Name_____

Hour_____

Chemical Cycles Review

The Big Idea!

Nutrients are recycled in ecosystems.

Concepts

- Unlike energy, nutrients are not replenished by the sun. They must be recycled.
- Photosynthesis and cellular respiration are the processes responsible for the recycling of carbon and oxygen. Carbon also may be stored in organisms, fossil fuels, or limestone.
- The burning of fossil fuels and the destruction of forests interfere with the carbon cycle.
- Nitrogen must be converted into compounds by nitrogen-fixing bacteria before it can be used by other organisms. Decomposers release nitrogen from animal wastes and dead organisms.
- The nitrogen removed from the soil by plants can be restored through crop rotation or fertilizers. If nitrogen fertilizer or sewage is washed into a body of water, the water can become choked with overnourished plants and algae.
- Solar radiation evaporates water, which returns to Earth's surface as precipitation. Water also cycles through living organisms.
- Human activities can result in both surface- and ground-water contamination.

Words

carbon cycle	fossil fuels	nitrogen cycle	nitrogen fixation
dentrification	water cycle		

Part A

1. What are nutrients? (Pg. 76)

_____

2. How do nutrients move through an ecosystem? (pg. 76)

_____

3. What are the products of photosynthesis? (pg. 68)

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4. How are the products of photosynthesis used by other organisms? (pg. 68)

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5. How have humans affected the carbon cycle? (pg. 76) **Hint:** What happens when we mine, burn forests, and fossil fuels?

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6. Why are the roots of legumes important to the nitrogen cycle? (pg. 78)

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7. What role do **decomposers** play in the nitrogen cycle? (pg. 78)

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8. Explain the process of **dentrification**.(pg. 78)

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9. How is water moved from Earth to the atmosphere? (pg. 75)

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10. How is water returned to Earth from the atmosphere? (pg. 75)

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11. How is water returned to the environment from animals?

_____

12. How does water cycle through plants? (pg. 75)

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13. How do human activities affect the water cycle?

_____

Part B *Match each term in Column B with its description in Column. A. Write the letter of the correct term on the line provided.*

Column A

_____1. energy-rich organic compound

_____2. chemical elements and compounds that organisms must have to live and grow

_____3. conversion of nitrogen in the air to usable nitrogen compounds

_____4. movement of water from Earth's surface to the atmosphere and back to the surface again

_____5. process of returning nitrogen gas to the atmosphere

_____6. pathway that nitrogen travels through the environment

_____7. movement of carbon and oxygen through the environment

Column B

a. nutrients (pg. 76)

b. carbon cycle (pg. 76)

c. fossil fuel

d. nitrogen cycle (pg. 78)

e. nitrogen fixation (pg. 78)

f. dentrification (pg. 78)

g. water cycle (pg. 75)