SECTION 2

Population

If YOU lived there...

You live in Mexico City, one of the largest and most crowded cities in the world. You realize just how crowded it is whenever you ride the subway at rush hour! You love the excitement of living in a big city. There is always something interesting to do. At the same time, the city has a lot of crime. Heavy traffic pollutes the air.

What do you like and dislike about living in a large city?

What You Will Learn...

Main Ideas

1. The study of population patterns helps geographers learn about the world.
2. Population statistics and trends are important measures of population change.

The Big Idea

Population studies are an important part of geography.

Key Terms

population, *p. 86*
population density, *p. 86*
birthrate, *p. 88*
migration, *p. 89*

TAKING NOTES As you read, take notes on population. Use a graphic organizer like the one below to organize your notes on population patterns and population change.

BUILDING BACKGROUND An important part of geographers' work is the study of human populations. Many geographers are interested in where people live, how many people live there, and what effects those people have on resources and the environment.

Population Patterns

How many people live in your community? Do you live in a small town, a huge city, or somewhere in between? Your community's **population**, or the total number of people in a given area, determines a great deal about the place in which you live. Population influences the variety of businesses, the types of transportation, and the number of schools in your community.

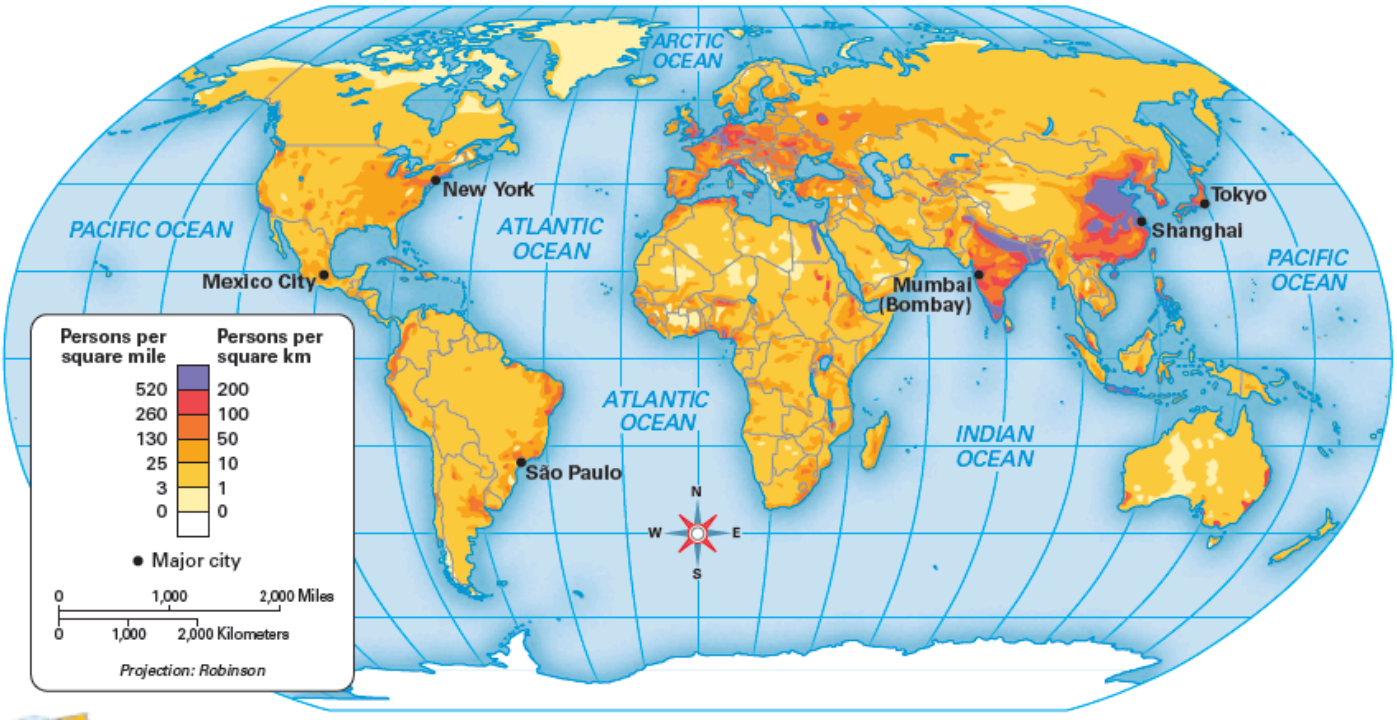
Because population has a huge impact on our lives, it is an important part of geography. Geographers who study human populations are particularly interested in patterns that emerge over time. They study such information as how many people live in an area, why people live where they do, and how populations change. Population patterns like these can tell us much about our world.

Population Density

Some places on Earth are crowded with people. Others are almost empty. One statistic geographers use to examine populations is **population density**, a measure of the number of people living in an area. Population density is expressed as persons per square mile or square kilometer.

Interactive Map

World Population Density



map zone Geography Skills

Location While low population densities are common throughout much of the world, South and East Asia are two of the world's most densely populated regions.

1. **Identify** Which continent is the most densely populated? Which is the least densely populated?
2. **Making Inferences** Why might the population density of far North America be so low?

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Population density provides us with important information about a place. The more people per square mile in a region, the more crowded, or dense, it is. Japan, for example, has a population density of 873 people per square mile (340 per square km). That is a high population density. In many parts of Japan, people are crowded together in large cities, and space is very limited. In contrast, Australia has a very low population density. Only 7 people per square mile (3 per square km) live there. Australia has many wide-open spaces with very few people.

How do you think population density affects life in a particular place? In places with high population densities, the land is often expensive, roads are crowded, and buildings tend to be taller. On the other hand, places with low population densities tend to have more open spaces, less traffic, and more available land.

Where People Live

Can you tell where most of the world's people live by examining the population density map above? The reds and purples on the map indicate areas of very high population density, while the light yellow areas indicate sparse populations. When an area is thinly populated, it is often because the land does not provide a very good life. These areas may have rugged mountains or harsh deserts where people cannot grow crops. Some areas may be frozen all year long, making survival there very difficult.

For these reasons, very few people live in parts of far North America, Greenland, northern Asia, and Australia.

Notice on the map that some areas have large clusters of population. Such clusters can be found in East and South Asia, Europe, and eastern North America. Fertile soil, reliable sources of water, and a good agricultural climate make these good regions for settlement. For example, the North China Plain in East Asia is one of the most densely populated regions in the world. The area's plentiful agricultural land, many rivers, and mild climate have made it an ideal place to settle.

READING CHECK **Generalizing** What types of information can population density provide?

CONNECTING TO Math

Calculating Population Density

Population density measures the number of people living in an area. To calculate population density, divide a place's total population by its area in square miles (or square kilometers). For example, if your city has a population of 100,000 people and an area of 100 square miles, you would divide 100,000 by 100. This would give you a population density of 1,000 people per square mile (100,000 ÷ 100 = 1,000).

Analyzing If a city had a population of 615,000 and a total land area of 250 square miles, what would its population density be?

City	Population	Total Area (square miles)	Population Density (people per square mile)
Adelaide, Australia	1,032,585	336	3,073
Lima, Peru	8,043,521	1,029	7,816
Nairobi, Kenya	2,143,254	266	8,057

Population Change

The study of population is much more important than you might realize. The number of people living in an area affects all elements of life—the availability of housing and jobs, whether hospitals and schools open or close, even the amount of available food. Geographers track changes in populations by examining important statistics, studying the movement of people, and analyzing population trends.

Tracking Population Changes

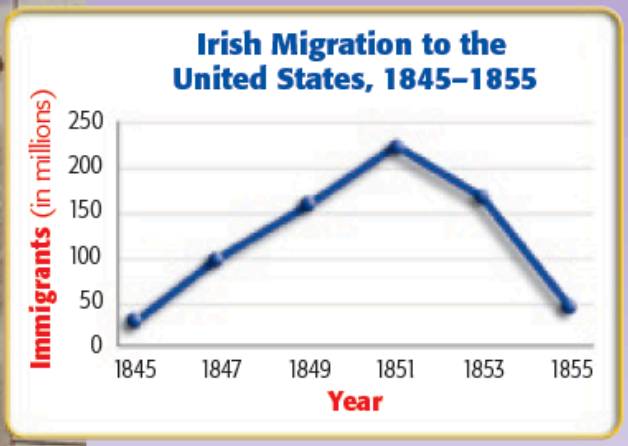
Geographers examine three key statistics to learn about population changes. These statistics are important for studying a country's population over time.

Three key statistics—birthrate, death rate, and the rate of natural increase—track changes in population. Births add to a population. Deaths subtract from it. The annual number of births per 1,000 people is called the **birthrate**. Similarly, the death rate is the annual number of deaths per 1,000 people. The birthrate minus the death rate equals the percentage of natural increase, or the rate at which a population is changing. For example, Japan has a rate of natural increase of .07%. This means it has slightly more births than deaths and a very slight population increase.

Population growth rates differ from one place to another. In some countries, populations are growing very slowly or even shrinking. Many countries in Europe and North America have very low rates of natural increase. In Russia, for example, the birthrate is about 9.6 and the death rate is 15.2. The result is a negative rate of natural increase and a shrinking population.

In most countries around the world, however, populations are growing. Mali, for example, has a rate of natural increase of almost 3 percent. While that may sound

Irish Migration



Source: *Historical Statistics of the United States*

The failure of Ireland's most important food crop, the potato, caused widespead starvation. Disease and high food prices forced many Irish to flee to America in search of a better life.

ANALYZING GRAPHS In what year did Irish migration to the United States peak?

small, it means that Mali's population is expected to double in only 23 years! High population growth rates can pose some challenges, as governments try to provide enough jobs, education, and medical care for their rapidly growing populations.

Migration

A common cause of population change is migration. **Migration** is the process of moving from one place to live in another. As one country loses citizens as a result of migration, its population can decline. At the same time, another country may gain population as people settle there.

People migrate for many reasons. Some factors push people to leave their country, while other factors pull, or attract, people to new countries. Warfare, a lack of jobs, or a lack of good farmland are common push factors. For example, during the Irish potato famine of the mid-1800s, poverty and disease forced some 1.5 million people to leave Ireland. Opportunities for a better life often pull people to new countries. For example, in the 1800s and early 1900s thousands of British citizens migrated to Australia in search of cheap land.

World Population Trends

In the last 200 years Earth's population has exploded. For thousands of years world population growth was low and relatively steady. About 2,000 years ago, the world had some 300 million people. By 1800 there were almost 1 billion people. Since 1800, better health care and improved food production have supported tremendous population growth. In 1999 the world's population passed 6 billion people.

Population trends are an important part of the study of the world's people. Two important population trends are clear today. The first trend indicates that the population growth in some of the more industrialized nations has begun to slow.

FOCUS ON READING

What is the main idea of this paragraph? What facts are used to support that idea?

World Population Growth

Advances in food production and health care have dramatically lowered death rates. As a result, the global population has seen incredible growth over the last 200 years.

ANALYZING GRAPHS By how much did the world's population increase between 1800 and 2000?

Source: *Atlas of World Population History*

For example, Germany and France have low rates of natural increase. A second trend indicates that less industrialized countries, like Nigeria and Bangladesh, often have high growth rates. These trends affect a country's workforce and government aid.

READING CHECK **Summarizing** What population statistics do geographers study? Why?

SUMMARY AND PREVIEW In this section you have learned where people live, how crowded places are, and how population affects our world. Geographers study past and present population patterns in order to plan for the future. In the next section, you will learn how governments and economies affect people on Earth.

Section 2 Assessment

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Online Quiz
KEYWORD: SK7 HP4

Reviewing Ideas, Terms, and Places

1. **a. Identify** What regions of the world have the highest levels of **population density**?
   b. Draw Conclusions What information can be learned by studying population density?
   c. Evaluate Would you prefer to live in a region with a dense or a sparse population? Why?
2. **a. Describe** What is natural increase? What can it tell us about a country?
   b. Analyze What effect does **migration** have on human populations?
   c. Predict What patterns do you think world population might have in the future?

Critical Thinking

3. **Summarizing** Draw a graphic organizer like the one here. Use your notes to write a sentence that summarizes each aspect of the study of population.

FOCUS ON WRITING

4. **Discussing Population** What effect does population have on our world? Write down some words and phrases that you might use on your poster to explain the importance of population.