

Study Guide Chapter 22**Completion**

Complete each sentence or statement.

1. The least amount of energy is available at the _____ level of an energy pyramid.
2. The energy role of the first organism in a food chain is always a(n) _____.
3. Mountains and deserts that are difficult for organisms to cross are _____ barriers to dispersal.
4. The part of the open ocean that receives enough light for floating algae to carry out photosynthesis is called the _____ zone.
5. Temperature and precipitation determine an area's _____, which can limit dispersal of organisms.
6. Water vapor turns into droplets of liquid water in the process of _____.
7. Producers use carbon from the gas _____ to make sugars and starches.
8. Certain bacteria change nitrogen gas into a usable form in a process called _____.
9. The neritic zone over the continental shelf is part of the _____ ecosystem.
10. The energy role of a grizzly bear is that of a(n) _____ because it cannot make its own food.
11. The _____ biome receives less than 25 centimeters of rain a year and may have large temperature shifts every day.
12. Places with similar _____ tend to have species that occupy similar niches.
13. The distribution of species has been affected by the slow movement of Earth's continents called _____.
14. A bird eating berries and depositing the seeds in its wastes is an example of _____.
15. Water from a lake changes to the gas state in the process of _____.
16. The soil that is frozen all year in the tundra is called _____.
17. Small, light organisms such as baby spiders can be dispersed by _____.
18. A diagram called a(n) _____ shows how much energy is available at each level of a food web.
19. An organism that eats only plants is a(n) _____ consumer.
20. Bacteria and fungi are known as _____ because they break down the remains of organisms.

Name: _____

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Short Answer

Use the diagram to answer each question.

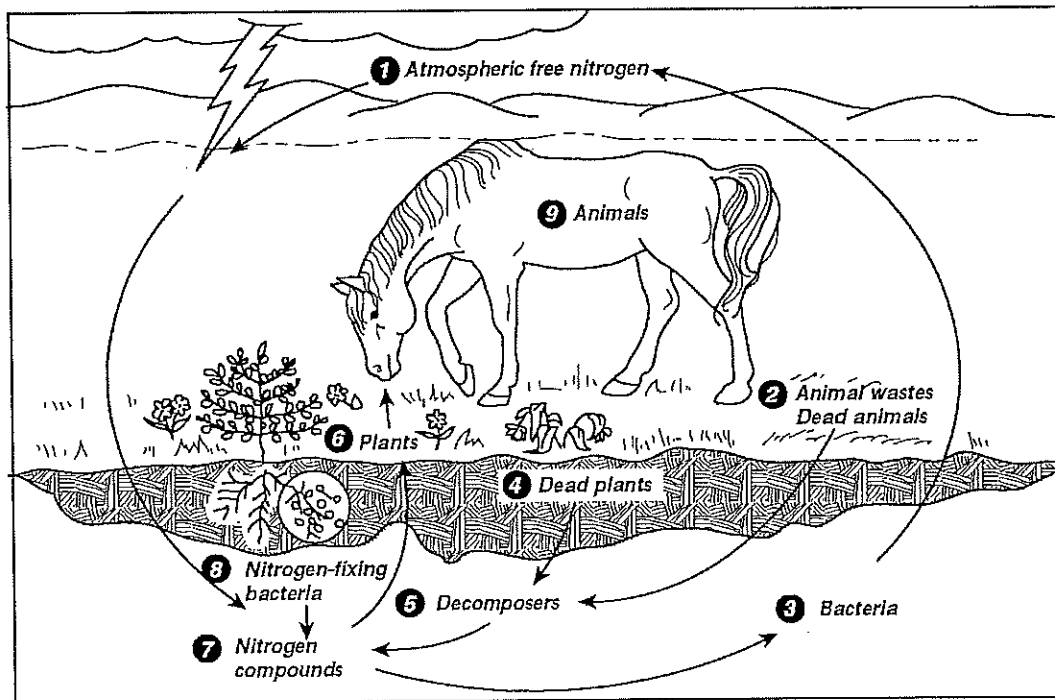
Food Chains



21. What would happen to the other organisms if all the plants in this ecosystem died?
22. Use the organisms pictured in this ecosystem to construct a food chain.
23. Approximately what percentage of the energy in the plants is passed on to the animals that eat them?
24. Which organisms shown are consumers?
25. Which organisms shown are producers?
26. Why are there relatively few third-level consumers like bears in an ecosystem?

Use the diagram to answer each question.

The Nitrogen Cycle



27. Explain the role of an animal such as the horse in the nitrogen cycle.
28. Which number represents a group of organisms that break down the wastes and remains of other organisms?
29. Which number represents the organisms responsible for converting nitrogen gas into a usable form of nitrogen?
30. Which number represents the form of nitrogen that can be used by plants?
31. On what part of a plant do the organisms represented by number 8 live?
32. Describe three roles bacteria play in the nitrogen cycle.

Multiple Choice

Identify the letter of the choice that best completes the statement or answers the question.

- ____ 33. Which biome receives less than 25 centimeters of rain per year?
 - a. tropical rain forest
 - b. desert
 - c. temperate rain forest
 - d. grassland

Name: _____

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- _____ 34. Some bacteria that fix nitrogen live in bumps on the roots of certain plants. These bumps are called
- droplets.
 - legumes.
 - nodules.
 - starches.
- _____ 35. Vultures, which feed on the bodies of dead organisms, are
- first-level consumers.
 - herbivores.
 - producers.
 - scavengers.
- _____ 36. Consumers that eat both plants and animals are called
- omnivores.
 - herbivores.
 - scavengers.
 - carnivores.
- _____ 37. Dandelions, horses, and other organisms that were brought by humans from one part of the world to another are examples of _____
- parasites.
 - endangered species.
 - exotic species.
 - native species.
- _____ 38. Which ecosystem is found where the fresh water of a river meets the salt water of the ocean?
- rocky intertidal zone
 - surface zone
 - estuary
 - neritic zone
- _____ 39. The ocean prevents the Australian kangaroo from dispersing throughout the world. The ocean is an example of which limit to dispersal?
- competition
 - climate
 - a physical barrier
 - an exotic species
- _____ 40. The first organism in a food chain is always a
- consumer.
 - producer.
 - herbivore.
 - carnivore.
- _____ 41. Ponds and rivers are two types of
- rain forest biomes.
 - marine ecosystems.
 - estuary ecosystems.
 - freshwater ecosystems.
- _____ 42. What area(s) are not part of any major biome?
- grasslands
 - mountains and ice
 - deserts
 - tundras

Name: _____

- (___ 43. Which of these is NOT an example of precipitation?
a. rain
b. hail
c. snow
d. groundwater
- ___ 44. The ocean water is completely dark throughout the
a. estuary.
b. deep zone.
c. neritic zone.
d. intertidal zone.
- ___ 45. The typical weather pattern in an area over a long period of time is called
a. precipitation.
b. climate.
c. the water cycle.
d. weather.
- ___ 46. The many overlapping food chains in an ecosystem make up a(n)
a. food web.
b. niche.
c. feeding level.
d. energy pyramid.
- ___ 47. An organism that can make its own food is called a
a. decomposer.
b. consumer.
c. producer.
d. scavenger.
- (___ 48. Which biome is extremely cold and dry?
a. tundra
b. grassland
c. mountains
d. desert
- ___ 49. The very slow movement of the continents is called
a. distribution.
b. biogeography.
c. continental drift.
d. dispersal.
- ___ 50. In which process do molecules of liquid water absorb energy and change into the gas state?
a. precipitation
b. condensation
c. recycling
d. evaporation
- ___ 51. Which of the following is NOT an example of dispersal?
a. the wind carrying dandelion seeds to other fields
b. a dog bringing home sticky plant burs on its fur
c. an insect being carried down a river on a floating leaf
d. a squirrel living in a forest on a mountain
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Name: _____

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- _____ 52. A group of land ecosystems with similar climates and organisms is called a(n)
- food web.
 - biome.
 - climate.
 - energy pyramid.
- _____ 53. The step in the water cycle in which water vapor becomes liquid water is
- condensation.
 - recycling.
 - precipitation.
 - nitrogen fixation.
- _____ 54. A large variety of plants grows in tropical rain forest because
- many insects live there.
 - it has very good soil.
 - the forest floor is very dark.
 - it is warm, humid, and rainy.
- _____ 55. Which of these consumers is a herbivore?
- deer
 - spider
 - lion
 - snake
- _____ 56. If a kestrel eats a mouse that eats grass, the kestrel is a
- first-level consumer.
 - producer.
 - second-level consumer.
 - decomposer.
- _____ 57. A diagram that shows the amount of energy that moves from one feeding level to another in a food web is called a(n)
- energy pyramid.
 - food chain.
 - ecosystem.
 - niche.
- _____ 58. What do producers release as a result of photosynthesis?
- oxygen
 - hydrogen
 - nitrogen
 - carbon dioxide
- _____ 59. In an energy pyramid, which level has the most available energy?
- producer level
 - third-level consumer level
 - first-level consumer level
 - second-level consumer level