## Q1W2-Bio-G10- H.W

**Multiple Choice**
*Identify the choice that best completes the statement or answers the question.*

____ 1. Ecology is the study of relationships among —
a. living things only.
b. living and nonliving things.
c. nonliving things only.
d. None of the above

____ 2. The portion of Earth that supports the existence of living things is called the —
a. ecosystem.
b. habitat.
c. biosphere.
d. niche.

____ 3. Which of the following is a biotic factor that might affect the life of a water-dwelling organism?
a. Temperature of the water
b. Speed of water current
c. Pollutants in water
d. Bacterial population in water

____ 4. Which level of organization encompasses all of the others?
a. Ecosystem
b. Community
c. Population
d. Division

____ 5. Which of the following is NOT consumed by fungal decomposers?
a. First-order heterotrophs
b. Third-order heterotrophs
c. Producers
d. None of the above

____ 6. Which ecological pyramid best explains why food chains are typically only three or four links long?
a. Pyramid of biomass
b. Pyramid of energy
c. Pyramid of numbers
d. None of the above

____ 7. How does the amount of water on Earth change as a result of the water cycle?
a. It always increases
b. It alternately increases and decreases
c. It remains constant
d. It always decreases

____ 8. In the carbon cycle, in what form are carbon atoms generally returned to the atmosphere?
a. Simple sugars
b. Carbon monoxide
c. Methane
d. Carbon dioxide

____ 9. Which of the following things does NOT allow plants to obtain atmospheric nitrogen in a more usable form?
a. Photosynthesis
b. Lightning
c. Symbiotic bacteria
d. Chemical fertilizers

____ 10. Water is lost to the abiotic parts of the biosphere from the biotic parts by the process of _____.
a. precipitation
b. photosynthesis
c. transpiration
d. infiltration

____ 11. Nitrogen is released to the abiotic parts of the biosphere from the processes of death and _____.
a. decay by bacteria
b. infiltration of groundwater
c. runoff
d. lightning in storm clouds

____ 12. Carbon dioxide in the atmosphere enters the biotic parts of the biosphere through _____.
a. burning of forests
b. photosynthesis
c. combustion of fossil fuels
d. all of these

____ 13. Some birds are known as honey guides because they may be followed by humans to wild beehives. When the humans take honey from the hives, the birds are able to feast on the honey and bees, too. This type of relationship can <u>best</u> be described as _____.
a. parasitism
b. commensalism
c. mutualism
d. symbiosis

____ 14. Sea stars live in saltwater ecosystems. Some species live in shallow tidal pools, while others live in the deepest parts of the oceans. This is a description of the _____ of sea stars.

a. habitat
b. community
c. niche
d. none of these

____ 15. Cougars are predators that often eat weakened or diseased animals. This is a description of the _____ of cougars.
a. habitat
b. community
c. niche
d. none of these

____ 16. An ecologist who studies how several species in an area interact among each other and with the abiotic parts of the environment is interested in the biological organization level called a(n) _____.
a. organism
b. population
c. community
d. ecosystem

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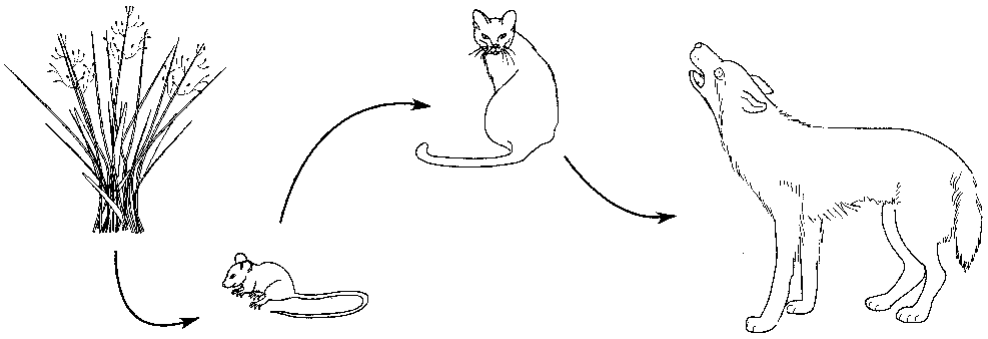

**Figure 2-1**

____ 18. Referring to Figure 2-1, suppose 10 000 units of energy are available at the level of the grasses. What is the total number of energy units lost by the time energy reaches the coyote?
a. 90 units
b. 990 units
c. 9900 units
d. 9990 units

____ 19. Referring to Figure 2-1, as matter and energy move from grasses to coyotes, the amount of available energy _____.
a. increases
b. decreases
c. decreases then increases
d. increases or decreases but population size remains the same

____ 20. Referring to Figure 2-1, the relationship between cats and mice could best be described as _____.
a. predator-prey
b. scavenger-carrion
c. parasite-host
d. consumer-producer

____ 21. Referring to Figure 2-1, the coyotes would be considered _____.
a. herbivores
b. third-order consumers
c. second-order consumers
d. decomposers

____ 22. Referring to Figure 2-1, energy flows from _____.
a. coyotes to grasses
b. cats to mice
c. mice to cats
d. coyotes to cats

____ 23. Where is the biosphere in Figure 2-4?

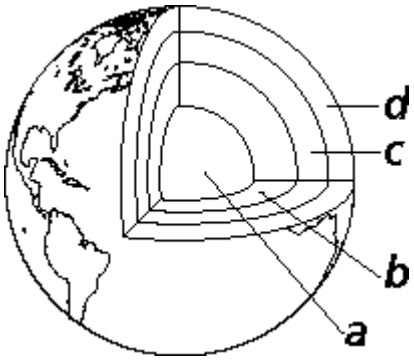


**Figure 2-4**

a. core
b. mantle
c. upper mantle
d. earth's crust

____ 24. Identify the abiotic factor labeled in the ecosystem shown in Figure 2-5.

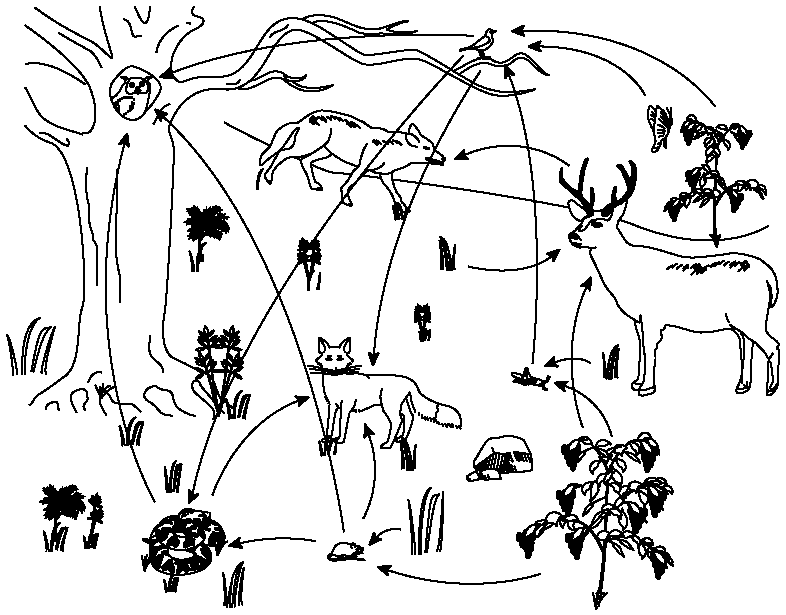

**Figure 2-5**

a. mouse
b. butterfly
c. rock
d. tree

____ 25. The group of animals in Figure 2-6 is an example of what?

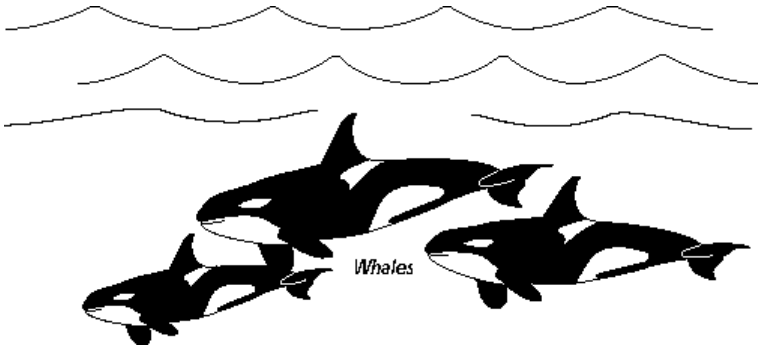

**Figure 2-6**

a. community
b. ecosystem
c. population
d. biosphere

____ 26. In the energy pyramid shown in Figure 2-7, which level has the smallest number of organisms?

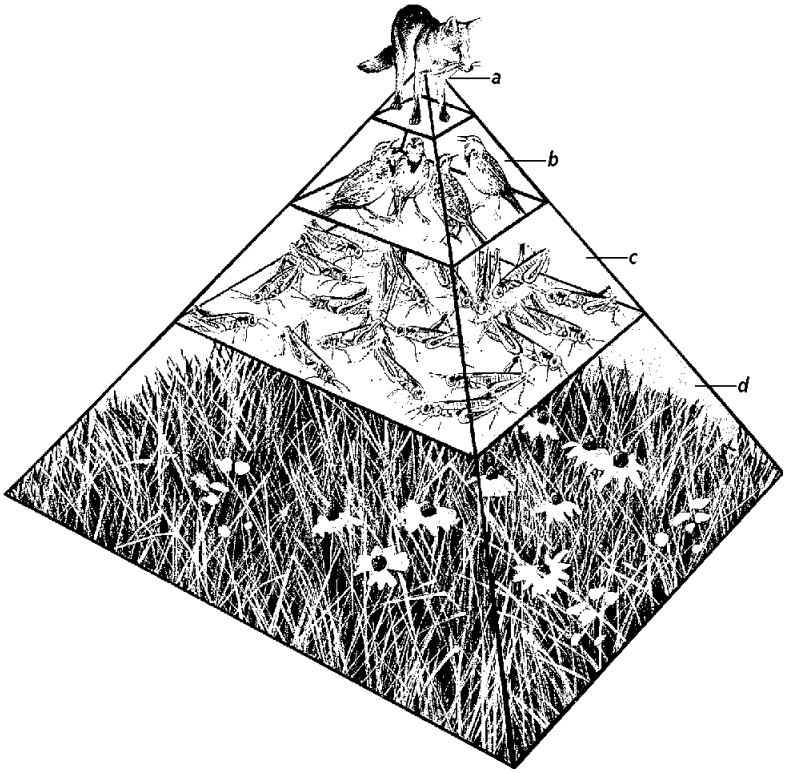


**Figure 2-7**

a. fox
b. birds
c. grasshoppers
d. grass

____ 27. The organisms growing on the log in Figure 2-8 are ____?

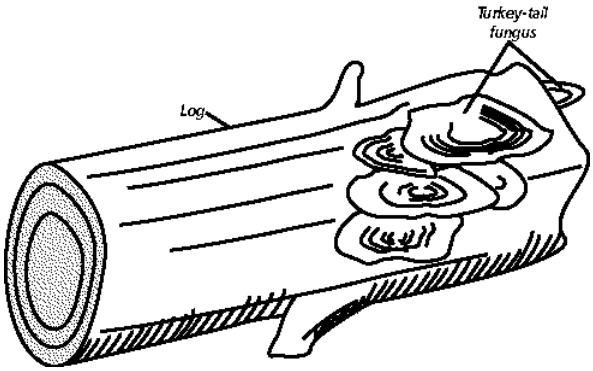


**Figure 2-8**

a. producers
b. autotrophs
c. carnivores
d. decomposers

____ 28. Which organism shown in the pyramid shown in Figure 2-9 receives the highest percentage of energy from the sun?

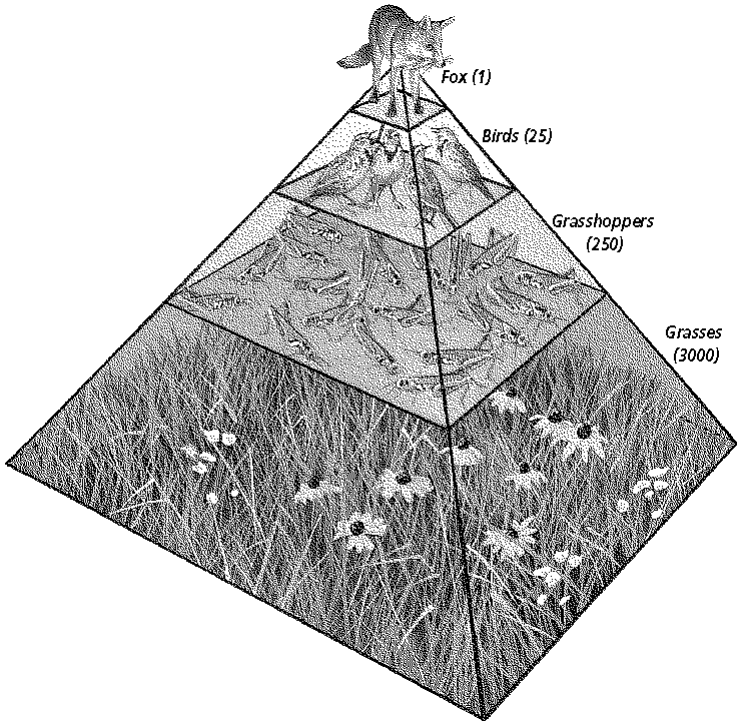


**Figure 2-9**

a. fox
b. birds
c. grasshoppers
d. grass

____ 29. What type of cycle is depicted in Figure 2-10?

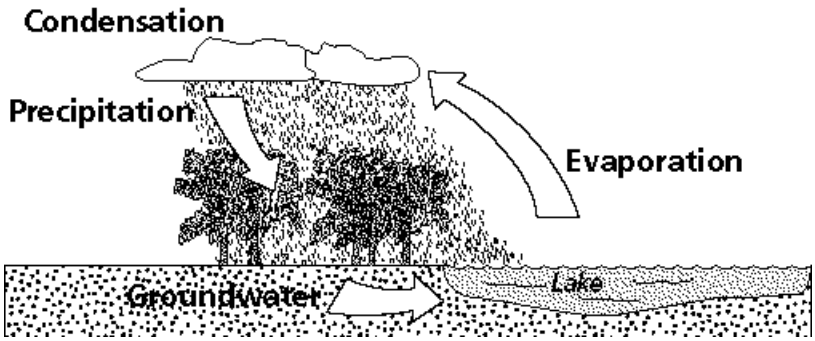


**Figure 2-10**

a. carbon
b. water
c. phosphorus
d. nitrogen

____ 30. The organism shown in Figure 2-12 is involved in which type of symbiosis?

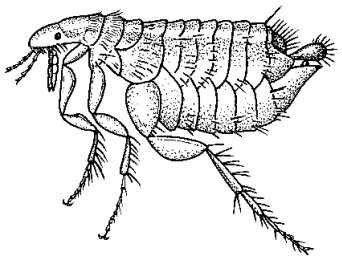

**Figure 2-12**

a. mutualism
b. commensalism
c. parasitism
d. predatorism

**Matching**

*Match each item with the correct statement below.*

a. mutualism
b. biosphere
c. ecology
d. biological community
e. decomposer
f. parasitism
g. habitat
h. food web
i. food chain
j. commensalism
k. scavenger
l. heterotroph
m. trophic level
n. autotroph

____ 31. study of how living things relate to each other and to their environment
____ 32. relationship between organisms in which both organisms benefit
____ 33. network of interconnected food chains
____ 34. relationship between organisms in which one organism benefits and the other is neither harmed nor benefited
____ 35. layer of Earth that supports life
____ 36. simple model for showing how matter and energy move through an ecosystem
____ 37. manufactures food using energy from the sun or from chemical compounds
____ 38. place where an organism spends its life
____ 39. obtains energy and nutrients from autotrophs
____ 40. breaks down dead organisms