Biotic and Abiotic Factors

Biotic or abiotic?

Name: Date: Score: / 12

Biotic factors are living or were once living. Abiotic factors never were. Write B or A.

1. Oak tree _____
   (**B** **A**)
2. Sunlight _____
   (**B** **A**)
3. Earthworm _____
   (**B** **A**)
4. Rainfall _____
   (**B** **A**)
5. Mushroom _____
   (**B** **A**)
6. Soil temperature _____
   (**B** **A**)
7. Grass _____
   (**B** **A**)
8. Wind speed _____
   (**B** **A**)
9. Bacteria _____
   (**B** **A**)
10. Rock _____
    (**B** **A**)
11. Deer _____
    (**B** **A**)
12. pH of a lake _____
    (**B** **A**)

Biotic and Abiotic Factors

The tricky ones

Name: Date: Score: / 12

> Once-living material still counts as biotic. Think about where it came from.

13. A fallen log _____

(**B** **A**)

14. Dead leaves on the forest floor _____

(**B** **A**)

15. A bird’s nest made of twigs _____

(**B** **A**)

16. Sand on a beach _____

(**B** **A**)

17. Oxygen in the air _____

(**B** **A**)

18. A seashell _____

(**B** **A**)

19. Coal _____

(**B** **A**)

20. Water in a pond _____

(**B** **A**)

21. Animal droppings _____

(**B** **A**)

22. Cloud cover _____

(**B** **A**)

23. Pollen _____

(**B** **A**)

24. Salt dissolved in seawater _____

(**B** **A**)

Biotic and Abiotic Factors

Explain the link

Name: Date: Score: / 6

One sentence each. How does the abiotic factor affect the living thing?

25. How does rainfall affect plant growth? _____

26. How does temperature affect a frog? _____

27. How does soil pH affect which plants grow? _____

28. How does sunlight affect a forest floor? _____

29. How does wind affect a coastal tree? _____

30. How does dissolved oxygen affect fish? _____

Biotic and Abiotic Factors

Limiting factors

Name: Date: Score: / 6

> A limiting factor is the one in shortest supply, and it caps the population.

31. A pond has plenty of food and light but very little oxygen. The limiting factor is _____

32. A desert plant has sunlight and warmth but little rain. The limiting factor is _____

33. A forest floor is warm and damp but very dark. The limiting factor is _____

34. A field has water, light and warmth but poor soil nutrients. The limiting factor is _____

35. Name one biotic limiting factor for deer _____

36. Name one abiotic limiting factor for a lake fish _____

Answer Key

Biotic and Abiotic Factors · Grade 9 Science

Biotic or abiotic?

1. B
2. A
3. B
4. A
5. B
6. A
7. B
8. A
9. B
10. A
11. B
12. A

The tricky ones

13. B
14. B
15. B
16. A
17. A
18. B
19. B
20. A
21. B
22. A
23. B
24. A

Explain the link

25. more water allows more photosynthesis and growth, to a point
26. frogs are ectotherms, so body temperature and activity follow the surroundings
27. most plants absorb nutrients only within a narrow pH range
28. little light reaches it, so only shade-tolerant plants survive
29. constant wind stunts growth and bends the trunk away from it
30. fish need it to respire; warm or still water holds less

Limiting factors

31. oxygen
32. water
33. light
34. nutrients
35. predators, disease, or competition for food
36. temperature, oxygen, or pH