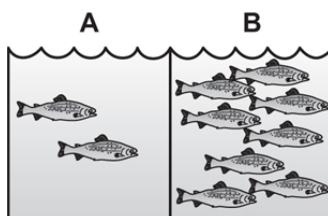


**Quiz: Adaptive Value of Behavior**

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

1. Behaviors animals use when interacting with members of their own or other species are called \_\_\_\_\_.  
A. kin selections  
B. eusocial actions  
C. social behaviors  
D. inclusive fitness
2. When natural selection favors the survival of close relatives it is called \_\_\_\_\_.  
A. survivorship  
B. kin selection  
C. eusocial behavior  
D. cultural transmission
3. Cooperation, reciprocity, and altruism are three kinds of \_\_\_\_\_.  
A. helpful social behavior  
B. innate animal cognition  
C. learned defense behavior  
D. adaptive eusocial behavior
4. Behavioral costs can be measured in terms of \_\_\_\_\_.  
A. time, risk, and survivorship  
B. energy, risk, and opportunity  
C. energy, instinct, and opportunity  
D. instinct, opportunity, and survivorship
5. Living in a social group evolves in species in which the costs of living in a group \_\_\_\_\_.  
A. increase over time  
B. depend on social hierarchies  
C. are outnumbered by the benefits  
D. do not affect the risk of predation
6. Eusocial species live in large groups in which most members do not \_\_\_\_\_.  
A. live long  
B. reproduce  
C. reciprocate  
D. communicate
7. Set reactions to stimuli that allow animals to automatically respond correctly in a life-or-death situation are \_\_\_\_\_.  
A. innate behaviors  
B. social behaviors  
C. learned behaviors  
D. altruistic behaviors
8. Evolutionary benefits of a behavior include \_\_\_\_\_.  
A. more opportunities to defend territories  
B. better shelter and foraging opportunities  
C. greater opportunities to compete with rivals  
D. increased survivorship and reproductive rates
9. Which outcome is an example of the cost of a behavior?  
A. optimizing calories during foraging  
B. sustaining injury while seeking food  
C. increasing territory size by defending it  
D. finding a mate while defending territory

10. The illustration shows fish living in two different conditions.



What benefit and cost are the fish living in the conditions shown in panel B more likely to experience than the fish living in the conditions shown in panel A?

- A. lower risk of disease, less assistance from other fish
- B. reduced visibility to predators, greater access to food
- C. improved foraging success, greater threat of parasites
- D. less competition for food, inability to detect predators

**Read each statement. Write your answer on the lines.**

11. An animal in a social group might commit an act of altruism. This act reduces its fitness but helps other members of the group. Use an example of an altruistic act to explain the act's cost to the individual and its benefit to the group.

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12. Explain how a behavior such as the killing of cubs by male lions can arise through natural selection.

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13. Using examples, describe four kinds of communication signals that animals use to influence behavior.

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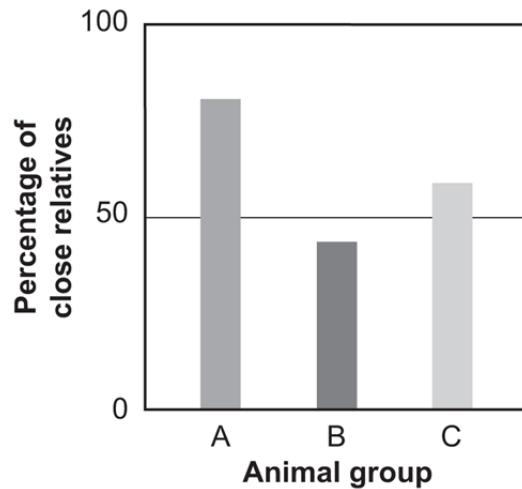
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14. Refer to the bar graph.



Why are individuals in Group A most likely to exhibit altruism, and individuals in Group B least likely to exhibit altruism?

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15. Defending a territory provides an animal with several benefits but also has some costs. An animal's ability to control resources in its territory must be measured against significant disadvantages to defending the territory.

Identify a cost of territoriality.

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Explain when an animal might choose to abandon its territory.

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