

The Biosphere

Multiple Choice Choose the letter of the answer that best completes each statement.

1. The eastern coast of the United States and most of Europe is characterized by
 - a. grasslands.
 - b. taiga.
 - c. temperate deciduous forests.
 - d. coniferous forests.
2. The tops of the trees in a tropical rain forest form a dense
 - a. canopy.
 - b. lianas.
 - c. ecosystem.
 - d. photic zone.
3. The interaction of the abiotic and biotic factors in an environment constitutes a (an)
 - a. ecosystem.
 - b. biome.
 - c. biosphere.
 - d. ecology.
4. A climax community is determined by the
 - a. temperature and rainfall.
 - b. latitude and climate.
 - c. major forms of animal life.
 - d. major forms of plant life.
5. In a marine biome, organisms experience radical changes in their environment each day in the
 - a. intertidal zone.
 - b. deep-sea zone.
 - c. neritic zone.
 - d. open-sea zone.
6. Of all the sun's energy that reaches the Earth, the amount used by living things is approximately
 - a. 0.1 percent.
 - b. 1.0 percent.
 - c. 5.0 percent.
 - d. 10.0 percent.
7. The total mass of living tissue at each trophic level can be shown in a
 - a. pyramid of energy.
 - b. pyramid of numbers.
 - c. cycle of matter.
 - d. pyramid of biomass.
8. The last of these steps to occur when a lake becomes stagnant is that
 - a. an algal bloom occurs.
 - b. the concentration of oxygen drops.
 - c. nitrogen compounds are added in large amounts.
 - d. algae begin to die and bacteria take over.
9. Photosynthesis is an essential stage in
 - a. the carbon cycle only.
 - b. the oxygen cycle only.
 - c. both the carbon and oxygen cycle.
 - d. neither the carbon nor oxygen cycle.
10. The desert in the southwestern United States is
 - a. hot and barren.
 - b. hot with sparse but even rain.
 - c. a seasonal desert.
 - d. a cold desert.
11. An abiotic factor that varies less in marine biomes than in land biomes is
 - a. light intensity.
 - b. dissolved oxygen.
 - c. temperature.
 - d. availability of nutrients.
12. The neritic zone of the ocean lies between the
 - a. the open-sea and deep-sea zones.
 - b. intertidal and open-sea zones.
 - c. intertidal and deep-sea zones.
 - d. open-sea zone and photic zone.

- 13. Among the following, the term that includes the others is
a. salt marsh. b. lagoon. c. estuary. d. mangrove swamp.
- 14. All nutrients move through the ecosystem in
a. biogeochemical cycles. c. carbon cycles.
b. water cycles. d. oxygen cycles.
- 15. The ecological succession that occurs in an area where there has been no previous living community begins with the
a. formation of soil. c. growth of mosses.
b. growth of lichens. d. breaking up of rock.
- 16. Any environment that has a characteristic climax community is a (an)
a. biome. b. ecosystem. c. land biome. d. biosphere.
- 17. In the water cycle, precipitation must be immediately
a. followed by condensation. c. preceded by condensation.
b. followed by further precipitation. d. preceded by evaporation.
- 18. Marine biomes are divided into ecologically distinct zones depending on
a. temperature and distance from shore.
b. depth and distance from shore.
c. the plant life present.
d. the type of fish present.
- 19. Unlike matter, energy
a. can be recycled. c. can be transferred.
b. cannot be recycled. d. cannot be transferred.
- 20. In a series of trophic levels, the animals farthest from the producer usually
a. have the most biomass. c. receive the most energy.
b. are largest in number. d. receive the least energy.
- 21. In the nitrogen cycle, bacteria that live on the roots of legumes
a. break down nitrogen compounds into free nitrogen.
b. denitrify nitrogen compounds.
c. change free nitrogen into plant proteins.
d. change free nitrogen into nitrogen compounds.
- 22. On an abandoned farm in New England, succession usually begins with the growth of ecological
a. weeds. b. small shrubs. c. grasses. d. poplar trees.
- 23. Among the following, the term that includes the others is
a. steppes. b. velds. c. grasslands. d. pampas.
- 24. Two terms that are paired together correctly are
a. taiga—mosses and lichens. c. temperate deciduous forest—pine trees.
b. tundra—permafrost. d. grasslands—animals.
- 25. The series in which a large fish eats a small fish that has eaten algae is a
a. food web. c. pyramid of numbers.
b. food chain. d. pyramid of biomass.

CHAPTER 47

The Biosphere

CHAPTER TEST A
Answer Sheet

Fill in the circle of the letter that has the same letter as the answer you have chosen in the chapter test.

- 1 (a) (b) (c) (d)
- 2 (a) (b) (c) (d)
- 3 (a) (b) (c) (d)
- 4 (a) (b) (c) (d)
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- 24 (a) (b) (c) (d)
- 25 (a) (b) (c) (d)