Biogeochemical Cycle AP Questions

Questions 1-4 refer to the compounds listed below.

1. Nitrogen gas (N2)
2. Oxygen gas (O2)
3. Water (H2O)
4. Phosphate (PO4 3-)
5. Methane (CH4)
6. A greenhouse gas produced by raising cattle
7. Can be stored in marine sediments for long periods of time
8. A greenhouse gas emitted into the atmosphere through transpiration or evaporation
9. A limiting factor for most plant growth in lakes and terrestrial systems.
10. The end product of the wood in a log being decomposed by fungi is
11. Nitrogen gas
12. Carbon dioxide and water
13. Heat energy
14. Coal
15. Carbon monoxide gas
16. Which of the below is NOT a human intervention in the nitrogen cycle?
17. Large amounts of nitric oxide are released into the atmosphere by smokestacks which can cause acid rain
18. Nitrous oxide is added to the atmosphere through the action of bacteria on livestock waste
19. Large amounts of nitrogen are released into the atmosphere as forest are cleared
20. Large amounts of nitrates are added to the Chesapeake bay causing a eutrophic dead zone
21. Specialized bacteria convert ammonia into nitrate and then into nitrogen gas reducing nitrogen available to plants
22. The phosphorus cycle includes all of the following EXCEPT it
23. Is found in rock as fossil bones and guano
24. Is a fast-moving atmospheric cycle
25. Is a limiting factor for many plants
26. Can be deposited as marine sediment and not be released for millions of years
27. Is returned to the soil as fertilizer and can cause algae blooms.
28. How would you explain the importance of tropical rainforests to people who think that such forests have no connection to their lives?
29. Explain
30. Why the flow of energy through the biosphere depends on the cycling of nutrients
31. Why the cycling of nutrients depends on gravity
32. Explain why microbes are so important. List two beneficial effects and two harmful effects of microbes on your health. Write a brief description of what you think would happen to you if microbes were eliminated from the earth.
33. Make a list of foods you ate for lunch or dinner today. Trace each type of food back to a particular producer species. Describe the sequence of feeding levels that led to your feeding.
34. Search for NITROGEN CYCLE and look for information on how humans are affecting the nitrogen cycle. Specifically, look for impacts on the atmosphere and on human health from emissions of nitrogen oxides, and look for the harmful ecological effects of the runoff of nitrate fertilizers into rivers and lakes. Make a list of these impacts and use this information to review your daily activities. Find three things that you do regularly that contribute to these impacts.