

- ___ 14. A process of the food industry that is used to kill harmful bacteria is ____.
- a. nitrogen-fixation
 - b. pasteurization
 - c. botulism
 - d. vaccination
- ___ 15. Which is NOT a characteristic of all fungi?
- a. don't contain chlorophyll
 - b. make their own food
 - c. reproduce by spores
 - d. decompose organic matter
- ___ 16. Which of the following is NOT a characteristic of animals?
- a. have eukaryotic cells
 - b. digest their food
 - c. make their own food
 - d. have many cells with different functions
- ___ 17. About 97 percent of all animal species are ____.
- a. invertebrates
 - b. radially symmetrical
 - c. vertebrates
 - d. asymmetrical
- ___ 18. A vertebrate is defined as having a ____.
- a. phylum
 - b. definite shape
 - c. nucleus
 - d. backbone
- ___ 19. Cnidarians reproduce ____.
- a. only sexually
 - b. only by budding
 - c. only asexually
 - d. asexually and sexually
- ___ 20. Members of this mollusk class have an internal plate instead of a shell.
- a. gastropods
 - b. bivalves
 - c. cephalopods
 - d. none of the above
- ___ 21. Unlike most other types of ____, slugs do not have a shell.
- a. gastropods
 - b. bivalves
 - c. cephalopods
 - d. none of the above
- ___ 22. ____, the class that contains clams, is named for the two shells each member has.
- a. Gastropods
 - b. Bivalves
 - c. Cephalopods
 - d. none of the above
- ___ 23. What kind of arthropod has exactly eight legs?
- a. arachnid
 - b. crustacean
 - c. centipede
 - d. insect
- ___ 24. All arthropods have an external covering called the ____.
- a. gills
 - b. endoskeleton
 - c. exoskeleton
 - d. mantle
- ___ 25. ____ make up the largest group of arthropods.
- a. Cnidarians
 - b. Arachnids
 - c. Insects
 - d. Cephalopods
- ___ 26. Which is NOT a function of the exoskeleton?
- a. helps the body to move easily
 - b. protects the body
 - c. supports the body
 - d. keeps the body from drying out
- ___ 27. Of the following, which is NOT an echinoderm?
- a. sea star
 - b. lobster
 - c. sand dollar
 - d. sea urchin

- ___ 28. All chordates have a(n) ____.
- | | |
|--------------------------|-------------------------------|
| a. backbone made of bone | c. backbone made of cartilage |
| b. exoskeleton | d. notochord |
- ___ 29. Of the following, which is an ectothermic vertebrate?
- | | |
|-----------|-----------|
| a. trout | c. turkey |
| b. rabbit | d. whale |
- ___ 30. Of the following, which is an endothermic vertebrate?
- | | |
|-----------------|------------|
| a. garter snake | c. shark |
| b. leopard frog | d. dolphin |
- ___ 31. Which of these is NOT a characteristic of amphibians?
- | | |
|---------------|----------------------|
| a. ectotherms | c. no scales |
| b. moist skin | d. live only on land |
- ___ 32. Frogs hear with their ____.
- | | |
|------------------------|-------------|
| a. lining of the mouth | c. tympanum |
| b. tongue | d. nostrils |
- ___ 33. During cold winter months, amphibians ____.
- | | |
|-------------|--------------|
| a. estivate | c. hibernate |
| b. tongue | d. nostrils |
- ___ 34. What does metamorphosis mean?
- | | |
|------------------------|------------------------------|
| a. change of body size | c. change of sex |
| b. change of body form | d. moving from water to land |
- ___ 35. As much as 90 percent of the oxygen in our atmosphere is the result of ____.
- | | |
|-------------------|-------------------|
| a. photoperiodism | c. thigmotropism |
| b. respiration | d. photosynthesis |
- ___ 36. Plants lean toward the light because of plant hormones called ____.
- | | |
|-------------------|---------------------|
| a. photoperiodism | c. ethylene gas |
| b. auxins | d. all of the above |
- ___ 37. Photosynthesis is the process in which plants use energy from light to produce ____.
- | | |
|---------------|----------------------|
| a. new cells | c. food |
| b. organelles | d. none of the above |
- ___ 38. Which of the following is NOT involved in photosynthesis or respiration?
- | | |
|-------------------|----------------|
| a. water | c. chlorophyll |
| b. carbon dioxide | d. cytokinins |
- ___ 39. Respiration is the process in which organisms break down food to release ____.
- | | |
|--------------|-----------|
| a. energy | c. sugar |
| b. nutrients | d. oxygen |
- ___ 40. Water enters plants through the ____.
- | | |
|----------------------|----------------------|
| a. surface of leaves | c. tips of the stems |
| b. roots | d. stomata |
- ___ 41. Most of the water in plants is lost through the ____.
- | | |
|-------------------|-------------|
| a. chloroplasts | c. cuticles |
| b. palisade layer | d. stomata |
- ___ 42. The green color of tree leaves is due to green light energy reflected from ____.
- | | |
|-----------|----------------|
| a. auxins | c. chlorophyll |
|-----------|----------------|

b. exposed coral reef

d. the land after a forest fire

Completion

Complete each statement.

57. Bacteria called _____ help maintain a balance in nature by recycling nutrients.
58. Plants benefit from nitrogen-fixing bacteria because the bacteria provide _____ to the plants.

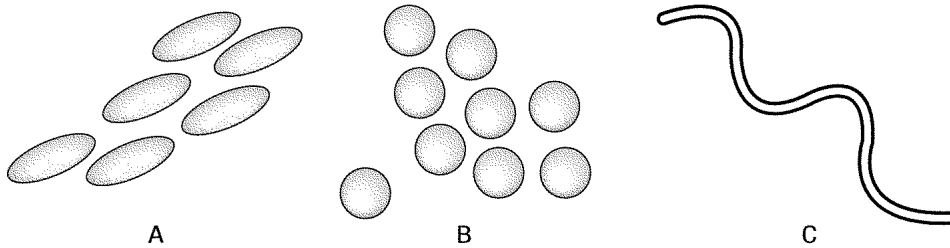


Figure 7-1

59. Bacteria A in Figure 7-1 is called _____.
60. Bacteria B in Figure 7-1 is called _____.
61. Bacteria C in Figure 7-1 is called _____.
62. A snake is a vertebrate because it has a(n) _____.
63. A butterfly is a(n) _____ because it has no backbone.
64. A jellyfish is an example of an animal with _____ symmetry.
65. A grasshopper is an example of an animal with _____ symmetry.
66. A sponge is asymmetrical because it has no definite _____.
67. Changes in body form as an organism grows from an egg to adult are called _____.
68. Chemical substances in plants that act as internal stimuli are called _____.
69. _____ causes a layer of cells to form between a leaf and the stem, causing the leaf to fall.
70. _____ is important because it changes food energy into a form all cells can use.
71. A plant's epidermis contains many small openings called _____.
72. A stem growing upward is a(n) _____ response to light.
73. A pea plant responds to _____ by growing faster on one side of its stem than on the other side.
74. _____ keeps seeds from sprouting and buds from developing during the winter.

75. Even if all of the other conditions are right, a plant will not flower or produce fruit without the correct _____.
76. Cytokinins cause _____ cell divisions.
77. The portion of Earth that supports life is called the _____.
78. Living and nonliving features of an environment together are referred to as a(n) _____.
79. The study of interactions that occur among organisms and their environment is called _____.
80. The place in which an organism lives is called its _____.
81. Both owls and snakes preying on mice in a forest is an example of _____.
82. Sampling is a method of estimating population _____.
83. A population cannot exceed the _____ of its environment, which is the largest number of individuals that an ecosystem can support.
84. Organisms that can use the energy from an outside source such as the Sun to create energy-rich molecules are called _____.
85. Organisms that cannot make their own energy-rich molecules are called _____.
86. A symbiotic relationship in which both organisms benefit is called _____.
87. A symbiotic relationship in which one organism benefits and the other is not affected is called _____.
88. A symbiotic relationship in which one organism benefits and the other is harmed is a _____ relationship.
89. The word _____ refers to how an organism survives, how it obtains food and shelter, how it finds a mate and cares for its young, and how it avoids danger.
90. Soil that remains frozen year-round is _____.
91. Large geographic areas that have similar climates and ecosystems are called _____.

Matching

Match each term with the correct description below.

- | | |
|----------------|---------------|
| a. pathogens | f. antibiotic |
| b. endospores | g. toxins |
| c. flagella | h. vaccine |
| d. eubacteria | i. anaerobes |
| e. prokaryotic | j. saprophyte |

- ____ 92. bacteria that have produced thick-walled structures
- ____ 93. cells that do not have genetic material in a nucleus

- ___ 94. whiplike tails that move bacteria
- ___ 95. produced by one bacteria, but inhibits or kills another
- ___ 96. poisons produced by pathogens
- ___ 97. the larger of the two main groups of bacteria
- ___ 98. organisms that produce disease
- ___ 99. organisms that can live without oxygen
- ___ 100. organism that uses dead material as a food and energy source
- ___ 101. made from dead or damaged bacteria that is used to prevent bacterial diseases

Match each term with the correct description below.

- | | |
|--------------------|-----------------------|
| a. polychaete | f. bilateral symmetry |
| b. polyp | g. vertebrate |
| c. invertebrate | h. nematocysts |
| d. flagella | i. filter feeders |
| e. radial symmetry | |

- ___ 102. body parts are arranged in a circle
- ___ 103. vase-shaped body of the hydra
- ___ 104. an animal that has a backbone
- ___ 105. an animal that does not have a backbone
- ___ 106. body parts are mirror images of each other
- ___ 107. structures that help move water through sponges
- ___ 108. stinging cells used by cnidarians to capture prey
- ___ 109. organisms that filter food out of the water
- ___ 110. largest, most diverse group of annelids

Match each term with the correct description below.

- | | |
|--------------|-------------|
| a. larva | e. sessile |
| b. asymmetry | f. spicules |
| c. tentacles | g. medusa |
| d. coelom | |

- ___ 111. fertilized egg of sponges develops into this
- ___ 112. body of animal has no definite shape
- ___ 113. organisms that remain attached to one place
- ___ 114. bell-shaped body plan of cnidarians
- ___ 115. internal body cavity of segmented worms
- ___ 116. sharp, glasslike structures in some sponges
- ___ 117. armlike structures around cnidarian's mouth that capture prey

Match each term with the correct description below.

- | | |
|---------------|--------------|
| a. setae | f. gizzard |
| b. appendages | g. gills |
| c. mantle | h. mollusks |
| d. radula | i. spiracles |

e. crop

j. metamorphosis

- ___ 118. organs that exchange oxygen and carbon dioxide with water
- ___ 119. soft-bodied invertebrates, often with shells
- ___ 120. structures that grow from the body
- ___ 121. where soil is stored in the earthworm
- ___ 122. bristle-like structures that help worms move
- ___ 123. organ with rows of teeth for breaking up food
- ___ 124. openings in thorax and abdomen for oxygen to enter
- ___ 125. secretes protective shell of some mollusks
- ___ 126. muscular structure that grinds soil
- ___ 127. a series of changes in body form

Match each term with the correct description below.

- a. endotherm
- b. ectotherm
- c. endoskeleton
- d. chordates
- e. notochord

- ___ 128. at some time have a notochord, gill slits, and hollow nerve cord
- ___ 129. animal whose body temperature changes with its environment
- ___ 130. animal whose body temperature stays the same
- ___ 131. flexible rod that extends along the length of an organism
- ___ 132. vertebrae, skull, and internal skeleton

Match each term with the correct description below.

- a. long-day plants
- b. gibberellins
- c. stimulus
- d. cytokinins
- e. day-neutral plants
- f. photoperiodism
- g. short-day plants
- h. abscisic acid
- i. tropism
- j. auxin
- k. photosynthesis
- l. respiration

- ___ 133. plants that require short nights to flower
- ___ 134. can be external or internal
- ___ 135. can be sprayed on stored vegetables to keep them fresh longer
- ___ 136. can be positive or negative
- ___ 137. substance that has the reverse effect of hormones that cause plant growth
- ___ 138. plants that have a range of hours of darkness needed to flower
- ___ 139. a plant's response to the number of hours of daylight and darkness it receives
- ___ 140. plants that require 12 or more hours of darkness to flower
- ___ 141. can be mixed with water and sprayed on plants and seeds to stimulate growth
- ___ 142. plant process that produces food for nearly all the other organisms on Earth
- ___ 143. causes plant stems to exhibit positive response to light
- ___ 144. changes food energy into a form all cells can use

Match each term with the correct definition below.

- | | |
|-----------------------|----------------------|
| a. population density | j. producers |
| b. community | k. ecology |
| c. population | l. carrying capacity |
| d. ecosystem | m. symbiosis |
| e. habitat | n. consumers |
| f. food chain | o. mutualism |
| g. biosphere | p. commensalism |
| h. limiting factor | q. parasitism |
| i. niche | |

- ___ 145. the place in which an organism lives
- ___ 146. organisms in an ecosystem that belong to one species
- ___ 147. a close relationship between species
- ___ 148. the study of interactions among organisms and their environment
- ___ 149. all the organisms living in an area and the nonliving features of their environment
- ___ 150. a symbiotic relationship in which one partner benefits but the other is not affected
- ___ 151. how an organism survives in its environment
- ___ 152. organisms that use an outside energy source to make energy-rich molecules
- ___ 153. a symbiotic relationship in which one organism benefits but the other is harmed
- ___ 154. a symbiotic relationship in which both species benefit
- ___ 155. the largest number of individuals of one species that an environment can support and maintain
- ___ 156. organisms that cannot make their own energy-rich particles
- ___ 157. anything that restricts the number of individuals in a population
- ___ 158. the feeding relationships among the organisms in an ecosystem
- ___ 159. the part of Earth that supports life
- ___ 160. the size of a population that occupies a specific area
- ___ 161. all the populations in an ecosystem

Match each biome with the correct description below. Each biome may be used more than once.

- | | |
|-------------------------|-------------------------------|
| a. desert | e. temperate deciduous forest |
| b. tropical rain forest | f. tundra |
| c. taiga | g. temperate rain forest |
| d. grassland | |

- ___ 162. consists of forest floor, understory, canopy, and emergents
- ___ 163. dominant plants lose their leaves every autumn
- ___ 164. populated by caribou, reindeer, snowy owls, geese
- ___ 165. has greatest variety of organisms on Earth
- ___ 166. dominant plants are cone-bearing evergreen trees
- ___ 167. dominant plants are grasses
- ___ 168. cold, dry, treeless biomes in far north
- ___ 169. populated by cacti and kangaroo rats
- ___ 170. usually have four distinct seasons
- ___ 171. populated by moose, bears, lynx, shrews, foxes

- ___ 172. perfect for growing crops and raising cattle and sheep
- ___ 173. dominant plants are firs, spruces, and cedars that grow very high
- ___ 174. populated by black bear, cougar, bobcat, and endangered northern spotted owl

Short Answer

- 175. What everyday products used in your home have been produced by or contain bacteria?
- 176. Why are nitrogen-fixing bacteria so important to plants?
- 177. Describe some helpful uses of bacteria.
- 178. Classify the following protists as funguslike, animal-like, or plantlike: slime molds, algae, water molds, protozoans, mildew.
- 179. You have cracks between your toes and flaky skin. Your doctor says it is athlete's foot and suggests you keep your feet cool and dry. Why?
- 180. Fungi grow best in warm, humid areas. Why might you find mildew, a fungus, on the shower curtain?
- 181. When you eat a deluxe pizza, what types of fungi could you be eating? Why?
- 182. Name two characteristics of all protists.
- 183. You are trying to identify an unknown organism. So far, all you know is that it is multicellular and does not move from place to place. Can you classify it as a plant or an animal? Why or why not?
- 184. Name two differences between plants and animals.
- 185. Early scientists classified sponges as plants because they didn't move. Why are they now classified as animals?
- 186. Is a butterfly more closely related to a worm or a bird? Why?
- 187. What kind of symmetry do the polyp and the medusa forms of cnidarians have?
- 188. Which of the following groups of organisms are more closely related: group one—earthworm, spider, jellyfish; group two—frog, trout, centipede? Why?
- 189. You have established that an unknown organism is an animal. What are the next two characteristics you look for to begin classifying the animal?
- 190. What is the symmetry of a sea star? Explain.
- 191. Explain how you know that the symmetry of a dog is bilateral.
- 192. What is a major difference between land mollusks and water mollusks?
- 193. Near the end of its metamorphosis, a tadpole suddenly starts swimming to the surface. Why? What will happen if it does not swim to the surface?
- 194. What is the function of a vertebrate's endoskeleton?
- 195. Why do plant cells need glucose?

196. What would be a plant's response to cytokinins?
197. How does a plant take in water?
198. How does water vapor leave a leaf?
199. Leaves of many trees change color in the autumn, die, and drop off. What stimuli are the trees responding to?
200. Photosynthesis requires carbon dioxide, water, and light energy to make glucose. Explain why photosynthesis slows down as fall approaches.
201. Describe two ways that plants use the products of photosynthesis.
202. How does auxin cause a plant to exhibit positive phototropism?
203. Why is photosynthesis important to you?
204. You buy green bananas at the grocery store. Your mother puts them in a paper sack for a few days. Why?
205. Explain how respiration is the opposite reaction to photosynthesis.

True/False

Indicate whether the statement is true or false.

- ___ 206. Animals are many-celled.
- ___ 207. All animals move from place to place on their own.
- ___ 208. All mollusks have shells.
- ___ 209. Echinoderms have exoskeletons.
- ___ 210. Many plants produce ethylene gas.
- ___ 211. Hormones control the growth changes that result from tropisms.
- ___ 212. An auxin is a type of plant tropism.
- ___ 213. Photosynthesis releases energy.
- ___ 214. $C_6H_{12}O_6$ and $6O_2$ are the result of respiration.
- ___ 215. Photosynthesis stores energy.
- ___ 216. $6CO_2$, $6H_2O$, and energy are the result of aerobic respiration.
- ___ 217. Light energy, $6H_2O$, and $6CO_2$ are at the start of photosynthesis.
- ___ 218. Respiration takes place in the cells of most organisms.
- ___ 219. $C_6H_{12}O_6$ and $6O_2$ are at the start of photosynthesis.
- ___ 220. Photosynthesis takes place in cells with chloroplasts.

Modified True/False

Indicate whether the statement is true or false. If false, change the identified word or phrase to make the statement true.

- _____ 221. An ecosystem includes the top portion of Earth's crust, all the waters that cover Earth's surface, and the surrounding atmosphere. _____
- _____ 222. A biosphere consist of all the organisms living in an area and the nonliving features of their environment. _____
- _____ 223. Botanists are scientists who study the interactions among organisms and their environment. _____
- _____ 224. A habitat refers to all the populations in an ecosystem. _____
- _____ 225. A community consists of all the organisms in an ecosystem that belong to the same species. _____
- _____ 226. The place in which an organism lives is called its niche. _____
- _____ 227. Population density occurs when two or more organisms seek the same resource at the same time. _____
- _____ 228. Scientists can estimate total population size by counting a sample population. _____
- _____ 229. A carrying capacity is anything that restricts the number of individuals in a population. _____
- _____ 230. The largest number of individuals of one species that an ecosystem can support over time is its biotic potential. _____
- _____ 231. The maximum rate at which a population can increase is its biotic potential. _____
- _____ 232. An animal population gets smaller when the number of individuals that die is greater than the number of individuals that are born. _____
- _____ 233. A population that is experiencing exponential growth is growing slowly. _____
- _____ 234. Green plants are producers that use chemosynthesis to produce energy-rich molecules. _____
- _____ 235. Producers found on the ocean floor use a process called photosynthesis to create enrgy-rich molecules. _____
- _____ 236. Producers are organisms that use an outside energy source to make energy-rich molecules. _____
- _____ 237. Consumers are organisms that cannot make their own energy-rich molecules. _____
- _____ 238. Producers obtain energy by eating other organisms. _____
- _____ 239. Plant eaters, like deer and rabbits, are called omnivores. _____

- _____ 240. Meat eaters, like tigers and frogs, are called herbivores. _____
- _____ 241. Pigs and humans are examples of omnivores, animals that can eat both consumers and producers.

- _____ 242. Worms are herbivores, animals that consume dead organisms. _____
- _____ 243. A food chain is a simple model that shows the feeding relationships among the organisms in an ecosystem. _____
- _____ 244. Mutualism is any close relationship between species. _____
- _____ 245. A symbiotic relationship that benefits both species is referred to as commensalism.

- _____ 246. In a mutualistic relationship, one species benefits but the other is harmed.

- _____ 247. How individual organisms cooperate with each other to improve survival is a part of the habitat of the species. _____
- _____ 248. All green plants are consumers. _____
- _____ 249. Food chains describe the feeding relationships in an ecosystem. _____
- _____ 250. Parasites break down once-living matter into simple energy-rich substances.
