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

13. The most important factor that determines population growth is the organism’s
   a. social pattern.
   b. carrying capacity.
   c. reproductive pattern.
   d. feeding pattern.

14. Organisms that follow a rapid life-history pattern
   a. have short life spans.
   b. have small bodies.
   c. reproduce early.
   d. all of the above

15. Organisms that follow a slow life-history pattern
   a. have small bodies.
   b. mature rapidly.
   c. reproduce slowly.
   d. all of the above

16. A limiting factor that has an increasing effect as population size increases is
   a. temperature.
   b. habitat disruption.
   c. drought.
   d. competition.

In your textbook, read about how organism interactions limit population size.

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.

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

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

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

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