

# Population Geography

## Unit 6 - Population Distribution and Growth

Unit 6 draws students' attention to the importance of population studies. The distribution of people over the earth's surface reflects the characteristics (e.g., climate, physical features, ecosystems) of different regions. As well, population growth and structures are related to the level of economic development of a country or region.

## Unit 6: Population Distribution and Growth

### Outcomes

***SCO 6.1: The student will be expected to examine factors that account for the distribution of population on the earth's surface, including the following delineations:***

- 6.1.1 Define the terms population density, densely populated, and sparsely populated. (k)
- 6.1.2 Explain why population density is not always an accurate indicator of population distribution. (k)
- 6.1.3 Examine patterns in the distribution of population on the earth's surface. (a)
- 6.1.4 **Analyze the impact of selected factors on the population distribution of a given region. (a)**

### Sample Learning/Teaching Strategies

*Teachers can have students*

- given a world population map, identify the three primary concentrations of high population density (see teacher note 1).
- identify global areas of low population density.
- given a world population map and a world landforms map, relate world population distribution to landform patterns.
- given a world population map and a world climate map, explain how world population distribution is affected by patterns in climate.

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### Sample Assessment Strategies

*Students could, for example:*

- given the necessary data, calculate the population density for a given country.
- given the necessary statistics, construct a pie chart to illustrate each continent's share of the world's total population. Student should briefly describe the pattern shown (see teacher note 2).
- read a case study and account for the distribution of population in Newfoundland and Labrador. (see teacher note 3).
- given a world population map and a world climate map, explain how world patterns in climate help to explain why there are regions with very low population densities (see teacher note 4).

### Teacher Notes

- Help World Geography 3200 students develop very basic patterns about population distribution; e.g., arid areas are not heavily populated; Western Europe, eastern north America, and southeast Asia are highly populated.
- In the About Geography website (<http://geography.about.com/science/geography/>), there is an article archive containing over 200 articles on 11 subjects. Under the subject, Census and Population, there are articles on age-sex pyramids, doubling time and population growth, population density, and world population growth.
- Again refer to Geography World website (Population section) as you teach Unit 6. The following sites also provide a wealth of information (e.g., statistics, maps)  
<http://www.geographic.org>  
<http://www.prb.org>
- The Statistics Canada website has a section "Teaching Resources" that includes lesson plans for the teaching of selected topics on population.  
(<http://www.statcan.ca/english/edu/teachers.htm>)
- Refer to the NASA site (<http://visibleearth.nasa.gov/>) Follow the links to "Human Dimensions" and then to "Population" for a night view of the earth. The population concentrations show up as lighted areas. (1)
- Refer to ST, Exercise 3, page 302. (2)
- Refer to case study provided in ST, pages 303-304. (3)
- Refer to ST, Figure 18.5, page 305 and Figure 5.1, page 75. (4)

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### Outcomes

***SCO 6.2: The student will be expected to detect temporal and spatial trends in population growth, including the following delineations:***

- 6.2.1 Compare the terms absolute population growth and population growth rate. (k)
- 6.2.2 Examine trends in the size and growth rate of the population of a selected region. (a)
- 6.2.3 Given relevant data, classify a country according to the demographic transition model. (a)
- 6.2.4 **Classify a population growth rate as slow-, moderate-, or fast-growing populations. (a)**
- 6.2.5 **Relate a country's rate of population growth to its socio-economic conditions. (a)**
- 6.2.6 Describe some of the problems that result from overpopulation. (k)
- 6.2.7 **Defend one's views about the efficacy of controlling population growth. (i)**

### Sample Learning/Teaching Strategies

*Teachers can have students*

- given the necessary statistics, determine the number of years it took for each one billion increase in world population. Briefly describe the pattern shown.
- use a world map showing rate of population increase to determine areas of slow, moderate, and fast growing populations (see teacher note 1).
- use a table showing population growth rates for selected developed and developing countries, write a generalization about the relationship between population growth rates and standard of living.
- briefly describe the economic and social conditions that may result in a near zero population growth in a developed country (e.g., Sweden).

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### Sample Assessment Strategies

*Students can, for example:*

- given a line graph, describe the change in population over the last three centuries in terms of (1) size and (2) rate of growth (see teacher note 2).
- analyze a table of statistics to identify countries with slow-, moderate-, and fast-growing population rates (see teacher note 3).
- the government of a developing country has decided to take measures to limit population growth. Write a letter to the editor of a newspaper stating their views on this decision.
- briefly describe issues around the need to control population (see teacher note 4).

### Teacher Notes

- Refer to ST, Figure 18.8, page 308. (1)
- Check the “Population and People – Games and Quizzes” section of the Geography World website for a “Jeopardy” type game on the population theme.
- Refer to Exercise 10, page 306. (2)
- Refer to Exercise 12, page 307. (3)
- Refer to TR Video Activity, pages 194-195. (4)

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### Outcomes

***SCO 6.3: The student will be expected to analyze the dynamics of changing populations, including the following delineations:***

- 6.3.1 Define the terms natural change, natural increase, and natural decrease. (k)
- 6.3.2 Express population change in mathematical terms. (a)
- 6.3.3 Classify a given population as expanding, contracting, or stationary. (a)
- 6.3.4 Examine the relationship between birth rate and death rates to determine natural change in a population. (a)
- 6.3.5 Analyze factors that affect birth rates. (a)
- 6.3.6 Analyze factors that affect death rates. (a)
- 6.3.7 Define the term dependency ratio. (k)
- 6.3.8 Given population data, calculate dependency ratios. (a)
- 6.3.9 Describe the factors that contribute to a graying of the population. (k)
- 6.3.10 Project future population trends from data provided. (i)

### Sample Learning/Teaching Strategies

*Teachers can have students*

- develop a formula for calculating birth rate.
- develop a formula for calculating death rate.
- analyze a case study to extrapolate social and economic factors that affect birth rates.
- analyze a case study to extrapolate social and economic factors that affect death rates.
- use statistics to determine the relationship between the wealth of a country (e.g., per capita GNP) and its rate of population growth.
- given a population pyramid, classify the population it represents as expanding, contracting, or stationary.
- analyze a population pyramid to describe the percentage share of the total population by gender and selected age groups.
- compare the population pyramids of selected countries and account for their differences.

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### Sample Assessment Strategies

*Students could, for example:*

- given the necessary data, calculate the natural change in the population of a country (see teacher note 1).
- given the necessary data, calculate the birth rate for a given country.
- given the necessary data, calculate the death rate for a given country.
- use population statistics for a given country to construct a population pyramid. They could classify it as expanding, contracting or stationary (see teacher note 2).
- conduct research on the impact of disease for a selected country. They could write a brief report to describe the conditions that led to its spread, age groups most affected, challenges in eradicating the disease, and the economic and social impact on the country.
- examine the economic implications of a graying of the population.

### Teacher Notes

- Refer to Exercise 18, page 311. (1)
- Refer to Figure 19.13, page 335. The U.S. Census Bureau provides population data for every country by 5-year intervals and by gender that the teacher can provide students as they complete this exercise. The data is also displayed as a population pyramid that the teacher can use to check the work of the student. Refer to the following site: (2)  
<http://www.census.gov/>  
Also refer to About Geography website.
- For a role-play activity on overpopulation, refer to TR, page 195.

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### Outcomes

***SCO 6.4: The student will be expected to determine the effect of migration on population size, including the following delineations:***

- 6.4.1 Define the terms migration, immigration, and emigration. (k)
- 6.4.2 Define the term actual population change. (k)
- 6.4.3 Express the actual change in population in mathematical terms. (a)
- 6.4.4 Examine the relationship among birth rate, death rate, emigration and immigration to determine the actual change in a population. (a)

### Sample Learning/Teaching Strategies

*Teachers can have students*

- given a statement that describes the relationship between actual change, migration and natural change, develop a formula to show these relationships.
- use statistics on births, deaths, immigrants, and emigrants to calculate the actual change in the population of a given country.

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### Sample Assessment Strategies

*Students could, for example.*

- Analyze statistics to develop generalizations about source areas for immigrants to Canada for a given time period (see teacher note 1).

### Teacher Notes

- For Delineation 6.4.4, a useful analogy to use with students is water flow in and out of a bathtub. Just as the two faucets increase the water level, births and immigration tend to increase population size. Just as the drain and overflow outlets serve to reduce the water level in a bathtub, emigration and deaths tend to reduce the population size. You can give them different scenarios and ask them to predict the probable results. For example, if the death rate and immigration rates are about the same and birth rates are greater than emigration rates, what will happen to the size of the population.
- Refer to Exercise 8, page 330. The teacher can update Figure 19.7 by referring to the Statistics Canada site (<http://www.statcan.ca/english/Pgdb/People/popula.htm>). Click on “Immigrant Population”. (1)

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### Outcomes

***SCO 6.5: The student will be expected to examine conditions that result in migration, including the following delineations:***

- 6.5.1 Define the terms push factor, pull factor, repel factor, and intervening obstacle. (k)
- 6.5.2 Examine the dynamics related to an individual's decision to migrate. (a)
- 6.5.3 Determine the major source areas for international migrants. (a)**
- 6.5.4 Use population data to make a demographic argument for the admission of migrants to a country. (a)**
- 6.5.5 Describe the economic impacts of immigration and emigration. (k)
- 6.5.6 Support a position taken on an issue related to immigration. (i)

### Sample Learning/Teaching Strategies

*Teachers can have students*

- interpret a model that accounts for the decision to migrate (see teacher note 1).
- analyze a case study to determine the factors that account for an individual's decision to migrate.
- use a world map of source areas of migrants and relate migration to economic, political, and environmental conditions.
- list the classes of immigrants as outlined in Canada's immigration policy and describe the conditions for each.
- adopt and defend a position on the following statement:

*Canada should take an open-door approach to immigration.*

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### Sample Assessment Strategies

*Students could, for example.*

- analyze a table of statistics to identify the main factors that account for the decision of migrants to leave a selected country and come to Canada (see teacher note 2).
- summarize a newspaper article that relates to a situation where an ethnic group was forced to migrate. They should describe the feelings that the account evoked as they read it.
- write an editorial expressing your views about reducing the rate of immigration to Canada.
- obtain an e-mail contact for a person who has moved out of your area to live in another province or country. They should find out why he or she left your area (push and pull factors). Student should compare their results with those of several other classmates and identify common factors that account for out-migration.

### Teacher Notes

- Refer to ST, Figure 19.3, page 325. (1)
- Refer to ST, Figure 19.2, page 324. (2)

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### Outcomes

*SCO 6.6: The student will be expected to appreciate the importance of population studies, including the following delineations:*

- 6.6.1 Define the term census. (k)
- 6.6.2 Defend a position on issues related to population dynamics. (i)
- 6.6.3 Assess the usefulness of census data for a stated purpose. (i)

### Sample Learning/Teaching Strategies

*Teachers can have students*

- become familiar with the categories of information contained in the census compiled by Statistics Canada. They could assume a planning role for establishing a business (e.g., a toy store; a seniors' clothing store). Student should determine the usefulness of census data for the type of business selected.

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### Sample Assessment Strategies

*Students could, for example.*

- Assume the role of an entrepreneur who plans to open a sports equipment business. They should explain how census data will help in the decision.

### Teacher Notes

- For delineation 6.6.3, ask students to assume the role of a government official who has to decide whether an aging school should be replaced. Have students identify the population trends that should be examined.

