

Name: _____

Extension 2.1C 2.2AB

WEBQUEST - THE CARBON CYCLE

Directions: Visit the following websites and answer the related questions. Your goal is to gain a better understanding of the carbon cycle.

Task 1- Go to http://www.windows.ucar.edu/tour/link=/earth/Water/co2_cycle.html and answer these questions:

1. Draw the carbon cycle:

2. How does carbon exist in the atmosphere?
3. How are fossil fuels created?
4. Describe two ways that carbon enters the atmosphere.
5. How are the oceans involved in the carbon cycle?
6. How is the temperature of the Earth partly controlled by carbon?
7. What role do rocks have within the carbon cycle?

Task 2- Go to <https://utah.pbslearningmedia.org/resource/b1943ed9-9781-4d75-872f-ee5b26fe28a6/the-roots-of-the-carbon-cycle/#.WNsm98lrJ0u> Launch the interactive and answer the following questions.

8. Is there more carbon in the soil or the atmosphere?
9. What is another word for plant matter?
10. List two ways carbon becomes part of the soil?
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11. How does the gaseous carbon get back in the atmosphere?
12. Pick 3 different combinations of soil structure, moisture and temperature and explain the effects they have on the carbon cycle.

Structure	Moisture	Temperature	Type of environment & effects of carbon

Task 3- Go to http://www.windows.ucar.edu/earth/climate/carbon_cycle.html to play the carbon cycle game. You are a carbon atom!

13. Where are you starting within the carbon cycle?

“Click to begin your journey”

14. How much of the atmosphere is made of carbon dioxide (CO₂)?

15. By how much has CO₂ increased in the atmosphere during the past 150 years?

As you work through this game, take some notes about where you go as a carbon atom. Make sure you visit all reservoirs!

16. Next stop = _____
What did you learn?

The deep ocean accounts for more than ____ % of the Earth’s carbon.

17. Next stop = _____
What did you learn?

How much carbon does the surface ocean absorb from the atmosphere each year? _____

18. Next stop = _____
What did you learn?

True or False: When plants die and decay, they bring carbon into soil.

19. Next stop = _____
What did you learn?

True or False: Plants both absorb CO₂ from the atmosphere and release it into the atmosphere.

20. Next stop = _____
What did you learn?

True or False: Phytoplankton are tiny plants and algae that float in the ocean and take up carbon dioxide as they grow.

When carbon enters the deep ocean, how long does it stay there?

Task 4- Go to https://www.sciencelearn.org.nz/image_maps/3-carbon-cycle and answer the following questions.

21. List the 7 places that carbon is stored.

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22. List 5 ways carbon is added to the atmosphere.

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23. What types of sedimentary rocks store carbon?

24. Click on “atmosphere”. How much carbon is in the atmosphere?

25. How much carbon is on the ocean surface?

How much carbon is in the deep ocean?