

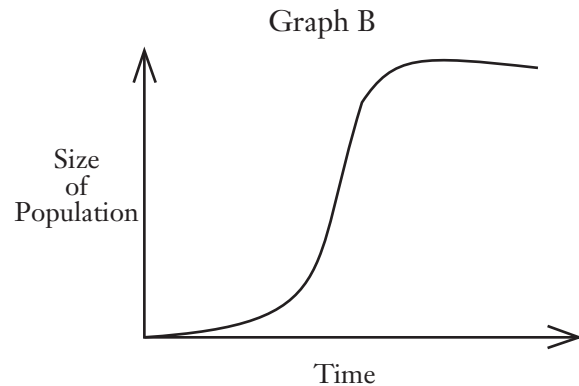
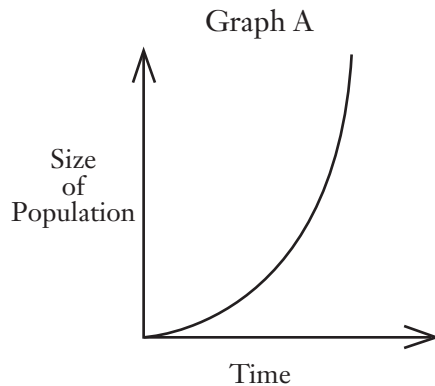
# Chapter 4

## Population Biology

### Reinforcement and Study Guide

#### Section 4.1 Population Dynamics

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.

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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?

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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***

**Reinforcement and Study Guide**

**Section 4.1 Population Dynamics, *continued***

Circle the letter of the choice that best completes the statement.

- 13.** The most important factor that determines population growth is the organism's
- |                                 |                              |
|---------------------------------|------------------------------|
| <b>a.</b> social pattern.       | <b>b.</b> carrying capacity. |
| <b>c.</b> reproductive pattern. | <b>d.</b> feeding pattern.   |
- 14.** Organisms that follow a rapid life-history pattern
- |                                  |                              |
|----------------------------------|------------------------------|
| <b>a.</b> have short life spans. | <b>b.</b> have small bodies. |
| <b>c.</b> reproduce early.       | <b>d.</b> all of the above   |
- 15.** Organisms that follow a slow life-history pattern
- |                              |                            |
|------------------------------|----------------------------|
| <b>a.</b> have small bodies. | <b>b.</b> mature rapidly.  |
| <b>c.</b> reproduce slowly.  | <b>d.</b> all of the above |
- 16.** A limiting factor that has an increasing effect as population size increases is
- |                        |                               |
|------------------------|-------------------------------|
| <b>a.</b> temperature. | <b>b.</b> habitat disruption. |
| <b>c.</b> drought.     | <b>d.</b> competition.        |

Answer the following.

- 17.** The snowshoe hare is a primary source of food for the Canadian lynx. Explain how the lynx population size changes when the hare population increases.

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- 18.** Explain how the change in the lynx population size affects the hare population.

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- 19.** What is the relationship between the lynx and the hare called?

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- 20.** When does competition decrease the size of a population?

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- 21.** What can cause an organism to exhibit stress, and what symptoms of stress can lead to a decrease in population size?

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