

AP Biology Guided Reading - CHAPTER 55: ECOSYSTEMS

1. How does the definition of ecosystems expand on the concept of the community?
2. What is needed to maintain a self-sustaining ecosystem?
3. Define the following energy budget terms:
 - a. Primary productivity
 - b. Gross primary productivity
 - c. Net primary productivity
4. Which ecosystems have the highest productivity per unit area?
5. What factors do you think contribute to such high productivity?
6. Why is the open ocean so low in productivity?
7. What is secondary productivity?
8. What happens to the size each level in the idealized pyramid as energy is transferred through the trophic levels?
9. Explain what happens to the energy and biomass as it is passed through the trophic levels?

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10. Why is it essential that elements move through biogeochemical cycles in the ecosystem?

11. What are the major processes that move carbon through the ecosystem?

12. What is the impact of combustion on the carbon cycle?

13. Identify the role of each of the following in the nitrogen cycle:

a. Nitrogen fixation

b. Ammonification

c. Nitrification

d. Denitrification

e. Assimilation

14. Why is human population growth at the root of environmental issues?

15. Define cultural eutrophication. Why is it a problem?

16. What is the source of acid rain?

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17. Why is acid rain a problem?

18. What happens in biological magnification?

19. What would be some of the properties of molecules that could be candidates for biological magnification?

20. What are possible reasons for global warming called the greenhouse effect?

21. Is depletion of the ozone layer a possible reason for global warming?

22. What is the cause for the depletion of the ozone layer? Why is it a problem?

23. List several additional disruptive impacts humans have had on the environment.