology such as sleds and weapons also allowed the Inuit to populate the North. There are certain locations that are more attractive to people because they offer features such as a mild climate, fertile soil, fresh water, and natural transportation routes. That is where people are found in greatest numbers.

Historically, populations first expanded where agricultural civilizations prospered. Ancient empires in the Middle East, India, and China were established on fertile soils that could produce food. Great cities grew there at a time when many other regions still relied on hunting and gathering. In 680 BCE, China already had about 12 million people, a number which has multiplied more than 100 times since then. In fact, China and India have populations of over a billion; together the two countries have more than one-third of the world's population. How do you think these large populations affect the agriculture industry of the world today?

Migration

Throughout history, people have moved in search of a better life. Much of Canada's early European population chose to come here from France and Britain.

Immigration is the act of coming into a new country as a permanent resident. **Emigration** means leaving a home country to take up permanent residence elsewhere. An emigrant could be a Canadian actor moving to the United States in search of a big break. It could be someone coming to Canada for a few years, then returning to his or her homeland. **Net migration** measures the real effect of migration on population. A positive net migration means that more people moved into the country than the number who left in the same year. Comparisons between countries use a calculation called "net migration per 1000 population." This makes it easy to compare countries with high and low population density. Below is an example using data from 2005. How might migration have an effect on the populations already present in the destination country?

Immigration
 − Emigration
 _____
Net Migration

Country	Immigration	Emigration	Net Migration	Net Migration Per 1000 Population
Australia (population 20 310 000)	131 593	67 853	63 740	3.91

Technology and Policy

Technology can affect population by allowing people to make environments more livable. For example, irrigation systems in the California desert allow dry but fertile soil to produce crops. Technologies also influence human life and death, directly affecting population.

Natural Increase

The **birth rate** is the number of babies born each year for every 1000 people, while the **death rate** measures deaths per 1000 people. These rates can change due to catastrophes such as flood or war, but technology also has a great effect. Modern medicine, hospitals, and the reduction of disease have helped newborns survive and the elderly live longer. **Natural increase** uses birth rate and death rate to measure a country's actual growth.

China, Natural Increase, 1950–2005
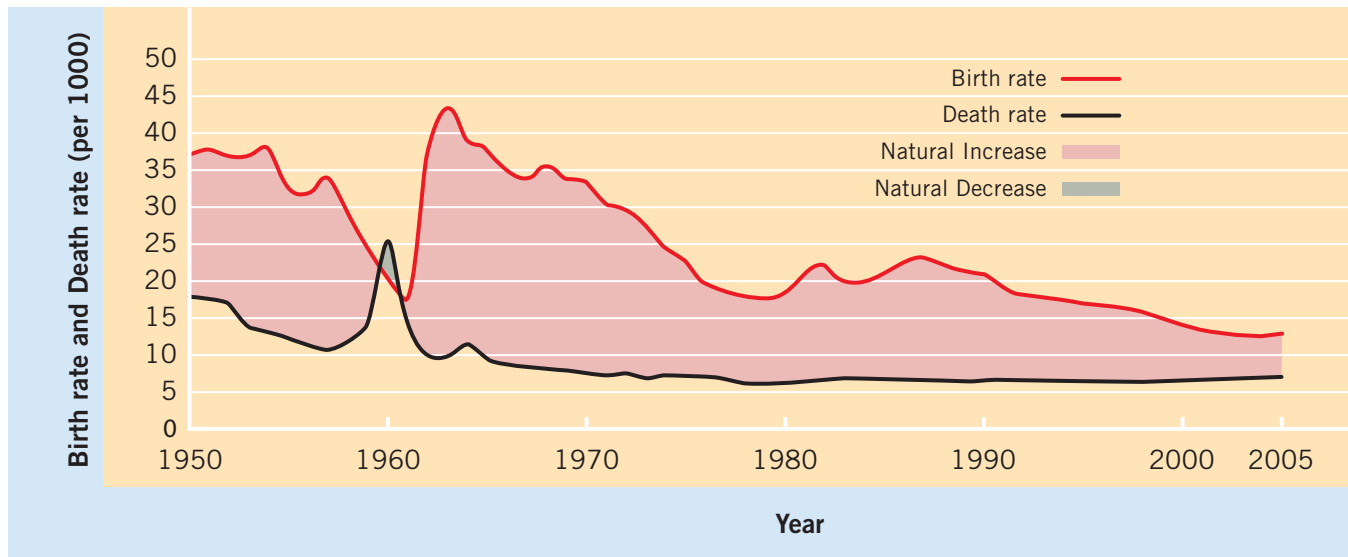
China's "Great Leap Forward," from 1958 to 1960, emphasized heavy industry at the expense of agriculture.
How do you think this government policy affected population patterns?

Birth rate
− Death rate
_____
Natural increase

Government policies can also affect population, as in the case of China's "Great Leap Forward." China also created the One Child Policy. This policy was introduced in 1979 to limit the pressure of population increases on society. The policy continues today; couples are permitted only one child. Having a second child will result in heavy fines. China's rate of natural increase has dropped, but the One Child Policy has also had negative effects, including child abandonment. What could be the long-term effects of this policy—both positive and negative?

Natural increase
+ Net migration
_____
Population change

THINKING It Over

1. Calculate the overall population change in 2005 for these countries. **k a**

Country	Birth Rate per 1000	Death Rate per 1000	Net Migration per 1000
Canada	10.8	7.7	5.9
Mexico	21.0	4.7	–4.6
Mali	49.6	16.5	–6.3
Russia	9.8	14.5	1.0

2. Use a world map or an atlas to identify environmental characteristics of regions with high and low population density (as shown on the map on page G 29 of this chapter). Organize your findings in chart form using "High Density Regions" and "Low Density Regions" as headings. **n c**

China's One Child Policy has helped reduce the problems created by overpopulation, including strains on the health care system and on the environment. An earlier campaign used by the Chinese government during the 1970s encouraged couples to wait to have children, and to have more time between them. Together, these policies have succeeded in preventing China's population from reaching a staggering two billion. However, the One Child Policy does raise important questions about personal freedoms. State-run orphanages care for many thousands of abandoned children, the great majority of them girls. While thousands are adopted by Chinese or international families each year, many more grow up in the institutions.

In January of 2002, Mike and Sherri Boyd travelled to China to adopt a 10-month-old baby girl.

Sherri: We first met Jade in the restaurant at the hotel in Changsha, the capital city of Hunan Province. Other international families were staying there too. When the babies and their nannies arrived, the room was full of happy families meeting their daughters for the first time.

Mike: We were told that Jade had been abandoned at a street market and found when she was one day old. She was taken to the police station, and then to an orphanage. An adoption agency in Canada organized everything. A social worker did a home study and interview to see if we would be suitable.

The information went to China and we waited for 13 months until we heard that we could adopt.

Sherri: We know that Jade was cared for while she was in China. Her birth family must wonder how she is and what became of her. We love her so much and wish we could share with them what she is doing every day.

Jade and her family today

THINKING It Over

1. Write down four questions you would like to ask if you could meet the Boyds. Direct some questions to Jade. 🅣

2. Write a paragraph weighing the pros and cons of China's One Child Policy. Discuss your conclusions about it in a small group. 🅒

3. What effects could the policy have on rural communities in China? On city communities? 🅚 🅣

World Population Trends

Day 1   **Day 14**
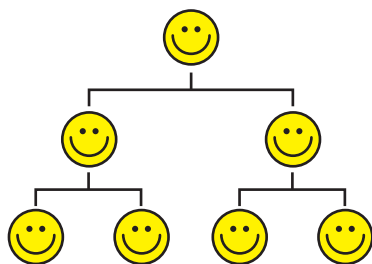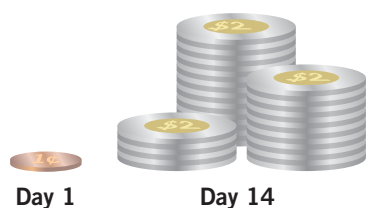
One day, thirteen-year-old Kwame offered to help more around the house. He asked for just a penny per day, to be doubled each day that he did a good job. His family laughed at Kwame's idea, but after two weeks they didn't find it so funny anymore. By then, he was asking for more than $80 per day for his chores!

Population can multiply in the same way. For example, a large family can develop if a couple has two children and those children each have two children. By the time they reach their sixties, the couple will have two children and four grandchildren—six descendants. Of course, this describes only the birth rate. In reality, the death rate puts a natural check on population growth. In this section, you will see that world population has increased dramatically in the past two centuries. While natural increase rates are low today in developed countries, they remain much higher in most of the developing countries.

In 2007, the population of the world reached 6.6 billion people. Only two centuries ago, the world population was a mere one billion! Look at the graph below. Compare the milestone years for each billion to get a sense of how fast global population has multiplied.

World Population

World Population (billions)

10
9
8
7
6
5
4
3
2
1
0

800 CE   1650   1804   1927   1960   1974   1987   1999   2013*   2026*   2042*

6.6 billion in 2007

(*projected)
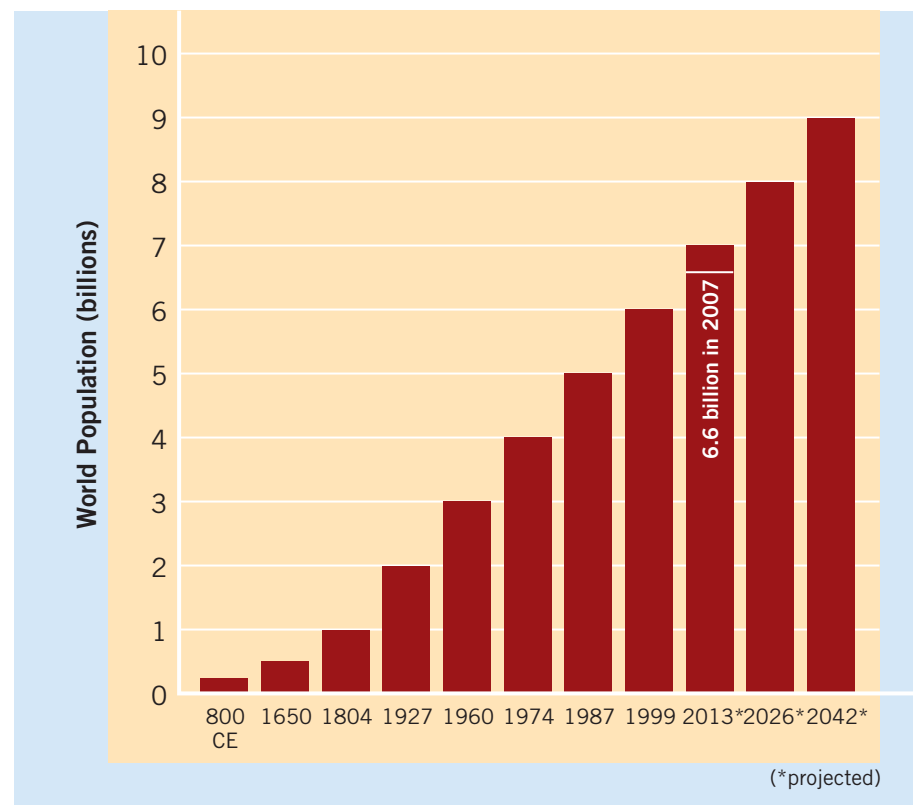
Which billion was added most quickly? How long did it take? What does this suggest about the growth rate since then?

The Population Boom

What happened to cause world population to grow so fast? To understand this, you must consider the **technological revolutions** that improved life and lowered death rates.

Three Revolutions

A revolution is a period of rapid change. Some are sudden political movements, while others are far-reaching technological changes. The revolutions in the chart below have caused great changes in world population. All three resulted in a sharp decline in death rates in Europe, where the revolutions first took place. From the early 1700s on, people began to migrate by the millions, especially to North and South America and Australia. Since 1850, the birth rate gradually fell in most countries as the **infant mortality rate** dropped due to advances in medicine. People could choose to have fewer children, as it was more likely that the children they did have would live to adulthood.

WEB LINK ● · · · · · · · · · · · · · · · · · ·
Study world population information on our Web site.

Time Period	Revolution	Description
1650–1800	Agricultural	Changes in animal breeding, crop rotation, and the use of simple farm machinery to increase food production
1750–1900	Industrial	Inventions such as steam-powered machinery used to produce large quantities of factory-made goods
1850–2000	Scientific (modern)	Scientific advances in chemistry, medicine and medical practices, public health knowledge, and food

In the Developing Countries

After the Second World War, the benefits of the revolutions spread. The United Nations, governments in developed countries, and the Red Cross began a movement to fight disease and lower the infant mortality rate. Death rates in the developing countries fell very quickly between 1950 and 1980, while birth rates remained high. On the graph you can see that birth rates fell too, but not until about 20 years later. Eventually people realized that families were becoming larger because of the sharp decrease in infant mortality. Meanwhile, some countries had already doubled their populations.

Typical Population Growth in Developing Countries since 1950
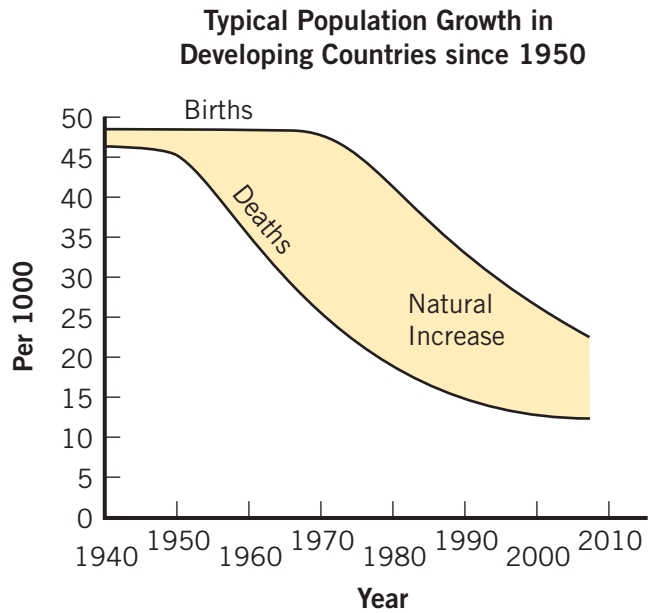
When did the death rate in developing countries begin to fall? Why?

Effects of the Population Boom

Changes in world population can have both global and local effects. How do you think the changes illustrated here might affect you and your future? What job skills might be in demand in Canada in the future because of changes in population?

People born during the 1945–1964 "baby boom" are the largest age group in most developed countries. As they grew up, their purchases of music, clothing, cars, and homes helped drive economic growth. As they grow older, they introduce greater numbers into the health care system. How can health care systems respond to such growth?

The population boom affects natural areas such as rain forests, which are home to two-thirds of the planet's animal and plant species. Many rain forest plants are being studied as the source of new medicines. However, about half the area of these forests has been cleared since 1950. The Brazilian government encourages settlement of the Amazon rain forest. How can the rain forests be saved if populations continue to grow?

The population boom has put great pressure on food supply, especially in drier environments such as northern and southern Africa. Here, the ability of the land to feed the people (called carrying capacity) has been exceeded. War, natural disaster, climate change—any threat to food production—can soon cause famine and death. How should the world respond to such crises?

Predicting Population Change

The map below shows different rates of change in world population by continent. The small graph indicates an overall trend—a projected decrease in the *rate* of world population growth. The rate rose in the early 1960s due to a drop in the death rate. But since then, population birth rates have also dropped. Why do you think experts expect this trend to continue?

World Population Growth Rates: 1950–2050

Population change, average annual percent, 1995–2000
- Over 6.0
- 3.0 – 6.0
- 1.3 – 2.9
- 0.1 – 1.2
- −0.7 – 0
- −2.6 – −0.8
- no data
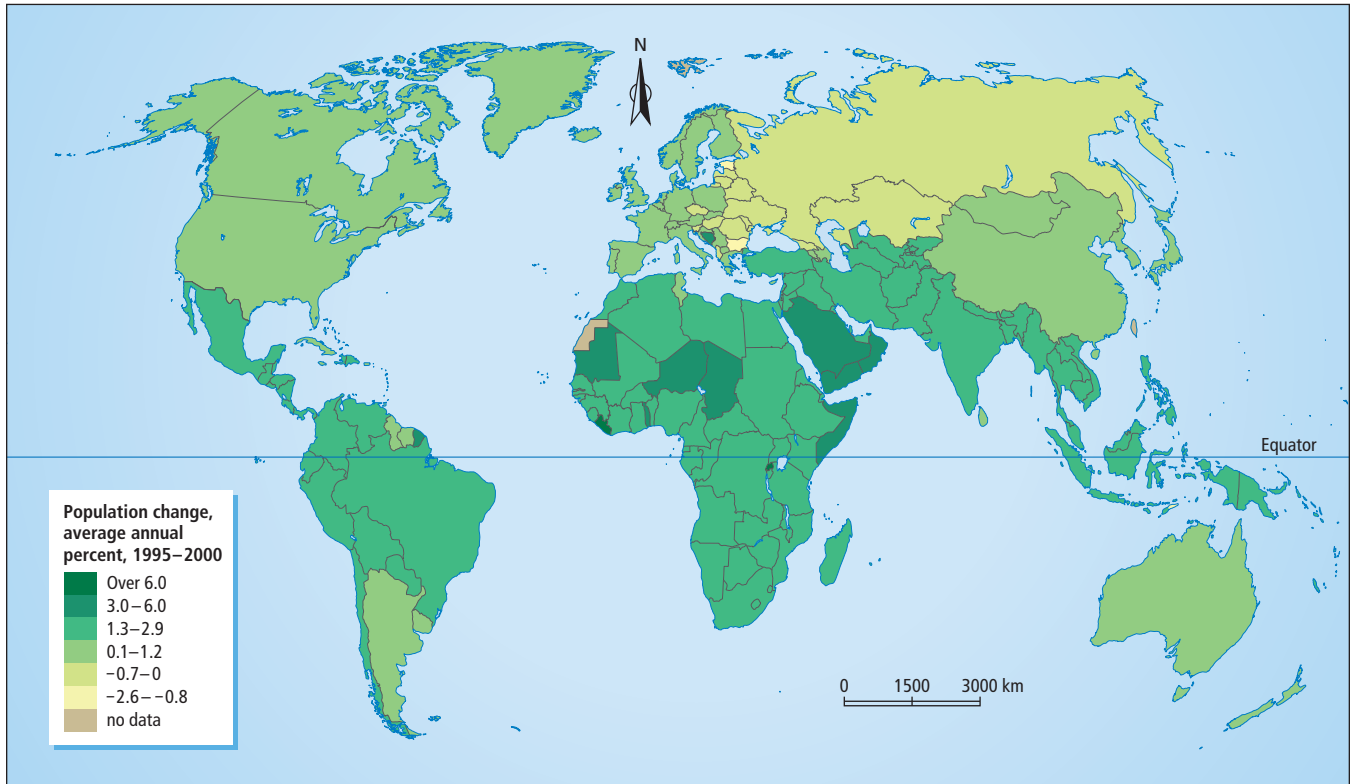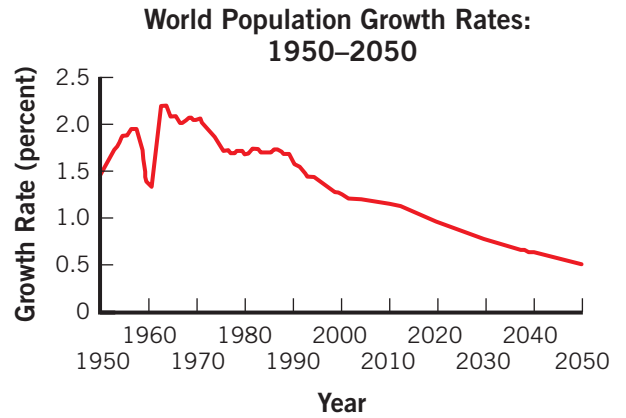
Where are populations still growing rapidly? Where are they actually declining?

THINKING It Over

1. **a)** Use the bar graph of world population growth on page G 36 to calculate how many years it took for each doubling of world population. Start with .25 billion and continue to 6 billion. **k**

    b) Briefly explain how the three revolutions—agricultural, industrial, and scientific (modern)—caused this accelerated growth rate. **k**

2. What is your opinion about each of the questions asked for the three photos on page G 38? Compare views with a partner. **c**

3. Use the world map of population change above to record observations by continent. How can you explain the patterns you see? **k m**

4. Go back to the questionnaire on page G 26 and review your answers. Have you changed any of your opinions? What have you learned to improve your understanding of the topic? **k t**

Drawing and Interpreting Population Pyramids

A **population pyramid** is a graph that provides a snapshot of a country's population at one point in time. It can be used to find patterns by comparing two countries or two time periods. Most importantly, it can predict future changes in a society—something very useful as you consider your own career possibilities.

Canada Population Pyramid, 1991
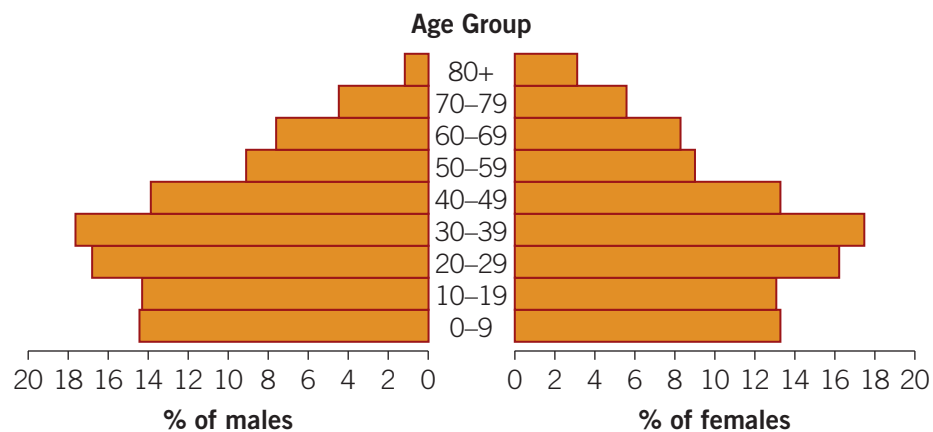
Age Group

Left scale (% of males): 20 18 16 14 12 10 8 6 4 2 0
Right scale (% of females): 0 2 4 6 8 10 12 14 16 18 20

Age groups: 80+, 70–79, 60–69, 50–59, 40–49, 30–39, 20–29, 10–19, 0–9

% of males   **% of females**

Step 1   **Set Up the Graph Page**

A population pyramid is two horizontal bar graphs in one. The vertical scale shows the age groups in the population. Here you will be using ten-year groups: ages 0 to 9, 10 to 19, 20 to 29, and so on. The scale along the bottom shows the percentage of the population in each age group. The left side of the graph shows males and the right side females. The percentages increase in each direction from the centre point.

Step 2   **Plot the Right Side of the Graph**

You will find it easier to put the female data on the graph first, because you normally make a graph by working to the right of the vertical scale. After plotting points for each age group, use a ruler to make straight bars.

Step 3   Plot the Left Side of the Graph

Next, plot the points for each of the male age groups. Remember that these percentages increase as you move to the left of the vertical scale. Use a ruler to draw the bars.

Step 4   Finish the Graph

Label the graph, using the 1991 example as a model. It is always important to include the year of the population data.

Canada: Population, 2006

Percentage of Males	Age Group	Percentage of Females
11.5	0–9	10.8
13.5	10–19	12.6
13.6	20–29	13.0
14.4	30–39	13.8
16.8	40–49	16.3
13.6	50–59	13.6
8.4	60–69	8.8
5.3	70–79	6.4
2.6	80+	4.9

APPLY It

1. Follow the steps to draw and label a population pyramid for Canada in 2006. Use the 1991 example as a guide. **m**

2. Compare the two graphs. What difference do you notice between Canada's population above and below the age of 40 in 1991 and in 2006? **m**

3. Use the two graphs to decide how Canada's population pyramid might look in ten years (2016). How might this affect the plans of someone your age to be a a) kindergarten teacher? b) a doctor? c) a business person? Explain. **m t**

4. Make a list of four questions you could ask to investigate why Canada's population characteristics changed between 1991 and 2006. **t**

5. Do some research into career areas that are expanding as Canadian baby boomers age. Choose one that interests you and find out about its educational requirements. **t**

Population Change

The game winner combines the factors of birth, death, immigration, and emigration to create the largest total population increase for the country.

What You Will Need

A shuffled deck of 52 cards plus two Jokers

Spades	Hearts	Clubs	Diamonds
♠	♥	♣	♦
Death rate per 1000	Birth rate per 1000	Emigration rate per 1000	Immigration rate per 1000

Card Values

- All cards numbered 2 through 10 have their marked value.
- The face cards (Jack, Queen, King) are worth 11 points. Aces and Jokers have no value but do affect the game.
- An Ace allows the player to take any card from the person to the right, exchanging it for any card they hold.
- When a player draws a Joker, the round is finished and points are tallied.

How to Play

A. Play with 2, 3, or 4 people. First, remove Aces and Jokers from the deck before dealing out any cards.

B. Deal each person 6 cards. Players organize their cards into four groups by suit and put them face up. To the left, position the Hearts (births) above the Spades (deaths). On the right, position the Diamonds (immigration) above the Clubs (emigration).

C. Mix the Aces and Jokers back into the deck, shuffle and turn upside down.

D. Start with the oldest player and go clockwise. Each player discards one card and draws another from the top of the deck. Aim to maximize population score by discarding high black cards (death rate, emigration) in hopes of drawing high red ones (birth rate, immigration). If an Ace is drawn, discard it after exchanging cards.

E. When a Joker is drawn, the round ends. Players can then calculate their population scores. Start by adding together the values of any Hearts, Spades, Diamonds, and Clubs held. If no card of a particular suit is held, that sum is equal to zero.

Natural Increase = the sum of the Hearts minus the sum of the Spades.
Net Migration = the sum of the Diamonds minus the sum of the Clubs.

F. Record the population points on the score sheet. Calculate population change by adding the Natural Increase and Net Migration scores. Play another round. Continue for either three rounds or a time limit set by the teacher.

Sample Score Sheet

Round 1	Jillian M.
Natural increase (Hearts – Spades)	+ 12
Net migration (Diamonds – Clubs)	– 7
Population Change for the round	+ 5 per 1000 (i.e., .5%)

THINKING It Over

1. What strategies helped you to improve your score in the game? **k**

2. Explain how this game could be played for the winner to have the greatest population *decrease*. **t**

PUTTING IT ALL TOGETHER

This chapter has explored population patterns and trends around the world. You learned the difference between population distribution and density by using maps of Canada and the world. You saw how population around the world is affected by environment, history, migration, technology, and policy. Then, you used statistics, graphs, and a map to examine global patterns of population growth. You have also had the opportunity to examine how trends in population growth might affect you. Above all, you have gained a better understanding of the unit question, **How do patterns in human geography affect people around the world?**

After READING

Analyze Graphs to Synthesize Information

Using your organizer, review and analyze the graphs in this chapter. Which country has the most geographical challenges for human survival? How do you know? What could the Canadian government, your community, and/or your family do to help?

Country A	Information (2004)	Country B
21 040 km^2	Area	41 532 km^2
6 948 073	Population	16 407 491
26.1	Birth rate per 1000	11.1
5.6	Death rate per 1000	8.7
67.5	Infant mortality per 1000	5.1
–3.5	Net migration	2.8

THINKING It Through

1. Using the chart above, calculate the following for each country: a) population density, b) natural increase rate, and c) overall population change. **k a**

2. Decide which one is a developed country and which one is a developing country. Explain your choices. **t**

3. Use the information provided to explain whether or not there would be a pressing need for a) more schools, or b) more hospitals, in each country. **k a**

4. Write a paragraph describing the effects of two population issues each country might soon face. **k c a**

Comparing Development Patterns

The Kariba Hydroelectric Dam, Zimbabwe

Making Connections

When you read a photograph in geography, ask yourself questions. For example, what does the photo show about the land areas (physical features)? Are there people in the photo? What are they doing, and why? Using the photographs on these pages, discuss these questions with a partner.

What are your first reactions to these two photos? Are you impressed by a gigantic engineering project that can create so much electricity and deliver fresh water to dry farmland? Do you laugh at the thought of a playground toy being used to pump clean water from a well? Both approaches are used today to improve people's lives. In fact, there are places where a human-powered pump is the best way to pump water. The choice depends on the level of economic and social development found in the area, as well as the demands of the environment.

In this chapter you will compare global development patterns. You will construct a scatter graph and explore whether or not developed countries, such as Canada, are doing enough to aid developing nations. Chapter 3 will complete your investigation of the unit Big Idea, **How do patterns in human geography affect people around the world?**

This PlayPump in South Africa uses the energy of children's play to pump clean water from deep in the earth.

Questions to Consider as You Read this Chapter

- In what ways do people seek to improve the quality of their lives?

- How do countries compare when I evaluate factors that affect quality of life?

- How do countries compare on the Human Development Index?

- What criteria can be used to assess the aid given to developing nations?

- How do I construct and interpret a scatter graph?

Thinking About Literacy

Predict and Infer

In this chapter, you will use your prediction and inference skills to preview the main ideas and make connections. Skim the chapter to preview headings, highlighted words, photographs, diagrams, and maps. Use a chart like this one to list your observations. List any connections you think there may be between the main ideas. Then use the preview and your prior knowledge to predict what you think the chapter will be about.

Main heading	What I see	Connections	What I think
What Affects Quality of Life?			

What do people need in order to live a decent life—one with some quality? These headlines suggest some key ideas: safety from danger, an environment with clean air and water, food, and education. What other things do people need for a life with quality?

Food Bank Running Low

Environment Tops Worry List

Literacy Test Scores Up at Local Schools

Daily Life Dangerous in Baghdad

CANADIAN WOMEN LIVE TO 83

The Universal Declaration of Human Rights

You might be surprised to learn that a Canadian played a very important part in identifying what people really need (and have a right to). The United Nations (UN) was founded in 1945. The following year, Canadian lawyer John Peters Humphrey formed its Human Rights Division. He worked with a small group of people who drew up a list of basic human rights. The stamp on this page shows Humphrey in his role as Human Rights Division director, penning final changes to the list. The United Nations adopted his final version of the Universal Declaration of Human Rights in 1948.

Why do you think Canada issued this stamp depicting John Peters Humphrey?

The United Nations flag, on which olive branches symbolizing peace surround the world's continents

Selections from the Universal Declaration of Human Rights

Article 1: All human beings are born free and equal in dignity and rights. They are endowed with reason and conscience and should act towards one another in a spirit of brotherhood.

Article 2: Everyone is entitled to all the rights and freedoms set forth in this Declaration, without distinction of any kind, such as race, colour, sex, language, religion, political or other opinion, national or social origin, property, birth or other status.

Article 25: Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical care and necessary social services.

Article 26: Everyone has the right to education. Education shall be free, at least in the elementary and fundamental stages. Elementary education shall be compulsory.

The Three "L"s

When the UN Declaration speaks of health, well-being, and education, it is highlighting the importance of the Three "L"s: life expectancy, living standard, and literacy. Each one is a measure of quality of life. **Life expectancy** shows how long a person can expect to live. Long life indicates a society with a strong health care system. **Living standard** estimates the average purchasing power a person has, based on where they live. Of course, there are actually great differences in personal wealth within most countries. The **literacy rate** is a measure of basic education, expressed as a percentage of people who can read and write. Use the photographs on the next page to learn more about these quality of life ideas.

WORDS MATTER

life expectancy the average number of years a person is expected to live

living standard the amount of goods and services people can purchase

literacy rate the percentage of people with the ability to read and write

Life Expectancy

Country	Average Life Expectancy (years)	Country	Average Life Expectancy (years)
Canada	80	Costa Rica	77
United States	78	Panama	75
Mexico	75	Cuba	77
Guatemala	69	Haiti	57
Belize	68	Dominican Republic	73
El Salvador	71	Jamaica	73
Honduras	69	Bahamas	65

Given what you know right now, how can you explain the differences in life expectancies between Canada and Haiti?

Life Expectancy

Life expectancy is extended by access to safe water and food supplies. Improved medical technology and hospital care affect the most fragile members of society—infants and seniors. In the developed nations, infant mortality rates are very low, while at the same time life expectancy has reached an average of 75 years or more. What obstacles might limit these improvements in some developing countries?

Living Standard

The homes people live in are often a good reflection of living standards in a society. Houses in good repair with effective plumbing and sanitation systems indicate that people have incomes high enough to maintain their dwellings and help pay for public services. In Chapter 1, you learned that as urban migrants in developing countries found jobs, they upgraded their homes. Why do people often want a better home?

Literacy

Children need a basic education to at least learn how to read and write. These skills will give them an alternative to working in traditional rural livelihoods, such as farming and fishing. With some education, young people in developing countries can access better-paid employment in transportation, tourism, and other service jobs. What level of education do students in developed countries, like Canada, need for a good career?

Basic Freedoms

Quality of life means more than just health, wealth, and education. Do you watch or read the world news? Many people around the world do not have the basic freedoms which you enjoy in Canada. There are cases in which human rights are being violated. News of warfare, terrorist bombings, and military governments are a reminder that there can be differences between the quality of life you experience in Canada and the dangers faced by people in other parts of the world.

Selections from the Universal Declaration of Human Rights

Article 18: Everyone has the right to freedom of thought, conscience and religion….

Article 19: Everyone has the right to freedom of opinion and expression….

Article 20: Everyone has the right to freedom of peaceful assembly and association….

Article 21: Everyone has the right to take part in the government of his country, directly or through freely chosen representatives….

THINKING It Over

1. Construct a declining-order bar graph to compare life expectancies, using data from the chart on page G 47. Use three colours to show countries from North America, Central America, and the Caribbean. Provide an explanation for any pattern you see. **k c**

2. With a partner, record and discuss answers to the questions with the photos on page G 48. **c**

3. Using current events, complete a discussion sheet to record Canadian and world situations in which specific Universal Declaration of Human Rights articles

   a) are very much in evidence.

   b) seem largely to be ignored.

   Do you think the UN Declaration is being followed in the world today? Explain your views. **c**

Our Environment

Quality of Life

Protecting the earth and its resources is vital to quality of life. Without clean air, fresh water, and fertile soil you could not live on the planet. Quality of life also comes from green open spaces that offer the chance for physical and mental rest. Almost one-eighth of Canada has been set aside as nature reserves, parkland, and wilderness areas.

Does your region have enough parkland and open space? Write a concise letter to the editor supporting your viewpoint.

Canoeists in Algonquin Park

GEO SKILL

Draw and Interpret a Scatter Graph

Geographers find patterns to help make sense of a complex world. One way to do this is to compare two related things to find the **correlation** between them. A **scatter graph** can be used to find these correlations. Here you will learn to use scatter graphs to study the relationship between quality of life and population.

Step 1 Pick Two Related Topics

It is important to choose two sets of numbers that might be related, with one as cause and the other as effect. Here you will compare birth rate and average income levels. What do you expect to find when you compare the two?

Step 2 Set Up the Graph Scales

Look at the numbers you will be graphing when you set your graph scales. The chart on the next page shows that the highest birth rate is 36 (Guatemala), and the highest income level is $34 142 ($US). On the side of the graph, make a birth rate scale from 0 to 40. Along the bottom, make an income scale from $0 to $40 000.

Step 3 Plot the Number Sets

Each dot on the graph will represent one country. First find the numbers for the country on each scale, then place a dot where these two numbers intersect on the graph. Use the graph below as a guide.
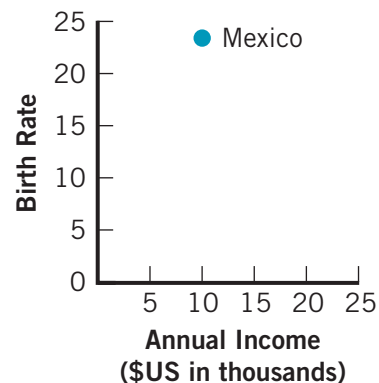
In this example, Mexico has 22 births per year per 1000 people, measured up the vertical axis. The average annual income in Mexico is $9023, measured along the horizontal axis. The dot for Mexico is plotted where the two values intersect on the graph.

Step 4 Fit a Straight Line to the Points

Move a ruler over the graphed points until you find the line of "best fit." That will be where a straight line can be drawn through the points to get as many as possible close to the line.

Describe Your Findings

There can be three possible results:
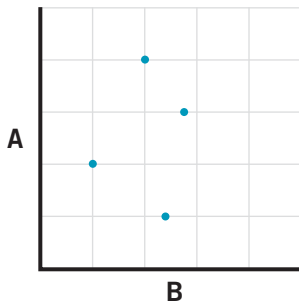
No relationship
There is no correlation between A and B because a "best fit" line cannot be drawn.
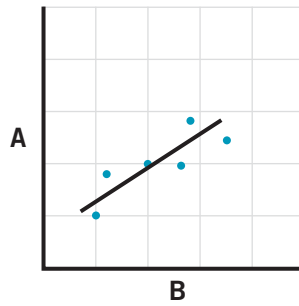
Direct relationship
There is a direct correlation because as A increases so does B.
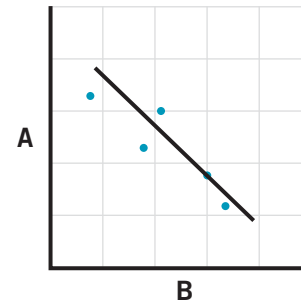
Inverse relationship
There is an inverse correlation because as B increases, A decreases.

Country	Birth Rate (per 1000)	Purchasing Power per Person ($US)
Canada	11	27 840
U.S.A.	14	34 142
Mexico	22	9 023
Guatemala	36	3 821
Belize	31	5 606
El Salvador	25	4 497
Honduras	32	2 453
Nicaragua	27	2 366
Costa Rica	20	8 650
Panama	21	6 000
Trinidad and Tobago	15	8 964
Haiti	34	1 467
Dominican Republic	24	6 033
Jamaica	18	3 639
Bahamas	19	17 012

APPLY It

1. Use the chart above to construct a scatter graph comparing birth rate and average income levels for countries in North America, Central America, and the Caribbean. 🪙

2. Describe the correlation that you see between the two sets of numbers. Which one is cause and which is effect? Suggest reasons to explain this connection. 🪙

HDI: The Bottom 8, 2006	Countries
170	Ethiopia
171	Chad
172	Central African Republic
173	Guinea-Bissau
174	Burkina Faso
175	Mali
176	Sierra Leone
177	Niger

UN report on best places to live in the world

10 November 2006

This week, the United Nations once again named Norway as the best place to live, a title it has enjoyed since 2001. Norway is able to provide its 4.5 million citizens with high-quality and low-cost education, health care, and social services, thanks to substantial income from oil exports.

Next in the list, placing second through eighth, are Iceland, Australia, Ireland, Sweden, Canada, Japan, and the United States.

Annually since 1990, the UN Development Report Office has compared the 177 countries for which statistics are available. Data used to create the rankings relate to the ability of people to reach their full potential—to be healthy and live long lives, to be able to read and write, to have access to resources like clean water, and to be able to participate freely in the decisions of their community. In those countries near the bottom of the ranking list, these basic needs often go unmet.

During **READING**

Checkpoint

As you scan this section, take note of how the author has organized the information.

WORDS MATTER

Human Development Index a comparison of countries that measures health, education, and wealth of each nation's citizens; life expectancy, literacy, and standard of living are measured

You may be wondering why Canada didn't rank first. After all, we led the United Nations' annual ratings for five consecutive years before Norway took the lead. However, Canada is in the top 3%, next to some very strong competition. That's a lot like making it to the finals for the Stanley Cup or the World Series. Now take a look at the chart in the margin showing the bottom eight countries on the HDI list. What do these countries have in common? How are they different from the top ranking countries listed above? Think of this in terms of geographical and environmental factors such as location, natural resources, industry, and climate.

Keep these factors in mind as you learn more about the UN **Human Development Index** in the following pages. Patterns of life expectancy, literacy, and living standard will be compared on a series of world maps, ending with one showing the Human Development Index. Keep an eye on Canada's place in these different measures.

Global Life Expectancy

Life expectancy in years, 2007 est.
- 75+
- 70–74
- 65–69
- 55–64
- 50–54
- 45–49
- less than 45
- no data

CANADA 80

AFGHANISTAN

Equator

MOZAMBIQUE

N

Lowest Access to Safe Water

Country	Percent	Country	Percent
Laos	43	Chad	34
Mozambique	42	Somalia	29
Papua New Guinea	39	Ethiopia	22
Cambodia	34	Afghanistan	13

0   1500   3000 km
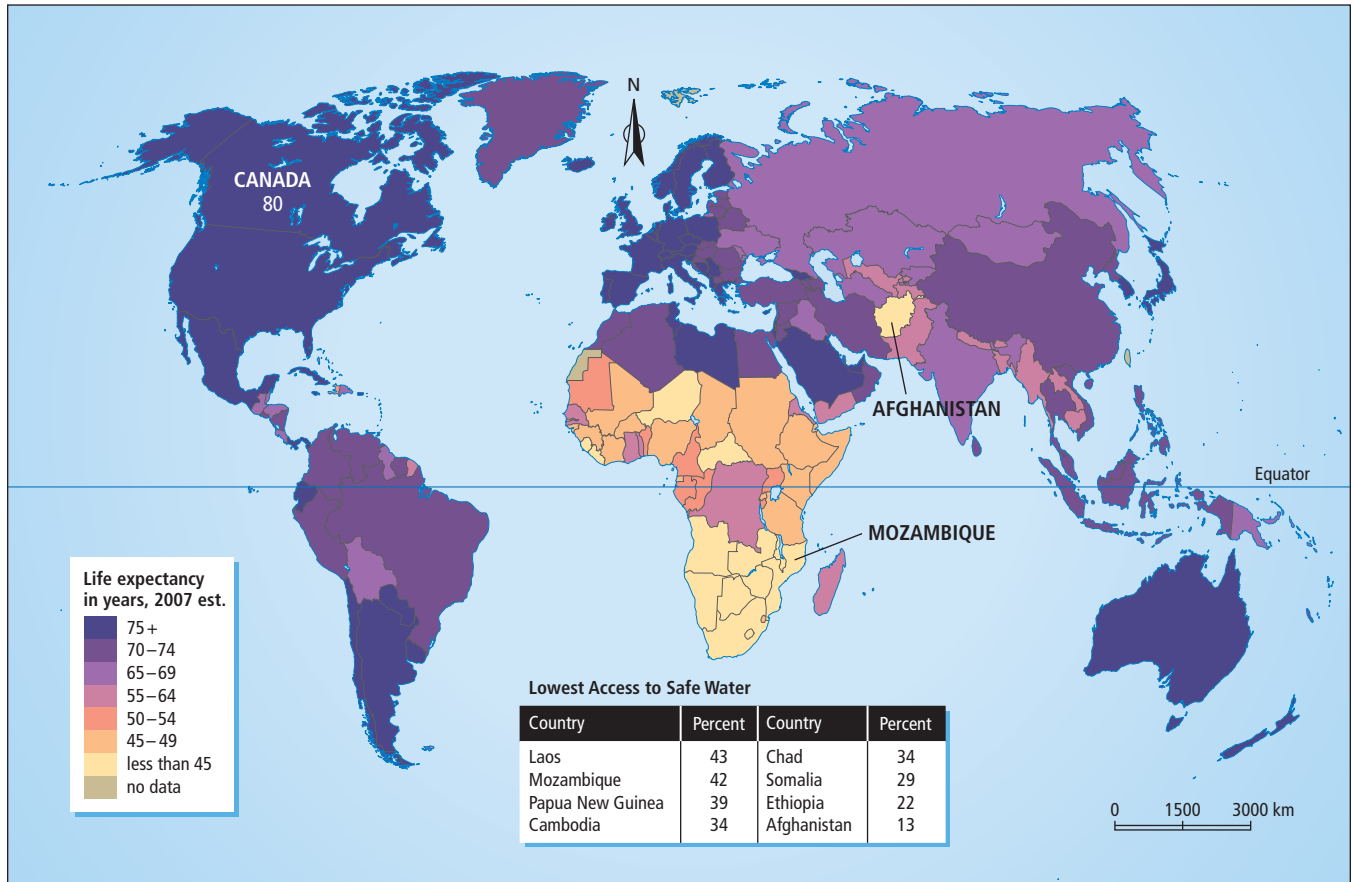
What supports a long, healthy life? Genetics and healthy choices are not the only things that affect life expectancy. In a country such as Canada, a wealth of natural resources and an advanced economy mean that most people have access to clean water and food. If someone gets sick or injured, they have access to health care. The system is not always perfect, but on average, Canadians live long lives.

However, in many countries of the world, average life expectancy is low. Life can be short in nations torn apart by years of war and political turmoil—countries such as Afghanistan or Mozambique. Many countries face problems that contribute to lower life expectancy. The lack of clean drinking water or famines caused by drought can result in **malnutrition** and disease. Severe shortages of hospitals, medicine, and doctors reduce the odds of recovery for someone who is ill or injured. Parts of Africa face another huge threat to life expectancy—the **AIDS epidemic**. AIDS has caused the deaths of large numbers of adults in many African countries and has lowered life expectancy to 40 or less.

WORDS MATTER

malnutrition an often fatal condition caused by an inadequate diet

AIDS epidemic the occurence of AIDS and HIV. In parts of Africa, more than 20 million people live with HIV, the virus that causes AIDS. AIDS has also been called a pandemic, meaning that it affects populations worldwide.

Global Literacy

CANADA
98%

N

NIGER
14%

Equator

Standards for measuring literacy may vary from country to country

Literacy rate percent, 2003

■	95+
■	85–94.9
■	75–84.9
■	60–74.9
■	40–59.9
■	0–39.9
■	no data

0   1500   3000 km

Lowest Literacy Rate

Country	Percent
Senegal	39
Guinea-Bissau	39
Gambia	38
Benin	34
Sierra Leone	30
Chad	25
Mali	19
Niger	14
Burkina Faso	13
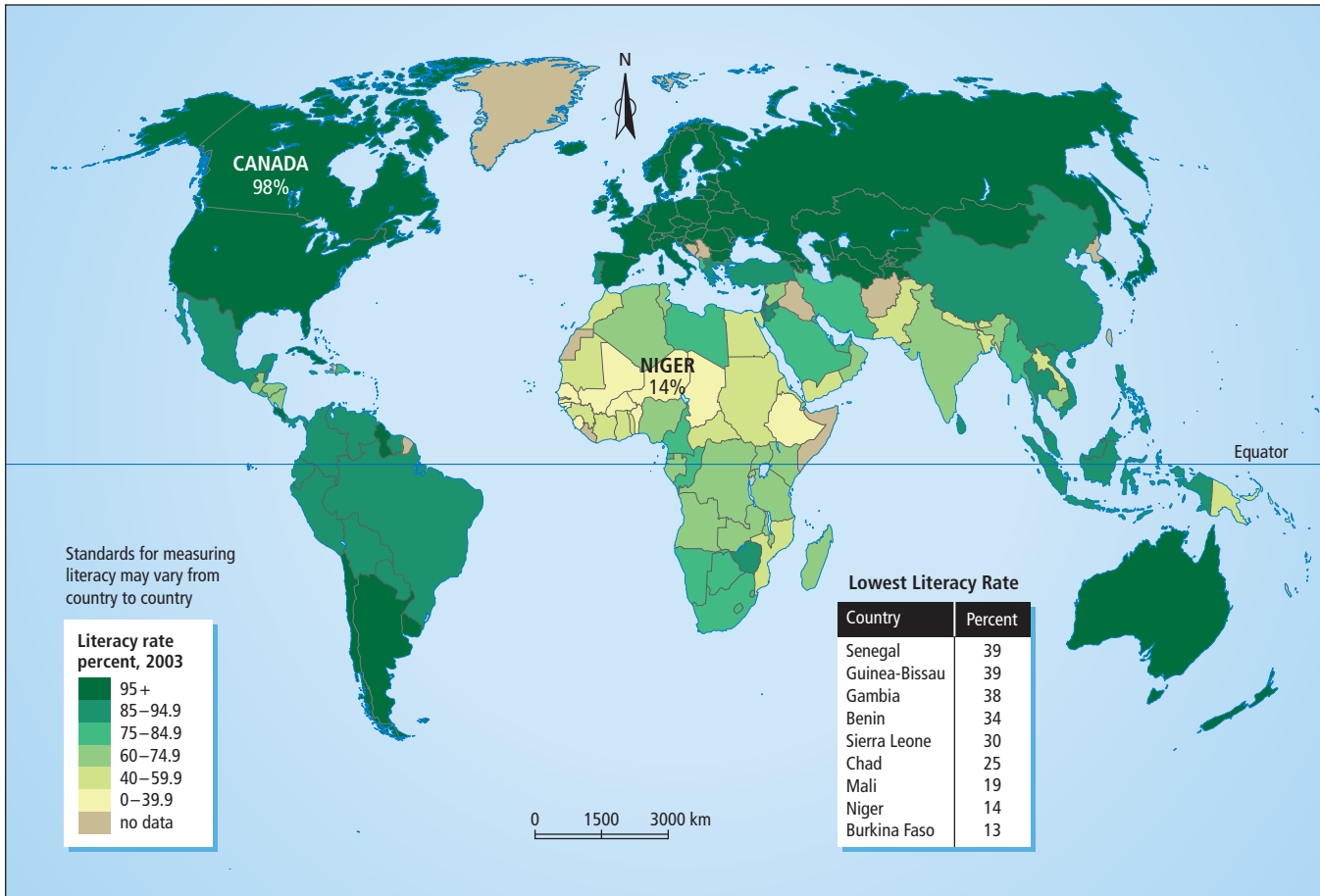
Did you know that some countries do not include females in their literacy statistics? Girls in those countries often receive little or no education.

Literacy is a good measure of access to education. While the UN Declaration states that everyone has the right to at least elementary schooling, the map above shows that this is not happening in many parts of the world. In Niger, for example, fewer than one person in six has basic literacy skills.

Nations with low literacy levels often lack many basic requirements for schools. Shortages of money, building materials, school supplies, and trained teachers are immediate problems. As well, there may be a lack of roads, power, and other services to support a school. In many developing countries, rural families need their children at home to help with crops, animal care, and household tasks. In these societies, anything more than basic schooling is a luxury that many cannot afford. This can limit opportunities for people, generation after generation. Think about your school experience up until now. How does a country such as Canada support education and literacy?

Global Living Standards

GDP per capita (US$), 2005

- 25 000 +
- 10 000 – 24 999
- 5 000 – 9 999
- 2 000 – 4 999
- 1 000 – 1 999
- 0 – 999
- no data

CANADA $35 494

LUXEMBOURG

Equator

0   1500   3000 km

Highest GDP per Capita, 2005

Country	US$ per person
Luxembourg	80 471
Ireland	44 087
Norway	43 574
U.S.A.	43 444
Iceland	40 277
Switzerland	37 369
Denmark	36 549
Austria	36 031
Canada	35 494
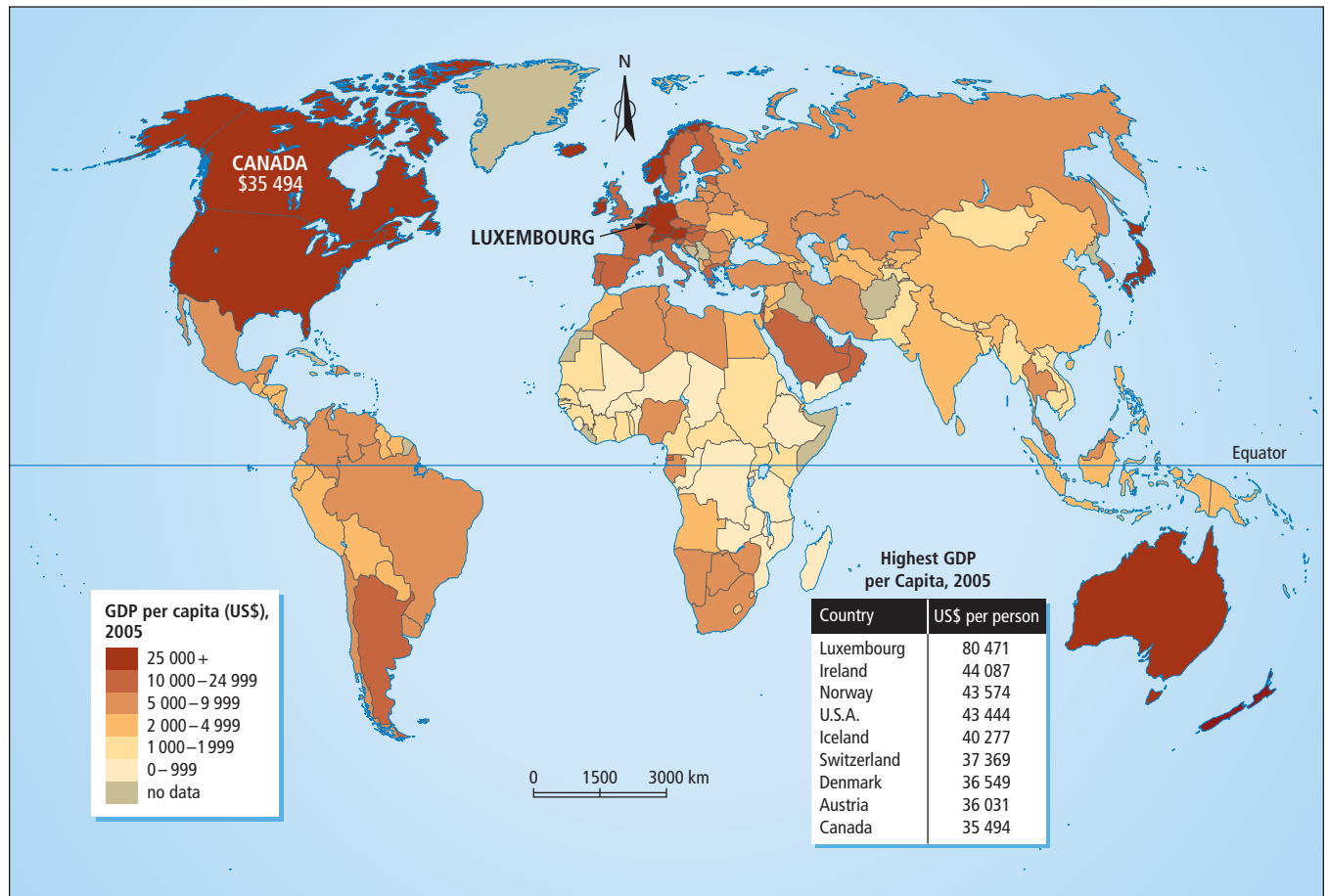
Gross domestic product (GDP) and **gross national product (GNP)** are two similar ways to describe the value of all goods and services produced by the people of a country in one year. They are used to measure the size of a country's economy, and can indicate the living standards of the country. GDP and GNP can also be calculated per person, or "per capita." In 2005, Canada's **GDP per capita** was $35 494 ($US), ninth in the world. But don't ask for your share to spend. GDP per capita refers only to the production of goods and services, not the actual amount you can spend on things. It is a national average, including everyone from millionaires to Grade 8 students.

How does GDP per capita show living standard? Improvement in a country's economic performance can mean better public services, a cleaner environment, and better protection for workers. However, this is not always completely true. What might happen if economic wealth was not distributed evenly among all citizens?

Compare this map to the literacy and life expectancy maps you just used. You will see that all three of these global patterns share many similarities.
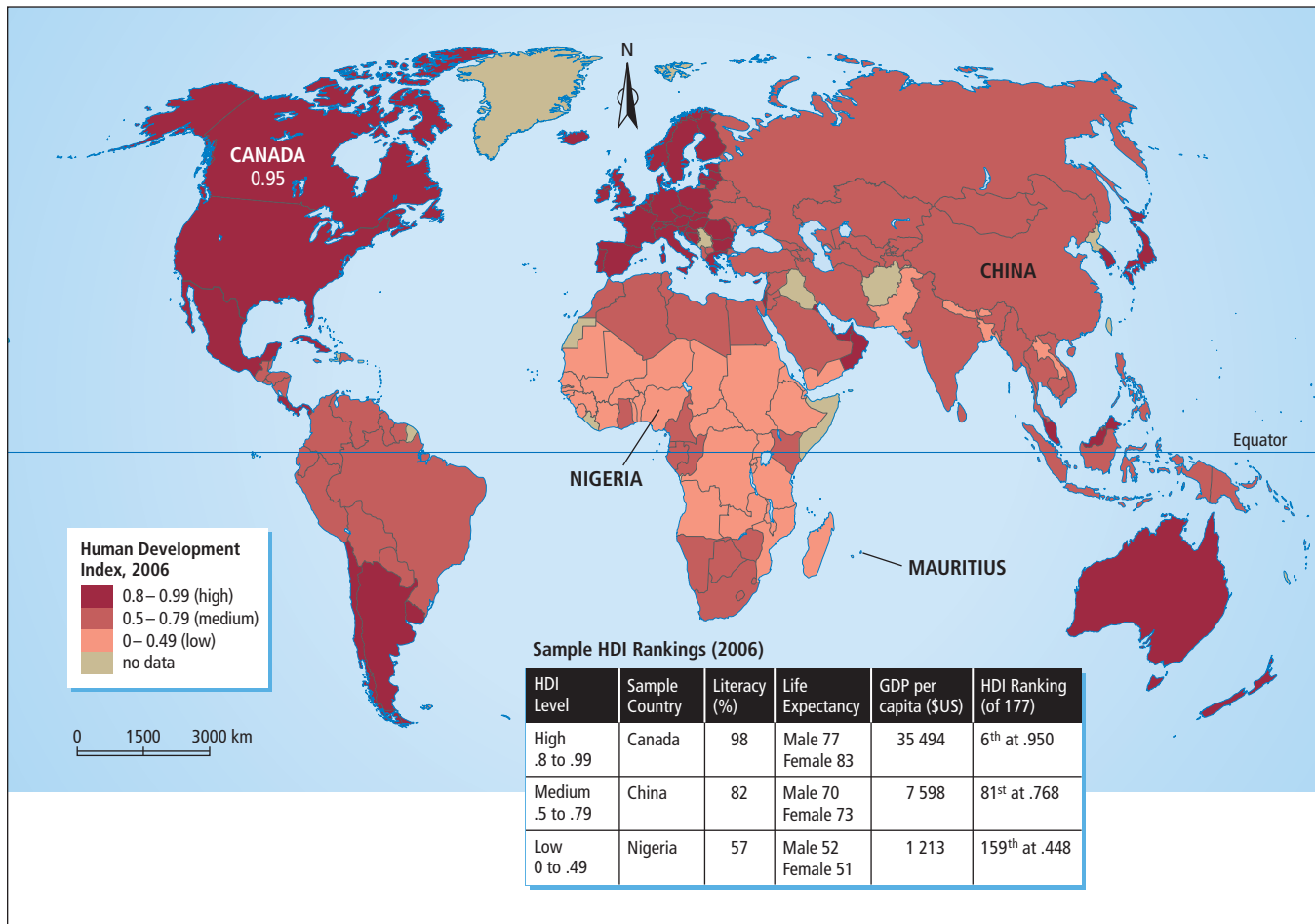
WORDS MATTER

gross domestic product (GDP) the value of all goods and services produced in a country in one year

gross national product (GNP) the value of goods and services produced by a country in one year, including those produced outside the country

GDP per capita gross domestic product per person

Human Development Index

Human Development Index, 2006
- 0.8 – 0.99 (high)
- 0.5 – 0.79 (medium)
- 0 – 0.49 (low)
- no data

0   1500   3000 km

Sample HDI Rankings (2006)

HDI Level	Sample Country	Literacy (%)	Life Expectancy	GDP per capita ($US)	HDI Ranking (of 177)
High .8 to .99	Canada	98	Male 77 Female 83	35 494	6th at .950
Medium .5 to .79	China	82	Male 70 Female 73	7 598	81st at .768
Low 0 to .49	Nigeria	57	Male 52 Female 51	1 213	159th at .448

The UN Human Development Index brings all the measures of education, health, and wealth together into one big picture. It is a bit like the scoring system used in Olympic competition, with a 1.0 (similar to the Olympic 10) seen as perfection on each measure. The different scores for each country are added together and averaged as one final number. For example, in 2006, Canada scored .950. The map above groups countries into three categories based on their scores—High, Medium and Low. It can be a way to identify the world's "haves," "have somes," and "have nots."

What might an HDI score mean to a country? If you were leading a country's government, what would you do if your nation were awarded a very high or a very low HDI score? How might that score affect your popularity and power among the people?

The maps on pages G 53–G 56 may have indicated that most of Africa is in difficulty, but the small island nation of Mauritius shows that a country can make dramatic improvement. It is one of only two African countries with a Human Development rating in the High category. (The other is Seychelles, another small nation made up of tiny islands.)

Since the early 1500s, Mauritius has been inhabited and ruled by the Portuguese, the French, and the English. Until 1968, Mauritius was a British colony with a high birth rate but a low standard of living. Sugar exports, an industry that began in the early 1700s, still created most of the island's income. That changed after Mauritius became an independent country with a stable democratic government.

The government of Mauritius has taken advantage of its unique location to make big changes in quality of life. This includes moving from a reliance on sugar exports to a more **diversified economy**. Improved roads, an international airport, and a seaport all attract foreign investment. Beautiful beaches, coral reefs, and a tropical climate make it a tourist destination. Mauritius's economic and political stability also make it an ideal headquarters for companies operating in Africa and India. As a result, the country has one of Africa's highest per capita incomes.

Area	2 040 km^2
Population	1 245 000
Density	610 per km^2
Life expectancy	Males: 68, Females: 76
Literacy	84%
GDP per capita	12 800 ($US)
HDI rating	63rd of 177: .800

Port Louis, the capital city of Mauritius

THINKING It Over

1. Use the Life Expectancy map on page G 53 to compare Africa to the rest of the world. List five reasons that can explain this pattern. **k m**

2. Compare the maps of Literacy and Living Standard. What patterns do you observe? What explanations can you give? **k m**

3. What is the Human Development Index? Use the map to rank the continents in declining HDI order. (Record Europe and Asia separately.) **k m**

4. Could Mauritius' formula for success be applied in other developing countries? Compare ideas with a partner. **t c**

WORDS MATTER

diversified economy an economy that is based on more than one resource

Development Aid

Imagine that you could do something to improve the quality of life in some part of the world. What important changes would you make? How would you get your message out to others? In 2005, top music performers donated their talents for *Live 8* rock concerts in the leading developed countries, including Canada. They wanted to raise awareness of world poverty and urge developed countries to contribute more to solutions. At the end of this chapter, you'll be identifying problems in one region of the world and making your own plan to improve conditions there.
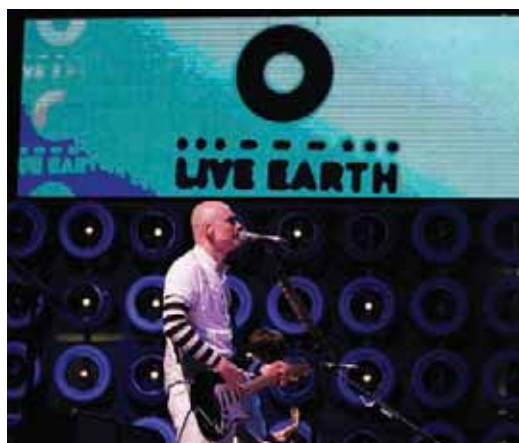
In the summer of 2007, *Live Earth* concerts drew attention to global climate change. They were televised from every continent, including Antarctica. Do you think that celebrities should use their popularity to speak out on issues like climate change and poverty? How can it help?

Types of Aid

Foreign aid describes the flow of assistance between governments. Money, loans, trained people, supplies, and equipment can move from one nation to another. The following questions will review what you need to know to plan a development project.

What Is Bilateral Aid?

"Bi" means two. **Bilateral aid** connects two countries together: a donor and a recipient. Countries may have bilateral aid ties with strategic military allies or with former colonies. At other times, aid may be a response to a crisis. Canada's official foreign aid is handled by CIDA, the Canadian International Development Agency. In 2004, CIDA coordinated the Canadian effort to help countries affected by the tsunami in South Asia.

What Is Multilateral Aid?

"Multi" means many. **Multilateral aid** comes from more than one country. The best-known multilateral aid organization is the United Nations. Contributing countries work together to support thousands of development projects around the world. Organizations such as the World Health Organization (WHO), the Food and Agriculture Organization (FAO), and other agencies are employed to bring humanitarian aid where it is needed.

WORDS MATTER

foreign aid economic help provided to countries as a response to disaster or to achieve a larger goal

bilateral aid given by the government of one country directly to another

multilateral aid given by the government of a country to an international organization, such as the World Bank

What Is Tied Aid?

Tied aid comes with conditions that tie the receiving country to the donor. It is like a gift card which must be spent at one store, whether you want to shop there or not. Tied aid requires the receiving country to buy supplies and equipment from the donor country. For example, money needed to help fight AIDS in Africa may only be given if that money is used to buy the necessary drugs from the donor country.

What Is an NGO?

Non-governmental organizations are aid agencies which are not part of any government. You may be familiar with some NGOs, such as the International Red Cross and Oxfam. Others carry out small-scale projects. For example, Sarnia's Rayjon Share Care supports rural schools in Haiti in order to help improve literacy.

What Is the World Bank?

The **World Bank** is a multilateral organization that supports international development. Governments and banks invest large amounts of money in the International Monetary Fund (IMF). The World Bank then lends this money to countries for specific projects. Between July 2006 and June 2007, the World Bank distributed 24.7 billion dollars ($US).

Heroes and Villains | *The World Bank*

The World Bank is a large source of foreign aid loans. Officials say they are successfully fighting poverty, while critics claim the bank is actually causing it. For example, farm poverty is widespread in developing countries, but between 2001 and 2005, only one-tenth of World Bank funds went to rural development projects. Critics point out that loans for large-scale projects, such as dams, pipelines, and airports are favoured instead. Loan conditions are strict. Sometimes countries must cut social services (e.g., schools and hospitals) in order to continue making payments. For these reasons, protestors gather whenever the World Bank meets with global leaders. Research current events concerning the World Bank. Do you think the actions of the World Bank reflect its purpose, or not? Explain.

WEB LINK ●··········
Read stories about the use of appropriate technology on our Web site.

WORDS MATTER

appropriate technology
technology that is suited to the environmental, cultural, or economic situation it is intended for

Technology and Development

Some of the criticism of the World Bank is one-sided. It overlooks how large-scale projects could support long-term economic growth. For example, if a country has petroleum deposits, construction of a pipeline would allow it to export oil. This might improve living standards, but there is no guarantee. The African nation of Nigeria exports oil but remains near the bottom of the UN Human Development Index. Airport construction is another type of World Bank project that critics dislike. However, an important part of economic growth for Mauritius was the construction of an international airport. This opened the island to commercial tourism, increased trade, and raised the GDP per capita.

Appropriate Technology

Does large-scale technology always benefit everyone? Think about the photos at the beginning of the chapter. Big projects such as hydroelectric dams cost a lot of money, and sometimes the benefits do not filter down to people in rural areas. An approach to development called **appropriate technology** has become increasingly popular. The PlayPump is an example of this type of technology, which focuses on the real needs and skills of people. It is called "appropriate" because the technologies use locally available materials or power sources. Appropriate technology does not require large investment, high-tech equipment, or fossil fuels. It aims to improve people's ability to feed, clothe, and shelter their families.

Solar Power
In isolated rural areas, many people must use kerosene, candles, or batteries for light. Low-cost solar equipment is now becoming more available. Tibet is known as "The Roof of the World," and can have more than 3000 hours of sunlight each year. There, solar power is used to run lights and stoves. What are the benefits of solar power?

Cycle Trailers

Small cycle trailers made in local village workshops can carry up to 200 kg. The trailer shown here is being used to carry a passenger and produce in Cambodia. Farmers also use bicycles to transport produce to market. Cycle trailers also carry water, firewood, or even a mobile library! How is this an example of appropriate technology?

Biogas Cooking

Odourless and smoke-free, biogas is made from decomposing crop or livestock waste. This biogas "plant" in India serves an entire village. Also in India, Dr. Anand Karve has invented a much smaller plant which can be used by individual households. In just hours, biogas plants can turn food and animal waste into clean-burning gas. Why might this be better than a wood- or oil-burning stove?

Appropriate technology can make people's lives better. All the examples shown here have the added advantage of being "green"—they are based on renewable energy sources.

WORDS MATTER

biogas fuel produced from organic matter

THINKING It Over

1. Describe and explain examples of the following types of development projects:

   a) bilateral tied aid, b) multilateral aid from an NGO, c) locally-made appropriate technology *k*

2. What is the difference between large-scale aid projects and appropriate technology? Work with a partner, and use the photos at the beginning of the chapter and in this section to create a chart showing the advantages and shortcomings of each type of development. *k* *c*

3. How might you convince the World Bank to direct more of its loans to appropriate technology solutions? *t*

Are Canadians Helping Enough?

Yes

In 2006, the Canadian government spent more than $3 billion on foreign aid. That amounts to about $100 for every Canadian. This is proportionally much higher than developed nations like the U.S. and Japan. As well, individual Canadians and NGOs respond very generously to international relief efforts, such as the Asian tsunami disaster in late 2004.

No

The United Nations recommends that developed countries give 0.7% of their Gross Domestic Product (GDP) to foreign aid. That amounts to 7 cents on every $10. Canada pledged to meet this goal, but currently gives just 0.3% of the GDP. Most European countries exceed Canada's rate, and five of them met the United Nations standard in 2006.

Make Poverty History is one of many Canadian NGOs that want to end poverty worldwide. Their goals include increasing Canada's foreign aid to 0.7% and canceling the huge debts owed by developing nations. The organization urges people to support fair trade by purchasing **fair trade** products, such as coffee, clothing, and craft goods. What is happening in your community to fight poverty?

WEB LINK •·······························
Learn more about fair trade on our Web site.

WORDS MATTER

fair trade trade that gives fair prices to small, independent producers of a wide variety of goods

What Do YOU Think?

What is your view? Hold a class debate to discuss the following. **t** **c**

- Canada must increase its foreign aid level to 0.7% of its national income.

- Both large and small retailers in Canada should support fair trade.

For help with debates, check page S 11.

PUTTING IT ALL TOGETHER

This chapter completes your exploration of the key question for Unit 1, **How do patterns in human geography affect people around the world?** Here, you have seen the tremendous global differences found in education, health, wealth, and human development. You began by identifying human needs for a life of quality and read the United Nations Universal Declaration of Human Rights. Unfortunately, the human right to a decent life with basic freedoms is absent in many parts of the world. You learned that different forms of development assistance are available. But the question remains whether or not the developed countries are doing enough to assist countries in Africa, south Asia, and South America.

After READING

Revise Your Predictions

Now that you have read and worked through the chapter, go back to your original predictions. With a partner, share your predictions chart. Note similarities and differences. Then, revise your chart to bring in any new ideas or information you now have since you read the chapter. How accurate were your predictions?

THINKING It Through

Pick one of these regions from the quality of life map series used in this chapter (pages G 53–G 56):

- Central America (south of the U.S. and north of South America)

- Africa (south of the Sahara Desert and north of the equator)

- Southeast Asia (south of China and east of India)

- East Africa (along the coast, by the Indian Ocean)

1. Use the maps to prepare a half-page summary identifying how serious the development problems faced by your region are. **m a**

2. Prepare a detailed list of three key things which would improve the quality of life in your chosen region. Some research will be necessary to focus on specific information. Refer to page S 6 in the Skills Tool Kit to review researching a topic. **k t**

3. Write a one-page development plan explaining steps you would take to meet each of the three needs you identified in question 2. Include Canada's role in contributing to your project. **c a**

4. Make a map of your region, naming the countries that your plan covers. **m**

How do patterns in human geography affect people around the world?

Throughout this unit, you have:

- looked at the main factors that influence population distribution and land use
- examined patterns of community, population, and economic development around the world
- compared Canada's patterns in human geography with other places
- identified and assessed ways to aid developing nations

Use a graphic organizer to answer the key question, **How do patterns in human geography affect people around the world?** Consider: population, settlement, land use, and economic development.

"Somewhere": Percentage of Population, 2000		
Age Group in Years	Percentage of all Males	Percentage of all Females
0–9	13.0	12.8
10–19	13.6	12.4
20–29	14.3	13.1
30–39	14.9	14.3
40–49	14.5	14.1
50–59	11.9	11.4
60–69	8.8	9.4
70–79	6.6	8.7
80+	2.4	5.0

"Elsewhere": Percentage of Population, 2000		
Age Group in Years	Percentage of all Males	Percentage of all Females
0–9	22.9	22.7
10–19	27.0	27.3
20–29	17.5	17.9
30–39	12.1	12.7
40–49	9.1	9.1
50–59	5.9	5.3
60–69	3.3	3.1
70–79	1.6	1.4
80+	0.5	0.4

The populations of two different types of countries. Which one is the developing nation? How can you tell?

Show That You Know

Use your knowledge of population pyramids to construct, interpret, and compare two different countries. Use the information to make predictions about each country's future needs.

Step 1 **Construct population pyramids**

Work with a partner to draw and label pyramids of the population data shown on the facing page.

Step 2 **Compare the two countries**

Use the following chart to compare the total percentage of the population of each country found in three different age groups.

Age Groups	"Somewhere"	"Elsewhere"
Children and Youth (age 0–19)		
Working Adults (age 20–59)		
Seniors (age 60 and older)		

Step 3 **Classify the pyramids**

Work with your partner to identify which type of population change is shown in each case. Identify the developed and the developing countries.

Step 4 **Make predictions**

Imagine that you are a government official in one of the countries. Your partner holds the same position for the other one. Use the pyramids and chart organizer to predict what your country's needs will be ten years from the date of the population data for each of the following:

- Education for young people (age 10–19)
- Infant care for young mothers (age 20–29)
- Home construction for growing families (age 20–39)
- Medical care for seniors (age 60 and older)

Step 5 **Write a short report**

Write a page or two to state your predictions for your country, and explain your reasons. Identify what you think should be done to prepare the country for each of these four changes in the population.