**Nitrogen Cycle**

Multiple Choice

1. Recall the chemical formula for (atmospheric) nitrogen gas.
2. NO-
3. NO3-
4. N2
5. NO2-
6. Select the percentage of nitrogen in the atmosphere.
7. 78%
8. 110%
9. 70%
10. 76%
11. Clarify what nitrogen compounds are used for in living things.
12. Carbohydrates
13. Amino acids and carbohydrates
14. DNA and amino acids
15. Carbohydrates and DNA
16. Describe what the process of nitrogen fixation involves.
17. Converting nitrogen in ammonium
18. Converting nitrites and nitrates into nitrogen
19. Converting ammonium into nitrates
20. Converting nitrites into nitrates
21. Select ALL the jobs of nitrifying bacteria during the process of nitrification.

Select ALL correct options

1. Converting nitrogen to ammonium
2. Convert nitrites and nitrates to nitrogen
3. Convert ammonium to nitrites
4. Convert nitrites to nitrates
5. Name the process that allows biospheric nitrogen in the DNA, excretions and amino acids of living things to re-enter the lithosphere.
6. Decomposition
7. Nitrification
8. Nitrogen fixation
9. Denitrification
10. Recall what happens when nitrites and nitrates are assimilated.
11. They are released into the hydrosphere.
12. They are released back into the atmosphere.
13. They are taken up by plants.
14. They enter the lithosphere from the atmosphere.
15. State what happens during the process of denitrification.
16. State what happens during the process of denitrification.
17. Denitrifying bacteria release nitrates and nitrites into the atmosphere.
18. Denitrifying bacteria convert nitrites and nitrates back to nitrogen and it is released back into the atmosphere.
19. Nitrifying bacteria release ammonium into the lithosphere.
20. Recall the ways in which nitrogen enter the hydrosphere.

Select all that apply. Select ALL correct options

1. Run-off water that carries nitrates from the lithosphere.
2. Directly from the atmosphere.
3. Erosion of sedimentary rock.
4. Osmosis
5. N2 cannot be absorbed by phytoplankton. Describe what must happen to N2 before phytoplankton can absorb it.
6. Undergo nitrogen fixation, and be converted to nitrates.
7. Undergo denitrification, and be converted to nitrates.
8. Undergo nitrification, and be converted to nitrates.
9. Undergo ammonification, and be converted to nitrates.
10. Fertilising can cause plants that thrive in soils low in nitrogen to be outcompeted by previously less prevalent plants. Since they are being outcompeted, the low-nitrogen thriving plants and the animals and microorganisms that depend on these for food, can die out.

Select what this is an example of from the list below.

1. Nitrification
2. Increased biodiversity
3. Decreased biodiversity
4. Nitrogen fixation
5. Recall the impact of increased nitrogen levels on the hydrosphere.
6. Increased growth of algae populations.
7. Increased biodiversity.
8. Decreased growth of algae populations.
9. Increased growth of all organisms except for algae.
10. Recall the impact of large algae populations on the biodiversity of marine and freshwater ecosystems.
11. Biodiversity does not change.
12. Decrease biodiversity.
13. Increase biodiversity.
14. Increase in all other species except for algae.
15. State the group of gases that nitrous oxide belongs to.
16. A noble gas
17. A glasshouse gas
18. An outhouse gas
19. A greenhouse gas
20. Recall the effect of nitrous oxide on the atmosphere.
21. Increase the temperature of the troposphere.
22. Decrease the temperature of Earth's troposphere.
23. Increase the levels of radiation reaching Earth.
24. Decrease the levels of radiation reaching Earth.
25. Burning fossil fuels can produce high heats and pressures. Clarify what nitrogen can be converted to when fossil fuels are burnt.
26. Carbon Dioxide (CO2)
27. Nitrous oxide (N2O)
28. Nitric oxide (NO)
29. Nitrogen (N2)
30. Describe how nitric oxide (NO) can affect the atmosphere.
31. By depleting the ozone layer.
32. By thickening the ozone layer.
33. By increasing temperatures on Earth.
34. By decreasing temperatures on Earth.