

The Nitrogen Cycle Webquest

Did you know that you can access several online encyclopedias, magazine and newsprint databases through the BHS Library webpage? Well, you can! Go to the BHS homepage and click on "Library."

On the Library webpage, choose "World Book Encyclopedia" from the list of references.

Login: burlingame

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Search for Nitrogen and then the Nitrogen Cycle to get a basic understanding of the Nitrogen Cycle.

1. What is nitrogen? Where is it found on the periodic table?
2. What is the largest store, or reservoir, of nitrogen?
3. How much of the gas in our atmosphere is N_2 ?
4. Why is nitrogen important to life?
5. Plants and animals cannot use the nitrogen in the atmosphere as it is. Describe how nitrogen in the atmosphere is brought to the earth's surface.
6. Use the picture of the nitrogen cycle on this page (click on it to make it larger) to label the following parts on the diagram below and include arrows that show the direction that the nitrogen cycles.
 - Atmospheric nitrogen
 - Animals
 - Plants
 - Decomposers
 - Bacteria



Go to: <http://homepages.nyu.edu/~pet205/nitrogen.html>

7. What is nitrogen fixation?
8. What are the two main ways that nitrogen fixation occurs?

9. What do the bacteria do with the nitrogen from the atmosphere? What does it become?

10. Who or what uses the nitrogen after the bacteria has fixed it?

Go to: <http://www.ucar.edu/news/backgrounders/nitrogen.shtml#humans>

Read the summary of the Nitrogen Cycle

11. Once nitrogen has been deposited into the soil through lightning or bacteria, how do herbivores and carnivores end up consuming the nitrates?

12. What happens to the nitrogen when an organism excretes waste?

13. What happens to the nitrogen when an organism dies and decomposes?

14. What happens to the ammonia (NH_4)?

15. What happens to the nitrates (NO_3) in the soil? List 3 possibilities.

The nitrogen cycle, like all cycles, requires a balance. There are many ways that cycles get thrown off balance. Let's take a look at how humans are impacting the nitrogen cycle and what this means for the environment.

Read the section on Human Activities and the Nitrogen Cycle

16. Nitrogen deposition refers to nitrogen being placed, or deposited, into a reservoir (atmosphere, water, soil, etc.) What are the 4 human activities that increase nitrogen deposition?

Read the section on the Harmful Effects of Nitrogen Deposition

17. What effect can too much nitrogen have on ecosystems?

18. How does too much nitrogen affect rain?

19. Explain how human-caused nitrogen deposition affects air quality?

20. Why is too much nitrogen harmful to our water supply?