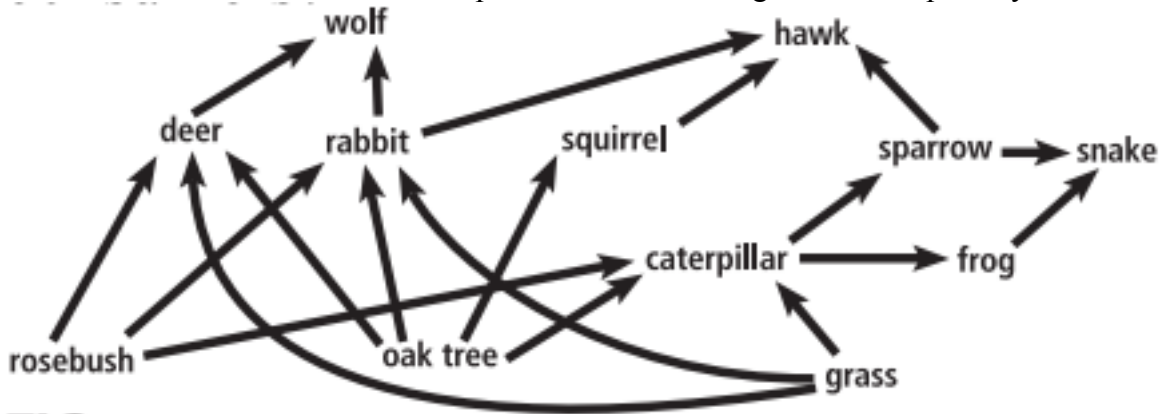


**Chapter 14: Interactions in Ecosystems - E**

**Multiple Choice:** Choose the letter of the BEST answer.

1. Which of the animals shown in the simplified food web in Figure 14.1 are primary consumers?

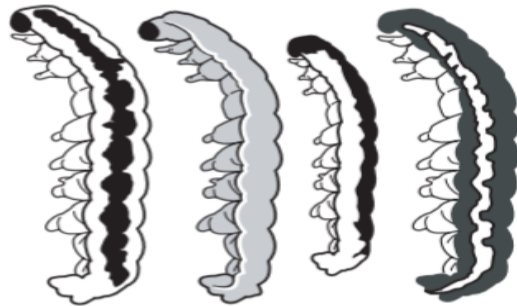


**FIG. 14.1**

- (A) rabbit and caterpillar  
(B) deer and snake  
(C) caterpillar and sparrow  
(D) frog and snake
2. Which of the following would be a biotic factor in a wolf's environment?  
(A) a snow storm  
(B) a stream  
(C) a rock  
(D) a snowshoe hare
3. Which phrase best describes an ecosystem?  
(A) only biotic factors  
(B) only abiotic factors  
(C) both biotic and abiotic factors  
(D) neither biotic nor abiotic factors
4. Natural selection is a theory that states that animals will survive and reproduce if they have  
(A) beneficial traits.  
(B) enough water.  
(C) hearty DNA.  
(D) spinal cords.
5. Which of the following cycles depends upon photosynthesis and respiration?  
(A) nitrogen cycle  
(B) hydrologic cycle  
(C) carbon cycle  
(D) phosphorus cycle
6. The species in a boreal forest include moose, wolves, lichens, mosses, lake trout, mosquitoes, and spruce trees. What level of organization does this group of species form? .  
(A) population  
(B) community  
(C) ecosystem  
(D) biome

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

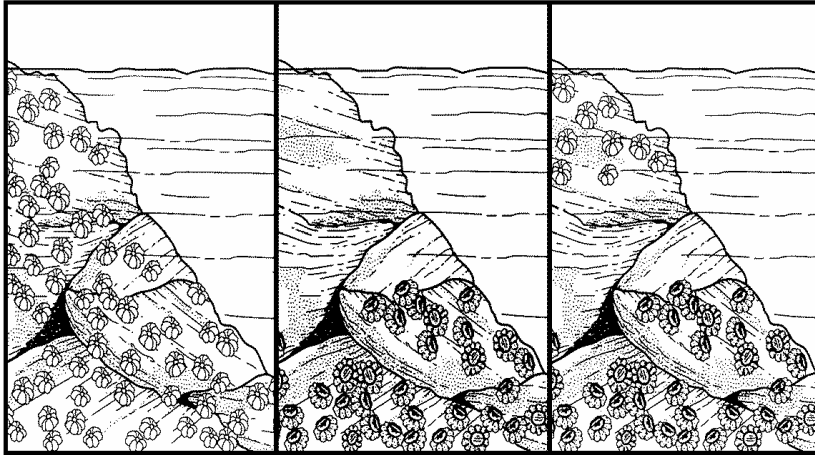
7. A group of emperor penguins living together on a particular beach is an example of a(n)
  - (A) ecosystem.
  - (B) community.
  - (C) species.
  - (D) population.
8. Which trophic level provides food for all other levels of a food chain?
  - (A) producer
  - (B) primary consumer
  - (C) secondary consumer
  - (D) tertiary consumer
9. Which of the following factors leads to greater genetic diversity?
  - (A) colder climate
  - (B) sexual reproduction
  - (C) common ancestors
  - (D) genetic drift
10. Which of the following best describes the frequency of extreme phenotypes shown in Figure 14.2?



**FIG. 12.2**

- (A) favored
  - (B) more frequent
  - (C) eliminated
  - (D) less common
11. Sea stars are fierce competitors of marine organisms such as clams and mussels. An ecologist studying an ocean ecosystem performed an experiment in which the sea stars were removed from the ecosystem. After the removal of the sea stars,
  - (A) the ecosystem became more diverse.
  - (B) the size of the ecosystem was reduced.
  - (C) food webs in the ecosystem became more complex.
  - (D) the number of species in the ecosystem was reduced.

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



A. The barnacle *Chthamalus stellatus* can live in both shallow and deep water on a rocky coast.

B. The barnacle *Balanus balanoides* prefers to live in deep water.

C. When the two live together, *Chthamalus* is restricted to shallow water.

12. Refer to the illustration above. Because the two species of barnacles attempt to use the same resources, they are
- (A) parasites. (C) mutualistic.  
(B) competitors. (D) symbiotic.
13. Refer to the illustration above. Diagram A indicates that the barnacle *Chthamalus stellatus* can live in both shallow and deep water on a rocky coast. This is the barnacle's
- (A) competitive niche. (C) fundamental niche.  
(B) realized niche. (D) exclusive niche.
14. Refer to the illustration above. Diagram B indicates that the barnacle *Balanus balanoides* prefers to live in deep water. Deep water is the barnacle's
- (A) competitive niche. (C) fundamental niche.  
(B) realized niche. (D) exclusive niche.
15. Refer to the illustration above. Diagram C indicates that when the two barnacles live together, *Chthamalus* is restricted to shallow water. Shallow water is the barnacle's
- (A) competitive niche. (C) fundamental niche.  
(B) realized niche. (D) exclusive niche.