

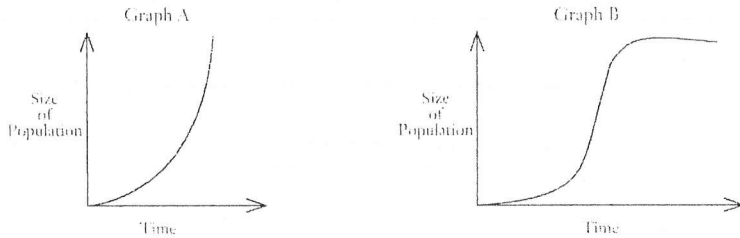
Chapter 4 Population Biology

Reinforcement and Study Guide

Section 4.1 Population Dynamics

In your textbook, read about the principles of population growth.

Refer to Graphs A and B below. Answer the following questions.



1. What type of population growth is shown in Graph A? Explain this type of growth.

2. Which graph shows the most likely growth of a squirrel population living in a forest?

3. Which graph shows a population's growth under ideal conditions?

4. Why don't populations of organisms grow indefinitely?

Use each of the terms below just once to complete the passage.

grows carrying capacity below births
above under deaths exceed

The number of organisms of one species that an environment can support is called its

(5) _____. If the number of organisms in a population is (6) _____ the environment's carrying capacity, births (7) _____ deaths and the population

(8) _____. If the number of organisms rises (9) _____ the carrying capacity of the environment, (10) _____ will exceed (11) _____. This pattern will continue until the population is once again at or (12) _____ the carrying capacity.

Chapter 4 Population Biology, continued

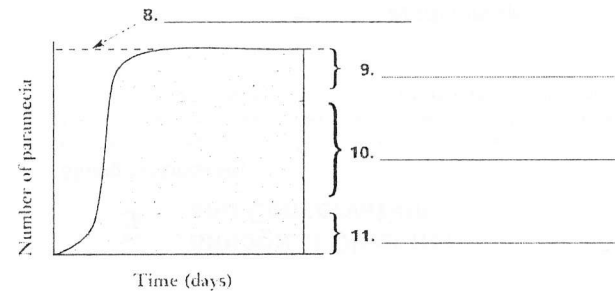
Chapter Assessment

Understanding Main Ideas (Part A)

In the space at the left, write the term in parentheses that correctly completes each statement.

- _____ 1. A (J, S)-shaped curve describes the tendency of a population to grow without limit to its size.
- _____ 2. If a population's death rate is (less, greater) than its birthrate, the population will grow.
- _____ 3. (Food availability, Earthquake damage) would be a density-dependent limiting factor on the growth of a population.
- _____ 4. The number of offspring produced by a female during her reproductive years defines the (fertility, birth) rate.
- _____ 5. The production of many offspring in a short period of time is characteristic of a (slow, rapid) life-history pattern.
- _____ 6. Instead of growing explosively, population growth tends to level off because the population reaches the (competitive limit, carrying capacity) of a particular environment.
- _____ 7. (Immigration, Emigration) can greatly increase the size of the population and create stresses within the population.

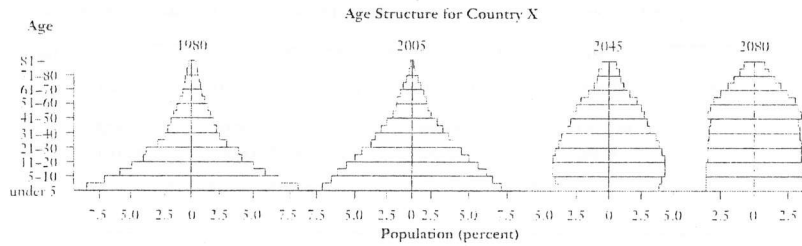
Label the graph below, which depicts the population growth for a sample of paramecium. Use these terms: beginning growth stage, exponential growth stage, leveling-off stage, carrying capacity.



Chapter 4 **Population Biology, continued**

Chapter Assessment

Understanding Main Ideas (Part B)



The first age structure graph for country X shows the percent of the population in each age group for 1980. The remaining three graphs are projections of how the age structure of country X will change. Use the graphs to answer questions 1-5.

1. In 1980, does country X exhibit an age structure more typical of a developing nation or an industrialized nation? Explain.

2. How is the age structure expected to change by 2005?

3. What can you conclude about the stage of population growth for country X from 1980 to 2005?

4. Describe the overall trend in population growth predicted from 1980 to 2080.

5. How would you describe the age structure predicted for 2080?

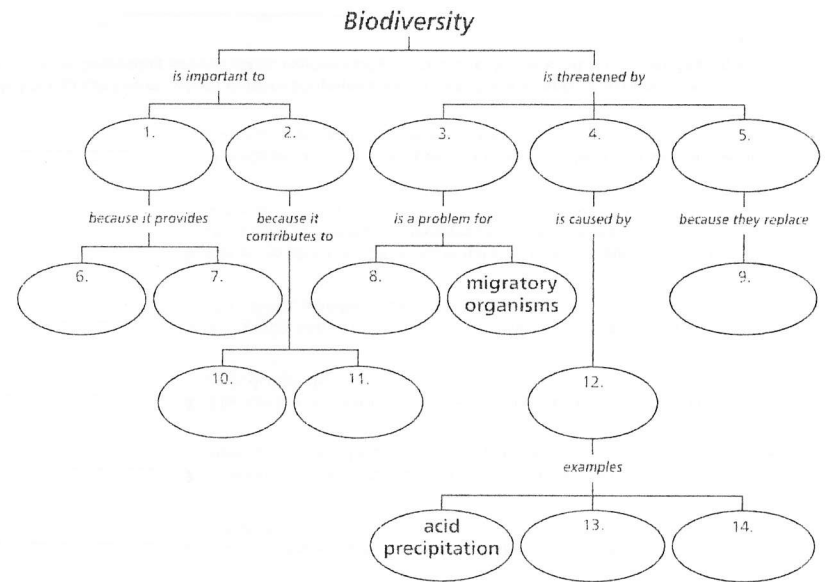
Chapter 5 **Biological Diversity and Conservation**

Concept Mapping

Use with Chapter 5, Section 5.1

Biological Diversity

Complete the concept map on biological diversity. Use these words or phrases once: *pollution, nature, large predators, trash, variety of foods, native species, habitat degradation, people, chemicals in runoff, medicines, food webs, introduction of exotic species, habitat fragmentation, stability of ecosystems.*



Copyright © Glencoe/McGraw-Hill, a division of The McGraw-Hill Companies, Inc.