BIOLOGY · ARIZONA

Biology
Practice Test

Unit 4: Ecology and Ecosystems

25 Questions

Original practice test based on the Arizona curriculum. Work through each question, then check your answers at the end.

This practice test was made by AI and there may be mistakes. If a question or answer looks wrong, use the Flag a mistake button to let Brett know so he can fix it.

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Question 1

The study of how organisms interact with each other and with their environment is called

A) Ecology

B) Genetics

C) Anatomy

D) Geology

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Question 2

Abiotic factors in an ecosystem include sunlight, temperature, water, and

A) Bacteria

B) Plants

C) Animals

D) Soil minerals

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Question 3

All the members of one species living in the same area at the same time make up a

A) Ecosystem

B) Biosphere

C) Population

D) Community

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Question 4

A community plus its nonliving environment together make up an

A) Biome

B) Ecosystem

C) Population

D) Species

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Question 5

Producers, such as green plants, make their own food using light energy in the process of

A) Photosynthesis

B) Respiration

C) Decomposition

D) Fermentation

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Question 6

Decomposers, such as fungi and bacteria, break down dead organisms and return nutrients to the

A) Atmosphere only

B) Producers only

C) Food web

D) Soil

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Question 7

In a food chain grass is eaten by a rabbit, and the rabbit is eaten by a fox In this chain the rabbit is a

A) Secondary consumer

B) Decomposer

C) Producer

D) Primary consumer

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Question 8

A food web is more realistic than a single food chain because most organisms eat and are eaten by

A) Only decomposers

B) More than one species

C) Only one species

D) Only producers

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Question 9

Energy is lost as heat at each step of a food chain, so there are usually fewer organisms at higher

A) Trophic levels

B) Populations

C) Biomes

D) Communities

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Question 10

About 10 percent of energy is transferred from one trophic level to the next Producers store 20000 kilocalories of energy The energy available to primary consumers is about

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Question 11

A pyramid of biomass shows the total mass of organisms at each trophic level, and it is usually widest at the

A) Secondary consumer level

B) Decomposer level

C) Producer level

D) Top predator level

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Question 12

Mutualism is a symbiotic relationship in which both species

A) Compete for food

B) Benefit

C) Are harmed

D) Are unaffected

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Question 13

In commensalism one species benefits and the other species is neither helped nor

A) Harmed

B) Fed

C) Changed

D) Moved

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Question 14

A tick feeding on a dog is an example of parasitism because the tick benefits and the dog is

A) Helped

B) Unaffected

C) Fed

D) Harmed

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Question 15

Two species competing for the same limited resource, such as nesting sites, can reduce the growth of

A) Only the larger population

B) Only the producers

C) Both populations

D) Neither population

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Question 16

A limiting factor, such as a shortage of water in a desert, limits the size of a

A) Food web

B) Population

C) Biome

D) Species name

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Question 17

The carrying capacity of an environment is the largest population size that the environment can

A) Support over time

B) Produce in one year

C) Count in a survey

D) Feed in winter only

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Question 18

A population that grows rapidly when resources are abundant shows exponential growth, which forms a

A) S shaped curve

B) Flat line

C) Declining line

D) J shaped curve

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Question 19

Logistic growth levels off as a population approaches carrying capacity and forms an

A) Straight line

B) Circle

C) S shaped curve

D) J shaped curve

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Question 20

Primary succession begins on bare rock after a volcanic eruption, and the first organisms to colonize the area are called

A) Keystone species

B) Pioneer species

C) Climax species

D) Invasive species

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Question 21

Secondary succession occurs after a disturbance such as a forest fire, where soil remains, so it proceeds

A) Faster than primary succession

B) Slower than primary succession

C) Without any plants

D) Without any animals

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Question 22

A keystone species has a large effect on its ecosystem relative to its abundance, so removing it can change the whole

A) Biome

B) Population size only

C) Food chain only

D) Community

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Question 23

An invasive species harms a new ecosystem mainly because it often has no natural predators and can

A) Increase biodiversity

B) Restore soil

C) Outcompete native species

D) Feed only native species

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Question 24

In the water cycle, water evaporates from oceans, condenses into clouds, and returns to land as

A) Photosynthesis

B) Precipitation

C) Transpiration only

D) Runoff only

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Question 25

Nitrogen fixing bacteria in soil and in root nodules convert nitrogen gas into forms that plants can

A) Use to grow

B) Release to space

C) Store as oxygen

D) Turn into water

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ANSWER KEY

1. A
2. D
3. C
4. B
5. A
6. D
7. D
8. B
9. A
10. 2000
11. C
12. B
13. A
14. D
15. C
16. B
17. A
18. D
19. C
20. B
21. A
22. D
23. C
24. B
25. A

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