

Ecosystems Unit Review

Modified True/False

Indicate whether the statement is true or false.

- _____ 1. A *species* is a group of organisms that can successfully mate with each other and reproduce.
- _____ 2. The soil under a rock could be described as an earthworm's *niche*.
- _____ 3. One hundred species are identified in a small pond. The loss of one of those species will have *very little effect* upon the pond ecosystem.
- _____ 4. Frogs, snails, geese, and sticklebacks could be found in *an ocean ecosystem* in Newfoundland and Labrador.
- _____ 5. The following *organisms* can be found in the Newfoundland and Labrador region: green frogs, mushrooms, polar bears, ospreys, and seals.
- _____ 6. When we study an ecosystem, we study only the *biotic* parts of the ecosystem.
- _____ 7. Many individuals of the same species living together are called a *community*.
- _____ 8. An *ecological niche* is the set of jobs or roles that an individual fills in an environment.
- _____ 9. Mushrooms and micro-organisms are neither plants nor animals; they can be described as *abiotic* factors.
- _____ 10. Air, water, and rocks are essential to life, and can be described as *biotic* factors.
- _____ 11. The webbed feet of a duck are *biotic factors* to help the duck survive and live in its environment.
- _____ 12. Plants use *energy* from the Sun to turn water and carbon dioxide into food material.
- _____ 13. Shrews eat insects and earthworms. The shrew is an example of a *herbivore*.
- _____ 14. A relationship that benefits one organism and does not affect the other organism in a positive or negative way is called *parasitism*.
- _____ 15. Spiders eat insects that eat plants. A spider is an example of a *parasite*.
- _____ 16. You see a raven eating a road-killed squirrel. That raven is behaving as a *carnivore*.
- _____ 17. A *food web* is a model that shows how energy is lost at each link in the food chain.
- _____ 18. Grass is eaten by mice that, in turn, are eaten by bears. In the related energy pyramid, *almost all* of the energy produced by the grass ends up in the population of bears.
- _____ 19. Chickens are *omnivores* because they eat both plants and animals.
- _____ 20. Moose and hares are examples of *carnivores* because they only eat plants.
- _____ 21. In a parasitic relationship, the organism that provides food for the other organism is the *parasite*.

- ____ 22. In a *mutualistic* relationship, both organisms benefit.
- ____ 23. An introduced species is a new species that is brought *on purpose* into an ecosystem.
- ____ 24. Before the widespread use of engines and machines, the *impact* of human activities on the environment was low.
- ____ 25. The loss of a single habitat in an ecosystem is *not important since it affects only one species*.
- ____ 26. Burning trees *faster* than replanting and growing the trees is an example of sustainability.
- ____ 27. Poisoning “unwanted” animals will *have an effect* on other animals in the same ecosystem.
- ____ 28. Coyotes are *native* to the island of Newfoundland.
- ____ 29. Wild raspberry plants are among the first plants to establish themselves on bare soil after trees have been removed. This is an example of *primary succession*.
- ____ 30. The greatest threat that causes species to become endangered is *habitat loss*.
- ____ 31. Species that can establish themselves in areas with little or no soil and few nutrients are called *climax species*.
- ____ 32. The sequence of changes that starts with bare rock and eventually develops into a complex community of plants and animals is known as *secondary succession*.
- ____ 33. A stable ecosystem is called a *secondary community*.
- ____ 34. *Primary succession* is the process by which an ecosystem changes after it has been disturbed.

Multiple Choice

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

- ____ 1. What does an ecosystem consist of?
A. the abiotic and biotic parts of an environment B. the animals and biotic parts of an environment
C. the animals and plants that live in an environment D. the plants and abiotic parts of an environment
- ____ 2. Which of the following best describes an organism’s habitat?
A. an organism’s interaction with the abiotic parts of the ecosystem B. an organism’s interaction with the biotic parts of the ecosystem C. the place where an organism lives D. the role that an organism plays in an ecosystem
- ____ 3. Which of the following choices provides the best example of a community?
A. algae, mosquitoes, grasses, ducks and fish in a small pond B. all living and non-living things in the Avalon Wilderness Reserve C. the caribou herd that travels together in the Avalon Wilderness Reserve D. the single bear that controls the populations of all smaller animals
- ____ 4. What adaptations must organisms living in the ocean around Newfoundland and Labrador have?
A. tolerance to freshwater and warm temperatures B. tolerance to freshwater and cold temperatures
C. tolerance to salt water and warm temperatures D. tolerance to salt water and cold temperatures
- ____ 5. In which ecosystem would you most likely find seals?
A. forest B. freshwater C. ocean D. river

- _____ 6. Which animals are common to forest ecosystems in Newfoundland and Labrador?
A. moose, caribou, black bear B. moose, lynx, and raccoons C. raccoons, moose, and deer
D. red fox, lynx, and deer
- _____ 7. Mussels, barnacles, and rock crabs all have the same adaptation that enables them to live in the ocean along the coastline of Newfoundland and Labrador. Which one of these adaptations would *all* of these organisms have?
A. they are able to attach themselves to solid rock surfaces B. they bury themselves in the sand to keep warm C. they can drift with the flow of water D. they excrete extra salt
- _____ 8. Different plants have different needs. Which abiotic factor is needed by *every* green plant, in order to survive?
A. light B. oxygen C. rocks D. soil
- _____ 9. All of the following factors affect the life of a puffin. Which of these factors is best described by the term “range of tolerance” of a puffin?
A. the amount of food in the puffin’s environment B. the available nesting space in a puffin’s environment C. the number of other birds live in the puffin’s environment D. the temperature conditions in the puffin’s environment
- _____ 10. Which term best describes “the altitude at which tree growth becomes impossible”?
A. abiotic factor B. biotic factor C. range of tolerance D. treeline
- _____ 11. Why are there no plants growing in deep water?
A. no air B. no light C. no soil D. no water
- _____ 12. An ecologist says: “Lemmings are small rodents that live in the Arctic. They eat seeds, grasses, green plants, and lichens. Lemmings are eaten by foxes, arctic wolves, and rough-legged hawks.” Which term is the ecologist describing?
A. the lemming’s community B. the lemming’s ecosystem C. the lemming’s habitat D. the lemming’s niche
- _____ 13. Cats and dogs are unable to mate with each other. Why is this always true?
A. Their biotic factors are different. B. They are different species. C. They have different adaptations. D. They live in different communities.
- _____ 14. A wildlife biologist is studying all of the moose living in Terra Nova Park. Which term best describes the subject of her study?
A. community B. ecosystem C. individual D. population
- _____ 15. What is the process by which a producer organism uses sunlight to make food?
A. cellular respiration B. chemical synthesis C. growing D. photosynthesis
- _____ 16. During the process of photosynthesis, which of the following substances does a plant use to make food?
A. carbon dioxide and water B. oxygen and sugar C. oxygen and water D. sugar and water
- _____ 17. What is the source of energy for a plant such as a fir tree?
A. carbon dioxide in the air B. light from the sun C. minerals in the soil D. water from the soil
- _____ 18. A certain population of animals coexists with predators that eat them. How does the number of predators affect the ecosystem?
A. A fewer number of predators permanently alters the whole ecosystem. B. A greater number of predators results in the ecosystem being destroyed. C. The number of predators affects the size of the population of animals. D. The number of predators has no effect on the size of the population.

- ____ 19. Why would a biologist use a food web to represent the flow of energy in a community instead of using a food chain?
A. Each organism in a food web can play several roles. B. Food chains always ignore predators.
C. Food chains never describe energy flow. D. Food webs are only used to represent simple ecosystems.
- ____ 20. How is energy that is initially stored by the biotic components of an ecosystem finally lost to the environment?
A. heat B. light C. movement D. reproduction
- ____ 21. A forest has a stable population of spruce grouse. Which environmental factor is most likely to cause a reduction in the population of spruce grouse?
A. increase in population of blueberries B. increase in population of foxes C. increase in population of insects D. increase in population of spruce trees
- ____ 22. What would MOST LIKELY limit the population of lynx in an ecosystem?
A. the number of hares living in the area B. the number of other lynx living in the same area C. the number of places a lynx could care for its young D. the number of trees growing in the area
- ____ 23. An area of warm, dry, grassy ground has been used by off-road vehicles for racing. What effect(s) would this type of activity have on the natural ecosystem(s) of the area?
A. Animals that depend on the grass for food may die or move away. B. Plants are destroyed and will go extinct in this area. C. The plants and animals will learn to interact with the off-road vehicles. D. The vehicles will have no effect on the natural ecosystem of the area.
- ____ 24. The population of wolves in an ecosystem is growing. At the same time, the population of caribou (the wolves' prey) is declining. The wolves start to kill the sheep in the nearby farm for food. The provincial government decides to allow a wolf hunt in the area. This hunt almost destroys the population of wolves. What will happen to the populations of the other animals?
A. The populations of sheep and caribou will increase quickly. B. The populations of sheep and caribou will remain the same. C. The population of sheep will stay the same; the population of caribou will increase. D. The population of sheep will stay the same; the population of caribou will decrease.
- ____ 25. What word is used to designate organisms that eat only producers?
A. carnivores B. consumers C. herbivores D. scavengers
- ____ 26. What word is used to designate an organism that would eat a meal of chicken, salad, and potatoes?
A. carnivore B. herbivore C. omnivore D. parasite
- ____ 27. Which term **BEST** describes what decomposers feed upon?
A. inorganic waste B. landfill garbage C. nutrients in soil D. organic waste
- ____ 28. A compost heap will get very hot as it works. What is the source of the energy?
A. consumers release heat energy as they eat food in the heap B. decomposers convert some of the food energy to heat energy C. producers release heat energy as they grow in the heap
D. scavengers produce a great deal of heat as they move around
- ____ 29. Which is the best example of parasitism?
A. algae and fungi in lichen B. barnacle on a whale C. clownfish and anemone D. tick on a dog
- ____ 30. What is the best example of commensalism?
A. barnacle on a whale B. lichen on rock C. termites in a tree D. tick on a dog

- ____ 31. Which pair of organism is the best example of mutualism?
A. algae and fungi in lichen B. crab and starfish C. hare and lynx D. tapeworm in a person
- ____ 32. What role do phytoplankton fill in an ecosystem?
A. consumers B. herbivores C. omnivores D. producers
- ____ 33. Which statement is the best example of a nutrient cycle?
A. All of the nutrient energy gathered by grass ends up in the hawk. B. Nitrogen passes from soil to grass to consumer and back to soil. C. Nutrients pass through the food chain from grass to mouse to weasel to hawk. D. Nutrients pass through the food web through many different consumers.
- ____ 34. Which of these models best shows how different food chains interconnect?
A. energy pyramid B. food chain C. food web D. nutrient cycle
- ____ 35. Which of these words best describes a mouse that eats wheat and nothing else?
A. decomposer B. primary consumer C. producer D. secondary consumer
- ____ 36. Which of the following is true about natural resources?
A. All natural resources are replaced faster than they used. B. Humans are the only organisms that use natural resources. C. Natural resources are the food available to local animals. D. Natural resources are materials from nature that people use.
- ____ 37. Which of the following means “the resources of nature are being renewed or replaced at least as quickly as they are used”?
A. conservation B. sustainability C. symbiosis D. waste-reduction
- ____ 38. Which of the following terms means “harmful substances released by humans into the environment”?
A. decomposers B. fossil fuels C. introduced species D. pollutants
- ____ 39. Which is a *negative* impact that human activity has on many species?
A. conserves habitats B. creates new habitats C. pollutes habitats D. protects habitats
- ____ 40. In an undisturbed stream, brook trout feed upon insects and smaller fish. Rainbow trout have a similar diet. What will happen if fishermen introduce rainbow trout into the stream?
A. The brook trout population will decrease. The populations of insects and smaller fish will decrease.
B. The brook trout population will decrease. The populations of insects and smaller fish will increase.
C. The brook trout population will increase. The populations of insects and smaller fish will decrease.
D. The brook trout population will increase. The populations of insects and smaller fish will increase.
- ____ 41. Margaret is doing a research report on the possibility of developing an off-shore oil and gas industry in Newfoundland and Labrador. What is Margaret learning about?
A. basic needs of living things B. ecologists and mining C. natural resources D. renewable resources
- ____ 42. What word means the same as “a species at risk of no longer existing”?
A. endangered B. extinct C. over-hunted D. relocated
- ____ 43. Which of the following actions would slow down the extinction of a species such as the Newfoundland marten?
A. Capturing and removing competitors such as bears B. Clearing habitats of harmful plants such as thorns C. Conservation of old habitats without changing them D. Creation of new habitats such as red pine forests

_____ 44. Some families reduce the amount of garbage disposal by composting. What natural process is similar to composting?
 A. decomposing B. fermentation C. hunting D. scavenging

_____ 45. Samantha keeps a waste-disposal diary over a four-week period, as shown below:

	Kilograms of Material			
Type of Waste	Week 1	Week 2	Week 3	Week 4
food scraps	1.3	1.6	1.5	1.4
paper	2.5	2.8	3.1	3.4
plastic	1.5	1.2	1.0	0.8

At the end of the four week period, which of the following would most effectively help Samantha reduce her impact upon the environment?
 A. Burn the paper. B. Compost the food C. Recycle the plastic. D. Use less paper.

_____ 46. You have a net with an area of 0.10 square metres. You use it to collect ten samples. The results of this collection are shown in the following table.

Site	Number of larvae collected
1	5
2	12
3	10
4	13
5	9
6	7
7	11
8	14
9	8
10	11

How many larvae would there be in the pond, if the total area of the pond is 100 square metres?
 A. 100 000 larvae. Each square metre contains 1000 mosquito larvae. B. 10 000 larvae. Each square metre contains 100 mosquito larvae. C. 1 000 larvae. Each square metre contains 10 mosquito larvae. D. 100 larvae. Each square metre contains 1 mosquito larvae.

_____ 47. A farm has been abandoned. Weeds are everywhere, and shrubs are now populating the edges of the fields. What is the changing population of plants and animals called?
 A. climax community B. ecosystem recovery C. habitat restoration D. secondary succession

_____ 48. Which of these is a pioneer species?
 A. beetle B. birch C. lichen D. maple

_____ 49. Which of these is a climax species?
 A. bacteria B. lichens C. mosses D. spruce

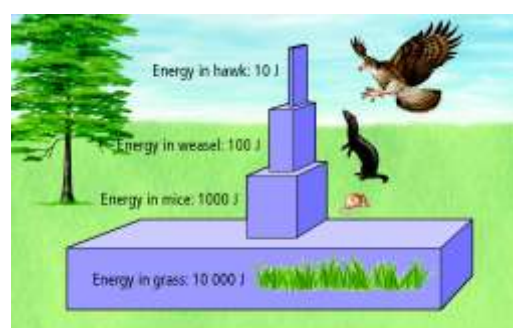
_____ 50. Over a period of thirty years, a team of scientists finds that the population of birch is decreasing along an abandoned road, while the population of spruce is increasing. What is the best explanation for these observations?
 A. Birch trees are not native to the area, and therefore are going extinct. B. Birch trees are not providing the best habitat for the animals. C. Spruce trees are taking nutrients from the birch trees. D. Spruce is the climax species, and this is a process of succession.

_____ 51. A small, intense forest fire consumes 30 hectares. In a few years, the blackened area is populated with weeds, shrubs, grasses, and birch. What process is occurring here?
 A. natural disaster B. natural sustainability C. primary succession D. secondary succession

Completion

Complete each statement.

1. All of the interacting organisms that live in an environment, as well as the abiotic parts of the environment that affect these organisms, is called a(n) _____.
2. A(n) _____ of organisms is a group of interacting populations.
3. A group of organisms that can successfully mate with each other and reproduce is called a(n) _____.
4. Food, water, and shelter make up an organism's _____.
5. The place where a mouse lives and all of its relationships with the other species around it are known as its _____.
6. The water in a pond ecosystem is a(n) _____ factor while the insects represent a(n) _____ factor.
7. A single caribou is considered a(n) _____. Many caribou living together in an area are considered a(n) _____.
8. Many insects die in the winter because of the cold temperatures. For such insects, a temperature of -15°C is outside of their _____.
9. From smallest to largest, the four levels of ecological organization are _____, _____, _____, and _____.
10. Water, sunlight, and air are _____ parts of an environment.
11. Living things that animals eat, such as worms and bugs, are examples of _____ factors.
12. Many individuals of one species together in one area at the same time form a(n) _____.
13. Activities such as walking, writing, and playing baseball all require the use of _____.
14. The original source of energy in forest ecosystems is the _____.
15. A thousand green plants are needed to feed a hundred insects. Those hundred insects are needed to feed one wren. This pattern of food consumption is called a(n) _____.
16. Plants trap energy from the Sun to make their own food. Thus, plants fill the role of _____ in food chains.
17. Parasitism, mutualism, and commensalism are _____ relationships.
18. A chicken will eat plants, insects and worms. Such a consumer is called a(n) _____.
19. The model shown below is a(n) _____.



20. Carbon and nitrogen are examples of _____ that might be found in a backyard fish pond.
21. A flea biting a fox is an example of the type of symbiotic relationship which is called _____.
22. Bees are specialized to eat nectar from plants such as dandelions and goldenrod. The dandelions and goldenrod are _____.
23. When decomposers have finished consuming a dead earthworm, the earthworm has been changed into _____.
24. Bees depend upon flowering plants for food. Flowering plants depend upon bees for pollination. Bees and flowering plants are involved in a relationship known as _____.
25. The model shown below is a(n) _____.
26. Species of plants and animals that have existed in an environment since before humans inhabited it are called _____.
27. Species of plants and animals that have been brought to an environment by human activity are called _____.
28. A species that could become extinct unless limiting factors are changed is said to be _____.
29. Weasels are a native species that eat woodland voles. Mink were brought to Newfoundland by humans, and they eat the same voles. Mink are examples of _____.
30. _____ means “the resources are being renewed at least as quickly as they are used”.
31. _____ is the main reason why so many species are at risk.
32. A substance that gets added to the environment so fast that it cannot be changed into a non-harmful form is referred to as a(n) _____.
33. A natural resource, like cod or lobster, can suffer large population declines if human beings take more than the ecosystem can replace. This practice is called _____.
34. Two natural disturbances that can cause changes in an ecosystem are _____ and _____.
35. _____ is the gradual change in the make-up of a biological community over time.

Matching

Match the term to the appropriate description. Each term is only used once.

- | | |
|-------------------|-----------------|
| A. producer | F. decomposers |
| B. consumer | G. fermentation |
| C. photosynthesis | H. herbivore |
| D. omnivore | I. nutrients |
| E. carnivore | J. energy |

- _____ 1. the process by which plants make their own food
- _____ 2. organisms that break down plants and animal materials into nutrients
- _____ 3. animals that eat only plants
- _____ 4. what all organisms need to function and survive
- _____ 5. used to repair cells and tissue
- _____ 6. an organism that eats other organisms to obtain food
- _____ 7. an animal that eats other animals
- _____ 8. an organism that obtains its energy directly from the sun

Match the term in the table below to an appropriate example. Each term is only used once.

- | | |
|-------------------|--------------|
| A. food chain | F. host |
| B. symbiosis | G. scavenger |
| C. commensalism | H. food web |
| D. nutrient cycle | I. mutualism |
| E. energy pyramid | J. parasite |

- _____ 9. Carbon moves through the biotic and abiotic parts of the environment
- _____ 10. A bear in the act of feeding upon a road-killed fox
- _____ 11. A lobster with tiny worms living on its back
- _____ 12. A louse in the act of feeding upon a bird’s blood
- _____ 13. All of the plants, insects and birds that feed upon each other
- _____ 14. You, whenever you allow a mosquito to make a meal of you
- _____ 15. Moss growing upon the bark of a tree
- _____ 16. One million phytoplankton feeding ten snails
- _____ 17. A flower, a moth, and a bat
- _____ 18. Termites need decomposers and decomposers need termites to digest wood

Ecosystems Unit Review
Answer Section

MODIFIED TRUE/FALSE

1.

ANS: T

PTS: 1

TOP: Ecosystems

KEY: species

MSC: Level 1
2.

ANS: F

The soil under a rock could be described as an earthworm’s *habitat*.

PTS: 1

TOP: Ecosystems

KEY: habitat | niche

MSC: Level 2
3.

ANS: F

The loss of one of those species will have *a considerable effect* upon the pond ecosystem. Every species has a role to play within an ecosystem. It interacts with other species and the abiotic parts of the ecosystem. When one species disappears completely, the many other populations will certainly change, and some others may actually disappear.

PTS: 1

TOP: Ecosystems

KEY: ecosystem | interaction | extinct

MSC: Level 3
4.

ANS: F

Frogs, snails, geese, and sticklebacks could be found in *a freshwater ecosystem* in Newfoundland and Labrador.

PTS: 1

TOP: Ecosystems

KEY: ecosystem | Newfoundland | freshwater | ocean

MSC: Level 2
5.

ANS: T

PTS: 1

TOP: Ecosystems

KEY: organism | Newfoundland

MSC: Level 1
6.

ANS: F

There are *biotic and abiotic parts* in an ecosystem; we must study both of them.

PTS: 1

TOP: Ecosystems

KEY: biotic | abiotic | ecosystem

MSC: Level 1
7.

ANS: F

Many individuals of the same species living together are called a *population*.

PTS: 1

TOP: Ecosystems

KEY: population | community

MSC: Level 1
8.

ANS: T

PTS: 1

TOP: Ecosystems

KEY: niche

MSC: Level 1
9.

ANS: F

Mushrooms and micro-organisms are neither plants nor animals; they can be described as *biotic* factors.

PTS: 1

TOP: Ecosystems

KEY: biotic

MSC: Level 2
10.

ANS: F

Air, water, and rocks are *abiotic* factors. They are *a* - biotic, or “*not* - living”.

PTS: 1

TOP: Ecosystems

KEY: abiotic

MSC: Level 1
11.

ANS: F

The webbed feet of a duck are *adaptations* to help the duck survive and live in its environment.

- PTS: 1 TOP: Ecosystems KEY: adaptation
MSC: Level 2
12. ANS: T PTS: 1 TOP: Ecosystems
KEY: energy | Sun MSC: Level 1
13. ANS: F, The shrew is an example of a *carnivore*. Insects and earthworms are animals; therefore the shrew is a carnivore
- PTS: 1 TOP: Ecosystems KEY: carnivore
MSC: Level 1
14. ANS: F
A relationship that benefits one organism and does not affect the other organism in a positive or negative way is called *commensalism*.
- PTS: 1 TOP: Ecosystems KEY: commensalism
MSC: Level 1
15. ANS: F
A spider is an example of a *consumer*, specifically a secondary consumer.
- PTS: 1 TOP: Ecosystems KEY: consumers
MSC: Level 1
16. ANS: F
That raven is behaving as a *scavenger*.
- PTS: 1 TOP: Ecosystems KEY: decomposer
MSC: Level 2
17. ANS: F
An *energy pyramid* is a model that shows how energy is lost at each link in the food chain.
- PTS: 1 TOP: Ecosystems KEY: energy pyramid
MSC: Level 1
18. ANS: F
In the related energy pyramid, *very little* of the energy produced by the grass ends up in the population of bears. In an energy pyramid, thousands of plants supply a large amount of energy to the food chain, but the bears would receive only a tiny amount of this energy.
- PTS: 1 TOP: Ecosystems KEY: food | chain
MSC: Level 2
19. ANS: T PTS: 1 TOP: Ecosystems
KEY: omnivore MSC: Level 2
20. ANS: F
Moose and hares are examples of *herbivores* because they only eat plants.
- PTS: 1 TOP: Ecosystems KEY: herbivore
MSC: Level 2
21. ANS: F
In a parasitic relationship, the organism that provides food for the other organism is the *host*.
- PTS: 1 TOP: Ecosystems KEY: parasite | host
MSC: Level 1
22. ANS: T PTS: 1 TOP: Ecosystems
KEY: mutualism MSC: Level 1
23. ANS: F
An introduced species is a new species that is brought *on purpose or by accident* into an ecosystem.
- PTS: 1 TOP: Ecosystems

- KEY: introduced species | ecosystem MSC: Level 1
24. ANS: T PTS: 1 TOP: Ecosystems
KEY: environment | impact MSC: Level 1
25. ANS: F
The loss of a single habitat in an ecosystem is *important* since it can affect many species.
- PTS: 1 TOP: Ecosystems KEY: extinct | habitat loss
MSC: Level 1
26. ANS: F
Burning trees *at the same rate or slower* than replanting and growing the trees is an example of sustainability.
- PTS: 1 TOP: Ecosystems KEY: sustainability
MSC: Level 2
27. ANS: T PTS: 1 TOP: Ecosystems
KEY: food chains | poison | survival MSC: Level 2
28. ANS: F
Coyotes are *not native* to the island of Newfoundland. They are a recently *introduced* species.
- PTS: 1 TOP: Ecosystems KEY: native | species
MSC: Level 2
29. ANS: F
This is an example of *secondary succession*. The raspberry plants grow where previously existing ecosystems have been disturbed.
- PTS: 1 TOP: Ecosystems
KEY: primary succession | secondary succession MSC: Level 2
30. ANS: T PTS: 1 TOP: Ecosystems
KEY: habitat loss MSC: Level 1
31. ANS: F
Species that can establish themselves in areas with little or no soil and few nutrients are called *pioneer species*.
- PTS: 1 TOP: Ecosystems KEY: pioneer | species
MSC: Level 1
32. ANS: F
The sequence of changes that starts with bare rock and eventually develops into a complex community of plants and animals is known as *primary succession*.
- PTS: 1 TOP: Ecosystems KEY: primary | succession
MSC: Level 2
33. ANS: F
A stable ecosystem is called a *climax community*.
- PTS: 1 TOP: Ecosystems KEY: climax | community
MSC: Level 1
34. ANS: F
Secondary succession is the process by which an ecosystem changes after it has been disturbed.
- PTS: 1 TOP: Ecosystems KEY: secondary | succession
MSC: Level 1

MULTIPLE CHOICE

1. ANS: A PTS: 1 TOP: Ecosystems
KEY: ecosystem | abiotic | biotic | interaction MSC: Level 1
2. ANS: C PTS: 1 TOP: Ecosystems
KEY: habitat | biotic | abiotic MSC: Level 1
3. ANS: A PTS: 1 TOP: Ecosystems
KEY: community | population MSC: Level 3
4. ANS: D PTS: 1 TOP: Ecosystems
KEY: ocean | adaptation MSC: Level 1
5. ANS: C PTS: 1 TOP: Ecosystems
KEY: ecosystem MSC: Level 1
6. ANS: A PTS: 1 TOP: Ecosystems
KEY: forest | ecosystem MSC: Level 1
7. ANS: D PTS: 1 TOP: Ecosystems
KEY: adaptation MSC: Level 3
8. ANS: A PTS: 1 TOP: Ecosystems
KEY: abiotic MSC: Level 3
9. ANS: D PTS: 1 TOP: Ecosystems
KEY: range | tolerance MSC: Level 3
10. ANS: D PTS: 1 TOP: Ecosystems
KEY: tolerance MSC: Level 1
11. ANS: B PTS: 1 TOP: Ecosystems
KEY: abiotic | plant MSC: Level 2
12. ANS: D PTS: 1 TOP: Ecosystems
KEY: niche MSC: Level 2
13. ANS: B PTS: 1 TOP: Ecosystems
KEY: species MSC: Level 2
14. ANS: D PTS: 1 TOP: Ecosystems
KEY: population MSC: Level 2
15. ANS: D PTS: 1 TOP: Ecosystems
KEY: photosynthesis | food | producer MSC: Level 1
16. ANS: A PTS: 1 TOP: Ecosystems
KEY: photosynthesis MSC: Level 1
17. ANS: B PTS: 1 TOP: Ecosystems
KEY: energy | Sun MSC: Level 2
18. ANS: C PTS: 1 TOP: Ecosystems
KEY: ecosystem | population | predator MSC: Level 3
19. ANS: A PTS: 1 TOP: Ecosystems
KEY: food web | food chain | energy MSC: Level 3
20. ANS: A PTS: 1 TOP: Ecosystems
KEY: ecosystem MSC: Level 1
21. ANS: B PTS: 1 TOP: Ecosystems
KEY: ecosystem MSC: Level 3
22. ANS: A
Lack of food is the most critical factor.

PTS: 1 TOP: Ecosystems KEY: ecosystem | population
MSC: Level 3
23. ANS: A PTS: 1 TOP: Ecosystems
KEY: ecosystem MSC: Level 3
24. ANS: C
The populations of the sheep are controlled by humans. They do not change very much.

PTS: 1 TOP: Ecosystems KEY: population

- MSC: Level 3
25. ANS: C PTS: 1 TOP: Ecosystems
KEY: herbivore MSC: Level 1
 26. ANS: C PTS: 1 TOP: Ecosystems
KEY: omnivore MSC: Level 1
 27. ANS: D PTS: 1 TOP: Ecosystems
KEY: decomposer MSC: Level 1
 28. ANS: B PTS: 1 TOP: Ecosystems
KEY: consumers MSC: Level 2
 29. ANS: D PTS: 1 TOP: Ecosystems
KEY: parasite MSC: Level 1
 30. ANS: A PTS: 1 TOP: Ecosystems
KEY: commensalism MSC: Level 1
 31. ANS: A PTS: 1 TOP: Ecosystems
KEY: mutualism MSC: Level 1
 32. ANS: D PTS: 1 TOP: Ecosystems
KEY: producer MSC: Level 2
 33. ANS: B PTS: 1 TOP: Ecosystems
KEY: nutrient cycle MSC: Level 2
 34. ANS: C PTS: 1 TOP: Ecosystems
KEY: food | web MSC: Level 1
 35. ANS: B PTS: 1 TOP: Ecosystems
KEY: primary | consumer MSC: Level 2
 36. ANS: D PTS: 1 TOP: Ecosystems
KEY: natural resources MSC: Level 1
 37. ANS: B PTS: 1 TOP: Ecosystems
KEY: sustainability MSC: Level 1
 38. ANS: D PTS: 1 TOP: Ecosystems
KEY: pollution MSC: Level 1
 39. ANS: C PTS: 1 TOP: Ecosystems
KEY: human | impact MSC: Level 1
 40. ANS: A PTS: 1 TOP: Ecosystems
KEY: physical monitoring MSC: Level 3
 41. ANS: C PTS: 1 TOP: Ecosystems
KEY: natural resources MSC: Level 2
 42. ANS: A PTS: 1 TOP: Ecosystems
KEY: extinct MSC: Level 1
 43. ANS: C PTS: 1 TOP: Ecosystems
KEY: extinct MSC: Level 3
 44. ANS: A PTS: 1 TOP: Ecosystems
KEY: decompose | compost MSC: Level 2
 45. ANS: D PTS: 1 TOP: Ecosystems
KEY: waste | compost | recycle MSC: Level 3
 46. ANS: B PTS: 1 TOP: Ecosystems
KEY: environmental monitoring MSC: Level 3
 47. ANS: D PTS: 1 TOP: Ecosystems
KEY: secondary succession MSC: Level 2
 48. ANS: C PTS: 1 TOP: Ecosystems
KEY: pioneer | species MSC: Level 2
 49. ANS: D PTS: 1 TOP: Ecosystems
KEY: climax | species MSC: Level 2
 50. ANS: D PTS: 1 TOP: Ecosystems
KEY: biological | monitoring MSC: Level 3

51. ANS: D PTS: 1 TOP: Ecosystems
KEY: physical | monitoring MSC: Level 2

COMPLETION

1. ANS: ecosystem

PTS: 1 TOP: Ecosystems KEY: ecosystem | biotic | abiotic
MSC: Level 1
2. ANS: community

PTS: 1 TOP: Ecosystems KEY: populations | community
MSC: Level 1
3. ANS: species

PTS: 1 TOP: Ecosystems KEY: species
MSC: Level 1
4. ANS: habitat

PTS: 1 TOP: Ecosystems KEY: habitat
MSC: Level 1
5. ANS:
niche
ecological niche

PTS: 1 TOP: Ecosystems KEY: niche
MSC: Level 2
6. ANS: abiotic; biotic

PTS: 1 TOP: Ecosystems KEY: ecosystem | biotic | abiotic
MSC: Level 2
7. ANS: individual; population

PTS: 1 TOP: Ecosystems KEY: individual | ecosystem
MSC: Level 1
8. ANS: range of tolerance

PTS: 1 TOP: Ecosystems KEY: range of tolerance
MSC: Level 2
9. ANS: individual, population, community, ecosystem

PTS: 1 TOP: Ecosystems
KEY: biological organization | individual | population | ecosystem | community
MSC: Level 3
10. ANS: abiotic

PTS: 1 TOP: Ecosystems KEY: habitat
MSC: Level 1
11. ANS: biotic

PTS: 1 TOP: Ecosystems KEY: biotic
MSC: Level 1
12. ANS: population

- PTS: 1 TOP: Ecosystems KEY: population
MSC: Level 1
13. ANS: energy
- PTS: 1 TOP: Ecosystems KEY: energy | activities
MSC: Level 1
14. ANS: Sun
- PTS: 1 TOP: Ecosystems
KEY: energy | ecosystem | food chain MSC: Level 1
15. ANS: energy pyramid
- PTS: 1 TOP: Ecosystems
KEY: food chain | ecosystem | interaction MSC: Level 1
16. ANS: producers
- PTS: 1 TOP: Ecosystems KEY: energy | food chain | producer
MSC: Level 1
17. ANS: symbiotic
- PTS: 1 TOP: Ecosystems KEY: symbiotic
MSC: Level 1
18. ANS: omnivore
- PTS: 1 TOP: Ecosystems KEY: omnivore
MSC: Level 1
19. ANS: energy pyramid
- PTS: 1 TOP: Ecosystems KEY: energy | pyramid
MSC: Level 1
20. ANS: nutrients
- PTS: 1 TOP: Ecosystems KEY: nutrient
MSC: Level 1
21. ANS: parasitism
- PTS: 1 TOP: Ecosystems KEY: parasitism
MSC: Level 2
22. ANS: producers
- PTS: 1 TOP: Ecosystems KEY: herbivores
MSC: Level 2
23. ANS: nutrients
- PTS: 1 TOP: Ecosystems KEY: nutrient
MSC: Level 2
24. ANS: mutualism
- PTS: 1 TOP: Ecosystems KEY: mutualism
MSC: Level 2
25. ANS: food web
- PTS: 1 TOP: Ecosystems KEY: food | web

- MSC: Level 1
26. ANS: native species
- PTS: 1 TOP: Ecosystems KEY: native species | ecosystem
MSC: Level 1
27. ANS: introduced species
- PTS: 1 TOP: Ecosystems KEY: introduced species
MSC: Level 1
28. ANS: endangered
- PTS: 1 TOP: Ecosystems KEY: endangered species | extinct
MSC: Level 1
29. ANS:
introduced species
exotic species
alien species
- PTS: 1 TOP: Ecosystems
KEY: introduced species | exotic | alien MSC: Level 2
30. ANS: Sustainability
- PTS: 1 TOP: Ecosystems KEY: sustainability | resources
MSC: Level 1
31. ANS: Habitat loss
- PTS: 1 TOP: Ecosystems KEY: habitat loss
MSC: Level 1
32. ANS: pollutant
- PTS: 1 TOP: Ecosystems KEY: environment | pollutant
MSC: Level 1
33. ANS: overharvesting
- PTS: 1 TOP: Ecosystems KEY: overharvesting
MSC: Level 2
34. ANS: fire, flood, landslide, etc
- PTS: 1 TOP: Ecosystems
KEY: ecosystem | natural disturbance MSC: Level 2
35. ANS: Ecological succession
- PTS: 1 TOP: Ecosystems KEY: ecological succession
MSC: Level 1

MATCHING

1. ANS: C PTS: 1 TOP: Ecosystems
KEY: photosynthesis MSC: Level 1
2. ANS: F PTS: 1 TOP: Ecosystems
KEY: decomposers MSC: Level 1
3. ANS: H PTS: 1 TOP: Ecosystems
KEY: herbivore MSC: Level 1

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|-----|-------------------------------|------------------------|-----------------|
| 4. | ANS: J
KEY: energy | PTS: 1
MSC: Level 1 | TOP: Ecosystems |
| 5. | ANS: I
KEY: nutrients | PTS: 1
MSC: Level 1 | TOP: Ecosystems |
| 6. | ANS: B
KEY: consumer | PTS: 1
MSC: Level 1 | TOP: Ecosystems |
| 7. | ANS: E
KEY: carnivore | PTS: 1
MSC: Level 1 | TOP: Ecosystems |
| 8. | ANS: A
KEY: producer | PTS: 1
MSC: Level 1 | TOP: Ecosystems |
| 9. | ANS: D
KEY: nutrient cycle | PTS: 1
MSC: Level 2 | TOP: Ecosystems |
| 10. | ANS: G
KEY: scavenger | PTS: 1
MSC: Level 2 | TOP: Ecosystems |
| 11. | ANS: B
KEY: symbiosis | PTS: 1
MSC: Level 2 | TOP: Ecosystems |
| 12. | ANS: J
KEY: parasite | PTS: 1
MSC: Level 2 | TOP: Ecosystems |
| 13. | ANS: H
KEY: food web | PTS: 1
MSC: Level 2 | TOP: Ecosystems |
| 14. | ANS: F
KEY: host | PTS: 1
MSC: Level 2 | TOP: Ecosystems |
| 15. | ANS: C
KEY: commensalism | PTS: 1
MSC: Level 2 | TOP: Ecosystems |
| 16. | ANS: E
KEY: energy pyramid | PTS: 1
MSC: Level 2 | TOP: Ecosystems |
| 17. | ANS: A
KEY: food chain | PTS: 1
MSC: Level 2 | TOP: Ecosystems |
| 18. | ANS: I
KEY: mutualism | PTS: 1
MSC: Level 2 | TOP: Ecosystems |