

**Quiz: Population Dynamics**

Read each question. Circle the letter of the correct answer.

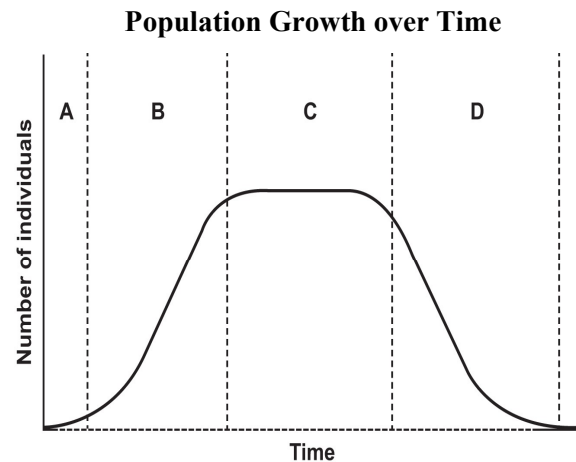
1. In order to measure population density, what two factors are required?
  - A. area of the space and the number of individuals
  - B. carrying capacity and the area of the space
  - C. the birth and death rates
  - D. the perimeter of the area and the number of individuals
2. When would the carrying capacity of an area most likely stay the same?
  - A. after a period of instability
  - B. when diversity increases
  - C. when resources increase
  - D. after a period of stability
3. Which of these is an example of a density-independent limiting factor?
  - A. a parasite
  - B. a food shortage
  - C. a natural disaster
  - D. a decrease in prey
4. Which type of organism would be most likely to have a type II survivorship curve?
  - A. one that preys on small mammals
  - B. one that protects and cares for its young
  - C. one that is preyed upon throughout its life
  - D. one that has high birth and infant mortality rates
5. A herd of caribou has more births than deaths and more immigration than emigration. What will most likely happen to the size of the herd?
  - A. It will increase.
  - B. It will decrease.
  - C. It will stay the same.
  - D. It will increase and then decrease.
6. What might happen if an organism with type III survivorship were introduced into a new environment with no predators?
  - A. It would become extinct.
  - B. Its birth rate would decrease.
  - C. Its population would increase rapidly.
  - D. Its survivorship would change to type I.
7. Bobcats are generally solitary and establish territories of a certain size where they hunt for food. What type of population dispersion would you expect bobcats to have?
  - A. random dispersion
  - B. uniform dispersion
  - C. clumped dispersion
  - D. competitive dispersion
8. As a population reaches its carrying capacity, resources become more scarce. Which of these would increase within the population?
  - A. birthrate
  - B. competition
  - C. nesting sites
  - D. available shelter

9. If a population has no known predators and plenty of available resources, how might that population change?
- It would increase.
  - It would decrease.
  - It would spread out.
  - It would remain the same.

10. Refer to the illustration.

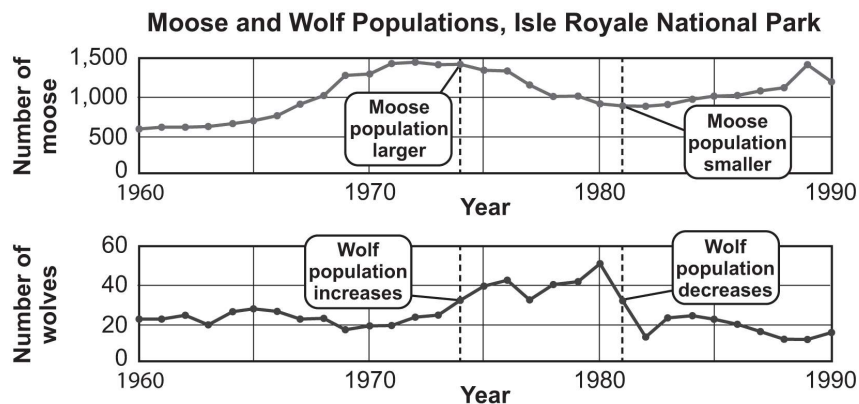
During which time period are the birthrate and death rate equal?

- period A
- period B
- period C
- period D



Read each statement. Write your answer on the lines.

11. Use the graph to answer the question.



Look at the moose and wolf population levels in 1981. Why is the wolf population likely decreasing?

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12. What are the advantages of slower population growth?

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Name: \_\_\_\_\_ Date: \_\_\_\_\_

**Unit 4 Lesson 1**

**Lesson Quiz**

- 13.** How does a survivorship curve help to explain the reproductive strategy of a species? Define two of the three types of survivorship curves, and explain the influence of reproductive strategy on that curve. Give an example of an animal that would have the type of curve you are describing. In your answer:

Explain the relationship between the survivorship curve and a species' reproductive strategy.

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Define and give an example of one type of survivorship curve, the relative number of offspring, and the level of parental care.

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Define and give an example of a second type of survivorship curve, the relative number of offspring, and the level of parental care.

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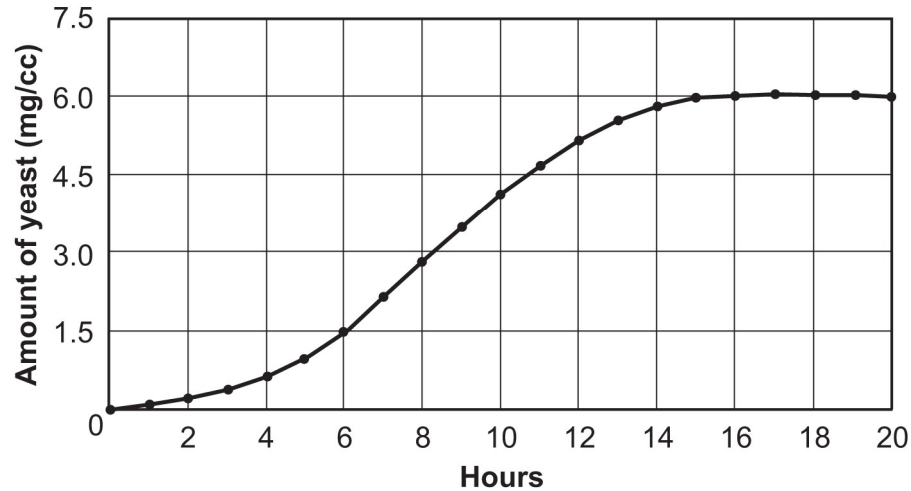
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**Directions:** Read the passage, then answer the questions that follow.

### Population Growth

The graph shows the population of yeast cultured in a sugar solution over a 20-hour period.

**Yeast Population Growth in a Sugar Solution  
Over a 20-hour Period**



14. What amount of yeast constitutes the carrying capacity shown in the figure?

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15. What type of population growth does the graph show? How do you know?

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