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Topic: Biogeochemical Cycles Worksheet

Summary: Students will fill out this simple worksheet with information on carbon, nitrogen, and water cycles.

Goals & Objectives: Students will be able to explain how matter is recycled and the steps of each cycle.

Time Length: 20 minutes

NGSS Standards: *HS-LS2-4.* Use mathematical representations to support claims for the cycling of matter and flow of energy among organisms in an ecosystem.

Materials:

Class notes or textbook or online textbook

- <https://flexbooks.ck12.org/cbook/ck-12-biology-flexbook-2.0/section/6.5/primary/lesson/water-cycle-bio/>
- <https://flexbooks.ck12.org/cbook/ck-12-biology-flexbook-2.0/section/6.6/primary/lesson/carbon-cycle-bio/>

Procedures:

Hand out this worksheet as a simple review of the biogeochemical cycles

Accommodations:

Students with an IEP may work with a partner filling in the definitions.

Editable DOCX File and Answer Key:

Available at www.ngsslifescience.com

Biogeochemical Cycles Worksheet

(Use the word bank to complete the examples and explanations)

cell respiration	transpiration	combustion	evaporation
bacteria	fossil fuels	photosynthesis	percolation
decomposition	oceans	nitrogen gas	eat plants
precipitation	nitrate	biosphere	condensation
atmosphere	hydrosphere	geosphere	

1. Where is most of the water found on earth? _____
2. What process changes liquid water into water vapor? _____
3. What process changes water vapor into liquid water? _____
4. What is the process that allows liquid water to return to the earth from the sky?

5. What process occurs when water goes into the ground? _____
6. _____ is the loss of water from plants.
7. In the atmosphere, what molecule is the most abundant form of carbon? _____
8. In what process do plants use atmospheric CO₂ to make carbohydrates?

9. When an animal eats a plant's carbohydrates, it performs _____ that releases the carbon back into the atmosphere.
10. What is it called when CO₂ is released from a fire? _____
11. What is the process when dead organisms are broken down? _____
12. Coal, oil, and natural gas are types of _____.
13. Carbonic acid (CO₂ in water), that carbon is in which reservoir? _____
14. Carbon found in plants and animals are in which reservoir? _____
15. Carbon that is stored underground for millions of years is part of what reservoir?
_____.
16. Carbon found in the air is in which reservoir? _____
17. What nitrogen molecule do plants absorb? _____
18. How do animals get their nitrogen? _____
19. When an animal dies or releases waste, nitrogen is changed into ammonia by what organism? _____.