



## 5.3 Human Population Growth

### Lesson Objectives

-  Discuss the trend of human population growth.
-  Explain why population growth rates differ in countries throughout the world.

### Lesson Summary

**Historical Overview** The size of the human population has increased over time.

- ▶ For most of human existence, limiting factors such as the scarcity of food kept death rates high.
- ▶ As civilization advanced, agriculture, industry, improved nutrition, sanitation, and medicine reduced death rates. Birthrates stayed high in most places. This led to exponential growth.
- ▶ Today, the human population continues to grow exponentially, although the doubling time has slowed.

**Patterns of Human Population Growth** **Demography** is the scientific study of human populations. Demographers try to predict how human populations will change over time.

- ▶ Over the past century, population growth in developed countries slowed. As death rates dropped, birthrates dropped also. Demographers call this shift the **demographic transition**. Most people live in countries that have not undergone the demographic transition.
- ▶ An age-structure graph shows how many people of each gender are in each age group in a population. Demographers use such graphs to predict how a population will change. More people of reproductive age usually means faster growth.
- ▶ Many factors, including disease, will affect human population growth in the twenty-first century. Current data suggest the human population will grow more slowly over the next 50 years than it did for the last 50 years.

### Historical Overview

For Questions 1–5, write True if the statement is true. If the statement is false, change the underlined word or words to make the statement true.

- \_\_\_\_\_ 1. Over the last 1000 years, the size of the human population has decreased.
- \_\_\_\_\_ 2. Since the 1800s, human population growth has been logistic.
- \_\_\_\_\_ 3. The human population has increased because birthrates have dropped.
- \_\_\_\_\_ 4. The combination of low death rates and high birthrates led to exponential growth.
- \_\_\_\_\_ 5. Charles Darwin suggested that human populations are regulated by war, famine, and disease.

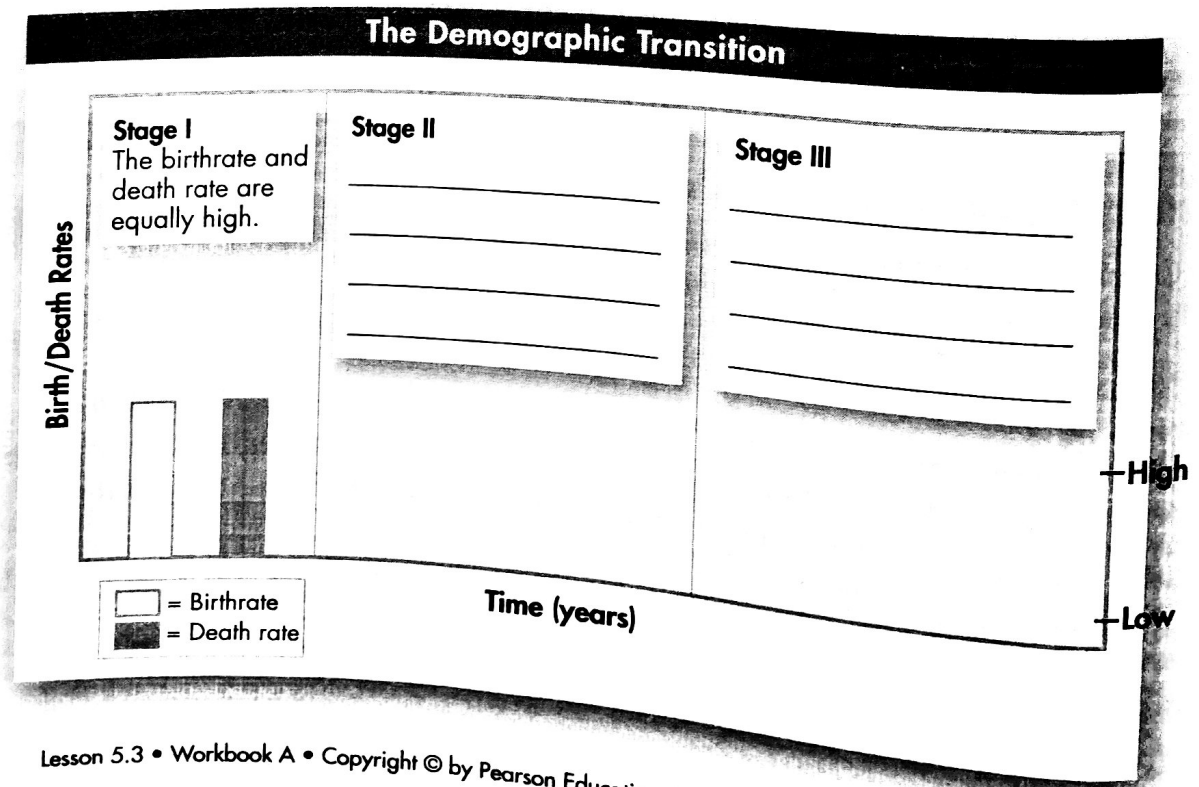
Name \_\_\_\_\_

6. Complete the table below to explain how each factor affected the size and growth rate of the human population over the last 10,000 years.

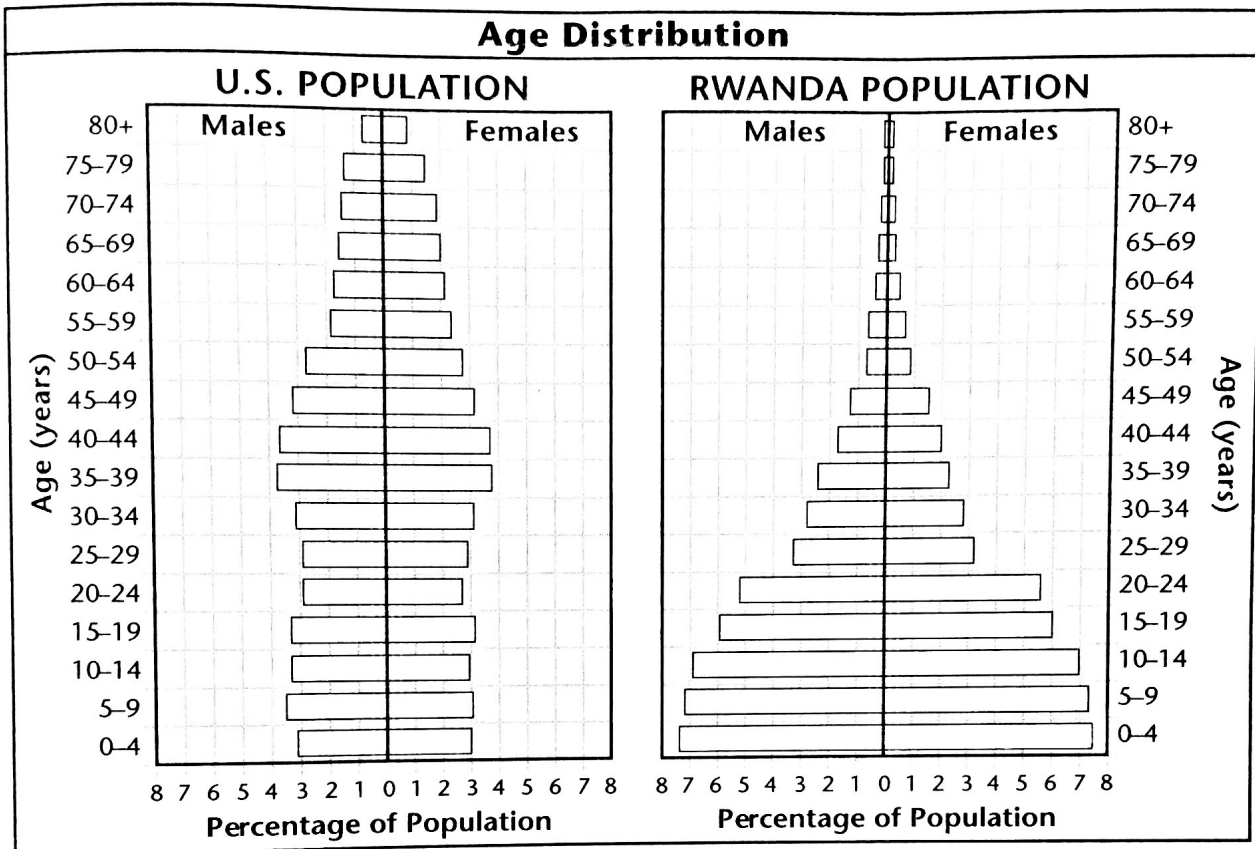
Factors That Affected Human Population Growth	
Cause	Effect
Agriculture	
Improved health care and medicine	
Improved sanitation	
Bubonic plague	
Industrial Revolution	

## Patterns of Human Population Growth

7. **THINK VISUALLY** Complete the diagram below by adding the information for stages II and III of the demographic transition. Draw bars to represent the birthrate and the death rate and describe the stages on the lines provided. Stage I is done for you.



Use these age structure diagrams to answer Questions 8–11.



8. Which country has gone through the demographic transition? How do you know?

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9. Which country do you predict will experience a slow and steady growth rate in the near future? Why?

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10. Which country is most likely to grow exponentially in the near future? Why?

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11. Suggest three factors that might slow population growth in Rwanda.

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### Apply the Big Idea

12. Explain why human population size is likely to increase in the twenty-first century, but not as rapidly as it did in the twentieth century.

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# Chapter Vocabulary Review

**Crossword Puzzle** Complete the puzzle by entering the term that matches each numbered description. For an answer with a hyphen, include the hyphen.

**Across**

- 1. a limiting factor that affects populations no matter what their size
- 4. the number of males and females of each age in a population
- 7. moving out of the population's range
- 8. a growth pattern in which population size stabilizes at a maximum limit
- 10. moving into a population's range
- 11. a shift from high birthrates and death rates to low birthrates and death rates
- 12. the number of individuals per unit area

**Down**

- 2. the larger a population gets, the faster it grows
- 3. a type of limiting factor that does not affect small, scattered populations very much
- 5. the maximum number of individuals of a species that an environment can support
- 6. a factor that controls the growth of a population
- 9. the study of human populations

