

Topic: Biogeochemical Cycles Study Guide

Summary: Students will fill out a worksheet with information on what they will be tested on.

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

Time Length: 20 minutes

Standards: CA Biology 6d. *Students know* how water, carbon, and nitrogen cycle between abiotic resources and organic matter in the ecosystem and how oxygen cycles through photosynthesis and respiration.

Materials:

Textbook, class notes, and pencil or pen

Procedures:

Hand out this worksheet before introducing macromolecules. Students are to fill in this worksheet while you teach about each of the macromolecules. Students then use this worksheet as a central place to study from to prepare for a test or quiz.

Accommodations:

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

Evaluation:

Students are to keep this worksheet. It is not intended to be graded.

Biogeochemical Cycles Study Guide

(Fill in the word or write definitions and explanations)

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

6. _____ accumulates water into creeks, rivers and lakes.
7. What process occurs when water goes into the ground? _____
8. _____ is the loss of water from plants.
9. What four main sources of water are used for drinking water? _____
10. When water is frozen, it is stored as either _____ or _____
11. In the carbon cycle, what type of gas is in the atmosphere? _____
12. In what process do plants use atmospheric CO₂ to make carbohydrates?

13. When an animal eats a plant's carbohydrates, it performs _____ that releases the carbon back into the atmosphere.
14. What is it called when CO₂ is released from a campfire? _____
15. What is the process when dead organisms are broken down? _____
16. Coal, oil, and natural gas are types of _____.
17. What are the two ways in which carbon is returned to the atmosphere?

18. Carbon that is stored underground for millions of years is _____.
19. What gas makes up 78% of the atmosphere? _____
20. Plants absorb nitrogen by the process of _____.
21. What is the source of nitrogen for animals? _____
22. When an animal dies or creates waste, nitrogen is changed into ammonia by the process of _____.

23. The ammonia is changed by nitrifying bacteria into nitrites then nitrates. This process is called _____.

24. Nitrates can be changed into nitrogen gas and released into the air in the process called _____.

25. What is nitrogen fixation? _____

26. What type of organism performs all of the nitrogen processes in the ground?

27. The phosphorous cycle is different from the other three cycles because it functions on a _____ scale instead of a global scale.

28. Phosphorous cycles between the geosphere, hydrosphere and biosphere but not the _____.

29. Phosphorous is a main _____ that plants need to grow.

30. What are the four main biogeochemicals in the earth system?
