Biogeochemical Cycles

Directions: Color and make a key for each of the following cycl es. Answer the questions as you read about each cycle.

The Water Cycle

1. Name three important needs for the water cycle.
2. How is water distributed through the biosphere?
3. What draws water back down to Earth?
4. What is transpiration?
5. What determines which plants grow where?
6. Name two ways water travels from land to enter the ocean.
7. What does runoff include?
8. How much water enters the hydrologic cycle?
9. How much water falls back as rain?

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The Carbon Cycle

1. What are macronutrients? What are micronutrients?
2. What is the role of each of the following in the carbon cycle? Give an example of each.
   a. Primary producers
   b. Secondary producers
   c. Decomposers
3. Where is most of the Earth's carbon located? What form is it?
4. How does carbon enter the biotic part of the ecosystem?
5. What function do plants have in the forest in the carbon cycle?
6. How is carbon dioxide returned to the atmosphere?
7. What happens when primary and secondary consumers die?
8. What do detritus feeders contribute to the carbon cycle?
9. What is a fossil fuel?
10. How does carbon get in the oceans?

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The Nitrogen Cycle

1. What percent of the air is nitrogen?
2. Why is nitrogen essential to life?
3. How do plants and animals get nitrogen if not from the atmosphere?
4. What are nitrogen fixing bacteria?
5. What is a major reservoir for ammonia?
6. Why do herbivores need nitrogen?
7. What is denitrification?

Biogeochemical Cycles

Directions: Color and make a key for each of the following cycl es. Answer the questions as you read about each cycle.

The Phosphorous Cycle

1. Why is phosphorus an important biological molecule?
2. What happens to phosphorus that erodes from rock and soil?
3. How are phosphates incorporated into the organic molecules in plants and animals?
4. What happens to the phosphat es when plants and animals die?
5. What happens to the phosphorus that is carried by runoff to the oceans?
6. How are phosphates incorporated into the organic molecules in aquatic plants and animals?
7. What is different about the phosphorous cycle as compared to the water, carbon and nitrogen cycles?