

Understanding Populations

MATCHING

In the space provided, write the letter of the term or phrase that best matches the description.

- | | |
|--|----------------------|
| _____ 1. organism's way of life | a. population |
| _____ 2. arrangement of a population within a given space | b. growth rate |
| _____ 3. a group of individuals of the same species living in a particular place | c. competition |
| _____ 4. interaction in which one organism feeds upon another organism | d. carrying capacity |
| _____ 5. birth rate minus death rate | e. limiting resource |
| _____ 6. organisms attempt to use same resources | f. dispersion |
| _____ 7. interaction in which one organism benefits and the other organism is unaffected | g. commensalism |
| _____ 8. maximum population an ecosystem can support indefinitely | h. niche restriction |
| _____ 9. a way to reduce competition between species | i. niche |
| _____ 10. factor that determines the carrying capacity of an ecosystem | j. predation |

MULTIPLE CHOICE

In the space provided, write the letter of the term or phrase that best completes each statement or best answers each question.

- | | |
|--|---|
| _____ 11. Which of the following organisms has the highest reproductive potential? | _____ 12. An example of a population would be all |
| a. dogs | a. trees in a forest. |
| b. elephants | b. red maple trees in a forest. |
| c. bacteria | c. plants in a forest. |
| d. humans | d. animals in a forest. |

Chapter Test *continued*

- _____ 13. The density of a population is
- the number of individuals born every year.
 - the proportion of males and females.
 - the number of individuals living in cities.
 - the number of individuals per unit area.
- _____ 14. Each of the following is an example of a parasite *except*
- a roundworm in a human's intestine.
 - a cow in a pasture.
 - a tick on a cat.
 - mistletoe on a tree.
- _____ 15. The relationship between a Canadian lynx and a snowshoe hare is an example of
- parasite and host.
 - predator and prey.
 - competition.
 - mutualism.
- _____ 16. In which of the following types of interactions is neither species harmed?
- predation
 - competition
 - parasitism
 - commensalism
- _____ 17. Which of the following populations has a random dispersion?
- flock of flamingos
 - pine trees in a pine forest
 - herd of bison
 - solitary snakes in a desert
- _____ 18. Which of the following would be the *most* likely cause of a large number of density-independent deaths in a population?
- winter storms
 - disease-carrying insects
 - predators
 - limited resources
- _____ 19. Thick fur in deer is *not* an example of coevolution, because
- thick fur is an adaptation.
 - deer with thick fur live longer.
 - thick fur evolved in response to a cold climate, not in response to other organisms.
 - in the lowlands, where the climate was sunny and warm, deer that did not have thick fur became separated from other deer that did have thick fur.
- _____ 20. A species of plant has exponential growth after it is introduced into an area where it has never been. Which statement best describes exponential growth?
- Each individual plant grows much larger than usual.
 - The population immediately decreases.
 - Within a few years the population increases dramatically.
 - The species' reproductive potential declines.

Chapter Test *continued*

SHORT ANSWER

Write the answers to the following questions in the spaces provided.

21. The cardon and organ-pipe are flowering cacti that depend on bats for pollination. The bats pollinate the cacti as they eat the nectar in the cacti's flowers and spread its seeds when they eat the cactus fruit. Studies of the cacti show that they are not producing as much fruit as they could. It was also noted that bats living near these cacti had been driven from their cave homes by local villagers. What is the relationship between the bats and the cacti? How did the reduction in the number of bats affect the cacti?

22. If a population of rabbits experiences exponential growth, what might happen to the population of coyotes in the area? Explain your reasoning.

23. Predict what might happen to the population of rabbits and coyotes if the rabbits exceed the carrying capacity of the environment. Explain your reasoning.

24. Choose any two species with a close relationship that might have coevolved adaptations and describe how the adaptations are a benefit to both species.

Chapter Test *continued*

ALTERNATIVE ASSESSMENT

25. The diagrams below show four different types of interactions between species. An arrow pointing from one organism to another means that the first organism has an effect on the second organism. Label each diagram with the correct type of interaction.

———— = Positive effect

----- = Negative effect

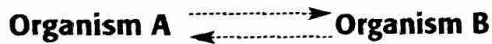
———— = No effect



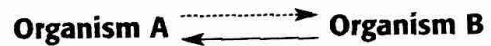
a. _____



c. _____



b. _____



d. _____

or
