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Reading Guide

Matter Cycles and Organisms

Use pages 32-46 in your text to complete.

1. As matter travels through an ecosystem, it is not lost, it is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

The water cycle

1. The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ cycle that recycles water is the water cycle.
2. List the steps to the water cycle. **You may put them in your own words.**
3. What is transpiration?

The Carbon Cycle

1. Chains of carbon molecules form the backbones of many molecules, such as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_, and \_\_\_\_\_\_\_\_\_\_\_\_\_.
2. Can living organisms make their own carbon?
3. Where do living organisms get carbon?
4. Write the chemical equation for photosynthesis.
5. List 2 ways that carbon returns to the atmosphere.
6. Draw the Carbon Cycle.

The Nitrogen Cycle

1. What is a legume?
2. What can legumes do that other organisms can’t?
3. How are legumes able to do this?
4. Animals and plants cannot use the nitrogen when it is a \_\_\_\_\_\_\_\_\_\_\_.
5. Plants often \_\_\_\_\_\_\_ from a lack of nitrogen even though they are surrounded by plenty of nitrogen \_\_\_\_\_.
6. Nitrogen gas can be transformed into \_\_\_\_\_\_\_\_\_\_\_\_\_ (NO3-) that plants can use when \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ strikes.
7. Nitrogen \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_: Special nitrogen-fixing \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ can also transform nitrogen gas into useful forms. These bacteria live in the \_\_\_\_\_\_\_\_\_\_\_\_\_ of plants in the pea (legume) family. They turn the nitrogen gas into \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (NH4+).
8. Draw the nitrogen cycle.
9. What is denitrification?
10. How does it happen?
11. Draw the oxygen cycle.
12. Describe the relationship between oxygen and ozone.