

Ecosystems Lesson Review, Test, and Project

Ecosystems Lesson Review

Ecosystems

- An ecosystem consists of all the living organisms (biotic factors) in an area interacting with the nonliving environment (abiotic factors)

Biotic Factors:

- Biotic factors are the living or once living components of an ecosystem. This includes:
- Plants and algae - Producers that convert sunlight into energy through photosynthesis.
- Animals - Consumers that obtain energy by eating producers or other consumers.
- Bacteria and fungi - Decomposers that get energy from breaking down waste and dead organisms.
- Organic waste and dead organisms - Provide energy for decomposers.

Abiotic Factors:

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Examples of Ecosystems:

- Ecosystems exist at various scales and in diverse environments. Some common examples include:
- Rainforests - Warm tropical forests with high rainfall and diverse plant/animal life.
- Deserts - Hot, arid regions with sparse vegetation suited for dry conditions.
- Coral Reefs - Diverse marine ecosystems built from coral organisms.
- Wetlands - Flooded environments like marshes, swamps, and bogs.
- Tundra - Treeless cold northern regions with frozen subsoil.
- Urban Areas - Cities and towns dominated by human structures and activities.

Ecosystem Structure:

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Ecosystem Function:

- Ecosystems rely on the constant cycling of nutrients and energy flow:
- Producers convert solar energy into chemical energy through photosynthesis.
- This energy moves up food chains/webs to consumers that feed on producers or other consumers.
- Decomposers break down waste and dead matter, releasing nutrients back into the ecosystem.

Sustainability:

- Most natural ecosystems reach an equilibrium where populations and conditions are stable over long periods of time. This makes them sustainable without human interference.
- Human activities like pollution, deforestation, and urbanization can disrupt ecosystems and make them unsustainable by impacting biotic and abiotic factors.
- Managed ecosystems like farms and parks require human maintenance to remain sustainable, as they do not reach a natural equilibrium.

Importance of Ecosystems:

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SAMPLE

Ecosystems Test

Multiple Choice

1. What term refers to the living components of an ecosystem?
 - a) Abiotic factors
 - b) Biotic factors
 - c) Organic factors
 - d) Inorganic factors
2. Which of the following is an example of an ecosystem?
 - a) Forest
 - b) Ocean
 - c) Swamp
 - d) All of the above.
3. What do we call the interaction between the biotic and abiotic factors in an ecosystem?

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4. Which of the following is NOT considered a biotic factor?
 - a) Trees
 - b) Algae
 - c) Sunlight
 - d) Grass
5. All the individuals of a single species in an area make up the _____.
 - a) Community
 - b) Population
 - c) Biome
 - d) Biosystem
6. What powers life in an ecosystem?
 - a) Water
 - b) Sunlight
 - c) Soil
 - d) Oxygen
7. What do decomposers do in an ecosystem?

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8. Most ecosystems are considered _____.
a) Unsustainable
b) Unstable
c) Sustainable
d) Artificial

9. Which of the following would disrupt an ecosystem?

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10. What happens in the nutrient cycle of an ecosystem?
a) Energy is lost as heat
b) Nutrients are absorbed by plants
c) Nutrients are recycled back into the ecosystem
d) Consumers eat producers

Matching - Match the terms to their definitions.

11. Biotic factors
12. Abiotic factors
13. Population
14. Community
15. Ecosystem

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Fill in the Blank

16. All the _____ make up the community in an ecosystem.
17. An ecosystem consists of biotic factors interacting with _____ factors.
18. The _____ powers life and the flow of energy in ecosystems.
19. Most ecosystems maintain a stable balance making them _____.
20. Humans can disrupt the _____ of ecosystems through activities like deforestation.

Short Answer

21. Give three examples of common ecosystems.
22. What are the differences between a population and a community?
23. List two abiotic factors that would be found in a forest ecosystem.
24. How do decomposers contribute to an ecosystem?
25. Give one example of a human activity that could make an ecosystem unsustainable.

Long Answer

26. Explain

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Ecosystems Test - Answer Key

Multiple Choice:

1. B
2. D
3. D
4. C
5. B
6. B
7. C
8. C
9. D
10. C

Matching:

11. B
12. E
13. D
14. A
15. C

Fill in the Blank:

16. Populations
17. abiotic
18. Sun
19. sustainable
20. sustainability

Short Answer:

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Long Answer:

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Ecosystems Project:

Ecosystem in a Bottle Project

Objective: To create a

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Materials:

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Instructions:

1. Layer materials in a

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