Ecology + Biogeochemical Cycles : Quiz on Feb. 8

 Directions: Complete ALL the handout. This is 50% of your quiz grade.

*General Terms: Illustrations:* Label the steps

1. fundamental vs. realized niche:

Nitrogen Cycle

1. generalist vs. specialist:
2. intraspecific vs. specific competition:

1. Law of Tolerance:
2. Mutualism:
3. commensalism:
4. keystone species:
5. Three types of trophic pyramids

a.

b.

c.

9. primary vs secondary:

10. ecotone:

11. nitrogen fixation:

12. nitrification:

13. ammonification:

14. assimilation:

15. mineralization:

16. immobilization



Phosphorus Cycle

Three factors make phosphorus a nutrient of concern in most ecosystems:

1. Most soils have only small amounts the weathering of distributed rocks.
2. Phosphorus is more insoluble than other nutrients and less mobile
3. Phosphorus that drains from the land to the ocean is used by organisms in the surface waters, but a considerable amount is lost to the sediments in the shells and bones of marine organisms and by precipitation and settling of phosphates.

*Multiple Choice Questions:*

1. The process by which a soil nutrient is reduced and released to the atmosphere as a gas.
2. Photosynthesis
3. Eutrophication
4. *Dentrification*
5. *Decomposition*
6. *Transpiration*

1. *Ammonia is converted to nitrite, then nitrate*
2. *Nitrification*
3. *Dentrification*
4. *Assimilation*
5. *Ammonification*
6. *Nitrogen fixation*

1. *Plant roots absorb ammonium ions and nitrate ions for use in making molecules such as DNA, amino acids, and proteins*
2. *Nitrification*
3. *Dentrification*
4. *Assimilation*
5. *Ammonification*
6. *Nitrogen fixation*

1. *Nitrate ions and nitrite ions are converted into nitrous oxide gas and nitrogen gas (N2)*
2. *Nitrification*
3. *Dentrification*
4. *Assimilation*
5. *Ammonification*
6. *Nitrogen fixation*

1. *Which of the following best helps to explain why phosphorus is often a limiting factor in many ecosystems?*
2. *There is usually a gaseous phase in the phosphorus cycle.*
3. *Phosphorus cycles very quickly through environments*
4. *Under many conditions, phosphorus forms stable insoluble compounds.*
5. *Phosphate is not readily taken up by plants.*
6. *There are no anthropogenic sources of phosphorus.*

*Free-Response (partial):*

1. Explain how an increase in the amount of dissolved CO2 in ocean water results in a decrease in the pH of ocean water.

1. Explain why the movement of carbon into the ocean has been increasing since 1850.