

SECTION 22-2 REVIEW

ECOSYSTEM RECYCLING

VOCABULARY REVIEW Explain the relationship between the terms in each of the following groups of terms.

1. water cycle, carbon cycle, nitrogen cycle _____

2. nitrogen fixation, nitrification, denitrification _____

MULTIPLE CHOICE Write the correct letter in the blank.

- _____ 1. The term *ground water* refers to water that

a. exists in lakes or ponds.	c. has fallen to sea level.
b. is found in soil or in underground formations.	d. lies on the surface of the ground after a heavy rain.

- _____ 2. At least 90 percent of the water that returns to the atmosphere from terrestrial ecosystems does so through

a. transpiration in plants.	c. sweating in animals.
b. excretion in animals.	d. precipitation.

- _____ 3. Two sources of carbon dioxide released into the atmosphere in the carbon cycle are

a. photosynthesis and decomposition.	c. combustion and transpiration.
b. cellular respiration and photosynthesis.	d. cellular respiration and combustion.

- _____ 4. Two components of the nitrogen cycle that produce ammonia are

a. nitrification and denitrification.	c. nitrogen fixation and ammonification.
b. nitrogen fixation and nitrification.	d. ammonification and denitrification.

- _____ 5. Animals obtain nitrogen

a. through a mutualistic relationship with nitrogen-fixing bacteria.
b. from the proteins and nucleic acids in the organisms they consume.
c. by absorbing nitrates and ammonia from the soil.
d. by absorbing nitrogen gas from the atmosphere.

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SHORT ANSWER Answer the questions in the space provided.

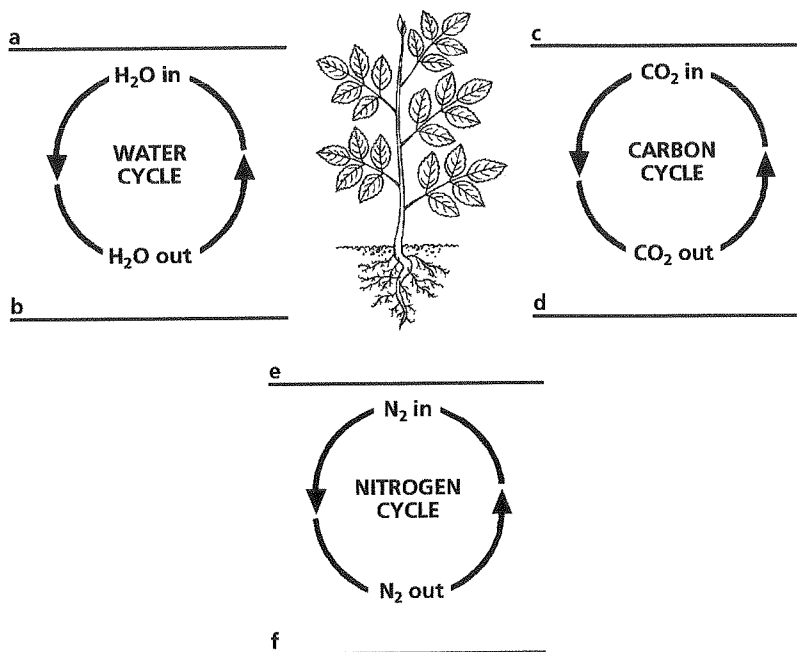
1. Name three processes in the water cycle, and state whether each process removes water from the atmosphere or returns it to the atmosphere. _____

2. Describe the cycling of carbon in the carbon cycle. _____

3. Where are nitrogen-fixing bacteria found? How do these bacteria benefit plants? _____

4. **Critical Thinking** If a crop, such as corn, is grown in the same field year after year, a nitrogen-containing fertilizer must be added to the soil each time a new crop is planted. Why isn't a single application of fertilizer sufficient? _____

STRUCTURES AND FUNCTIONS The diagram below represents the effect of the water, carbon, and nitrogen cycles on the life of a plant. Identify the process indicated in the three cycles.



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