

SECTION 20-1 REVIEW

- one side only!

UNDERSTANDING POPULATIONS

VOCABULARY REVIEW Contrast the following terms.

1. population density, dispersion _____

2. mortality rate, life expectancy _____

MULTIPLE CHOICE Write the correct letter in the blank.

- _____ 1. One can estimate a population's size by counting individuals in a sample of the population if the
 - a. distribution of individuals in the sample is the same as that in the population.
 - b. density in the sample is greater than the population density.
 - c. dispersion in the sample is less than that in the population.
 - d. sample size is larger than the population size.
- _____ 2. A random distribution of individuals in a population would be most likely to result from
 - a. clumped food resources.
 - b. territorial behavior by the individuals in the population.
 - c. herding behavior by the individuals in the population.
 - d. the dispersal of seeds by the wind.
- _____ 3. Although the United States has a larger total population than Japan, population density is greater in Japan because the
 - a. people in the United States have less education and medical care.
 - b. people in Japan all live in the cities.
 - c. geographical area is greater in the United States.
 - d. birth rate is lower than the death rate in Japan.
- _____ 4. A population is likely to grow most rapidly if it has
 - a. a high percentage of old individuals.
 - b. a high percentage of young individuals.
 - c. about the same percentage of individuals in each age range.
 - d. individuals with a low birth rate.
- _____ 5. In a population with a Type I survivorship curve, the likelihood of dying is
 - a. low until late in life, when it increases rapidly.
 - b. high early in life and much lower in older individuals.
 - c. high early in life and late in life, but much lower in middle-aged individuals.
 - d. fairly constant throughout life.

SECTION 20-2 REVIEW

MEASURING POPULATIONS

VOCABULARY REVIEW Explain the relationship between the terms in each of the following groups of terms.

1. growth rate, birth rate, death rate _____

2. exponential growth, limiting factor _____

MULTIPLE CHOICE Write the correct letter in the blank.

_____ 1. If a country's per capita growth rate is 0.01 and its present population is 50,000,000, what will the population be one year from now?

a. 500,000

b. 50,500,000

c. 60,000,000

d. 500,000,000

_____ 2. The exponential model of population growth applies

a. when there are no limiting factors.

b. if the birth rate increases as the population grows.

c. when the population size exceeds the carrying capacity.

d. to all real populations that exist in nature.

_____ 3. The logistic model of population growth

a. reflects the fact that the carrying capacity fluctuates with environmental changes.

b. does not accommodate the influence of limiting factors.

c. reflects the fact that the birth rate decreases as the population grows.

d. applies to all real populations that exist in nature.

_____ 4. One example of a density-dependent limiting factor is a

a. forest fire.

b. flood.

c. period of very severe weather.

d. shortage of nesting sites.

_____ 5. Which of the following is not a threat to the survival of small populations?

a. breeding in captivity

b. inbreeding

c. habitat destruction

d. disease outbreaks

SHORT ANSWER Answer the questions in the space provided.

1. In 1996 in the United States, the number of live births was 4 million, the number of deaths was 2.4 million, and the population was 265 million. Calculate the per capita birth rate, death rate, and growth rate. Show your calculations. _____

2. What evidence did Charles Elton collect that suggested that fluctuations in hare and lynx populations were related? _____

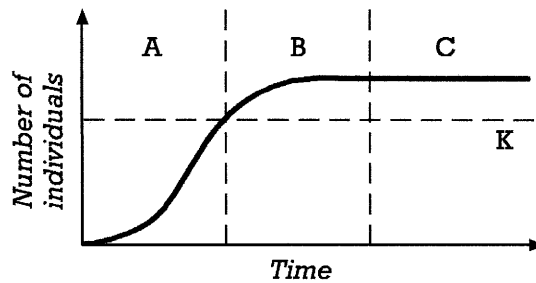
What other evidence indicates that these fluctuations may not have been related? _____

3. Name three effects that inbreeding can have on a population. _____



STRUCTURES AND FUNCTIONS Use the figure to answer the following questions.

The graph below shows the growth of a population over time.



1. Describe the birth rate and death rate in region A. _____

2. Describe the birth rate and death rate in region C. _____

3. Identify the line labeled K. _____

4. What model best describes the growth of this population? _____

SECTION 20-3 REVIEW

HUMAN POPULATION GROWTH

VOCABULARY REVIEW Define the following terms.

1. hunter-gatherer lifestyle _____

2. agricultural revolution _____

3. developed country _____

4. developing country _____

MULTIPLE CHOICE Write the correct letter in the blank.

- _____ 1. The hunter-gatherer lifestyle is associated with
 - a. large populations.
 - b. ancient human populations but is not found in human populations today.
 - c. high mortality rates among infants and young children.
 - d. high rates of population growth.
- _____ 2. About 10,000 to 12,000 years ago, the human population began to grow more rapidly due to
 - a. improvements in sanitation.
 - b. control of disease.
 - c. improved economic conditions.
 - d. the agricultural revolution.
- _____ 3. The global growth rate of the human population is
 - a. no longer increasing.
 - b. not important to people in developed countries.
 - c. increasing but at a slower rate than in the mid-1960s.
 - d. decreasing each year.
- _____ 4. The current population growth rates of developed countries
 - a. are lower than those of developing countries.
 - b. are high because the death rate is low.
 - c. are increasing because the fertility rate is increasing.
 - d. are low because the death rate is high.
- _____ 5. A country may have a negative growth rate if its
 - a. population is mostly young people.
 - b. birth rate is higher than its death rate.
 - c. death rate is higher than its birth rate.
 - d. population has access to health care.

SHORT ANSWER Answer the questions in the space provided.

1. Why did the development of agriculture have a major impact on the human population growth rate?

2. What factors caused human population growth to accelerate after 1650? _____

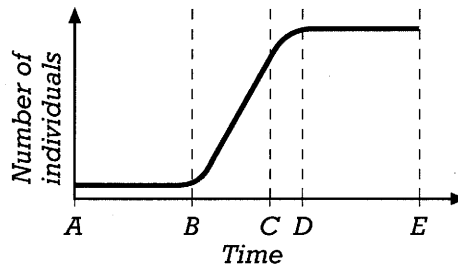
3. What features characterize most developing countries? _____

4. Why did population growth rates change after World War II? _____

5. **Critical Thinking** Under what conditions might the per capita birth and death rates not be enough to accurately predict future human population size? _____

STRUCTURES AND FUNCTIONS Use the figure to answer the following questions.

The graph below represents the hypothetical growth of a population over time. You may express a time interval, for example, as “from A to B,” or “from B to E.”



1. Which time interval best depicts human population growth over all of human history?

2. Which time interval best depicts human population growth until about 1650? _____
3. In which time interval is the birth rate approximately equal to the death rate? _____
4. In which time interval does the birth rate greatly exceed the death rate? _____