Name: _____ Date: _____ Period: _____

Carbon Cycle Activity

Please Turn-In this Assignment

Background:

All living things are made of carbon. Carbon is also a part of the ocean, air, and even rocks. Because the Earth is a dynamic place, carbon does not stay still. It is on the move! In the atmosphere, carbon is attached to some oxygen in a gas called carbon dioxide.

Plants use carbon dioxide and sunlight to make their own food and grow. The carbon becomes part of the plant. Plants that die and are buried may turn into fossil fuels made of carbon like coal and oil over millions of years. When humans burn fossil fuels, most of the carbon quickly enters the atmosphere as carbon dioxide.

Carbon dioxide is a greenhouse gas and traps heat in the atmosphere. Without it and other greenhouse gases, Earth would be a frozen world. But humans have burned so much fuel that there is about 30% more carbon dioxide in the air today than there was about 150 years ago, and Earth is becoming a warmer place. In fact, ice cores show us that there is now more carbon dioxide in the atmosphere than there has been in the last 420,000 years.

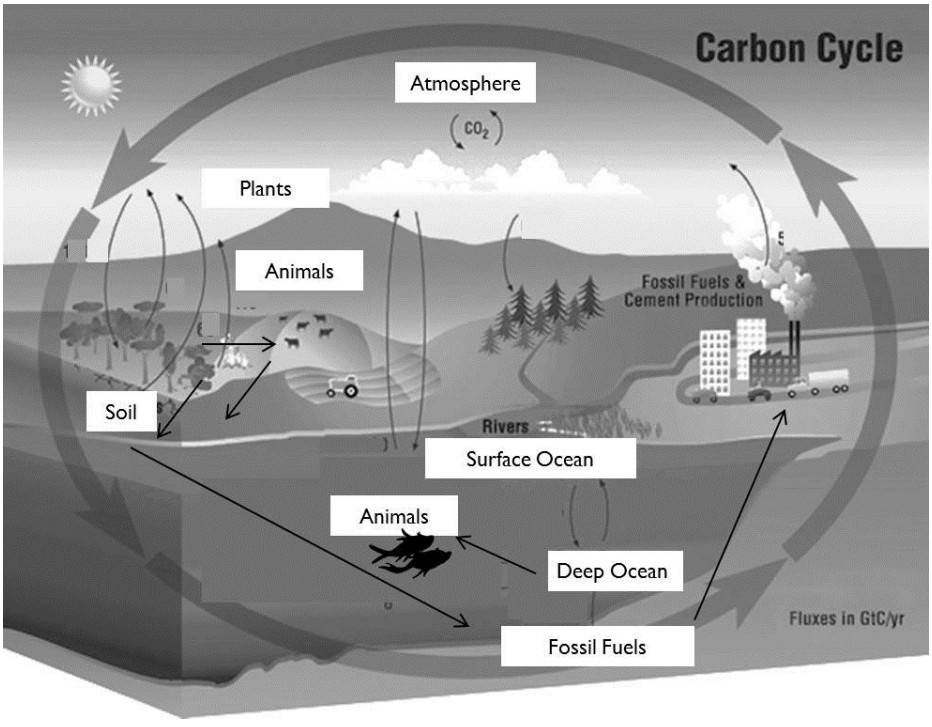
Ice Core is a cylindrical section of ice removed from a glacier or an ice sheet in order to study climate patterns of the past

Carbon Sinks are reservoirs for carbon in the environment that store more carbon than they release.
Examples: Forests, soil, atmosphere, ocean

Directions:

1. You are a carbon atom and will be traveling through the carbon cycle. Record your starting point in the data table on row 1.
2. Roll the dice to determine the fate of your carbon atom. Record what happens in the data table along with your new destination.
3. Travel to your next destination and repeat steps 1 and 2 above until you fill out your data table.
4. Create a bar graph of your data
5. Answer the conclusion questions
6. Please turn-in this assignment

Diagram:

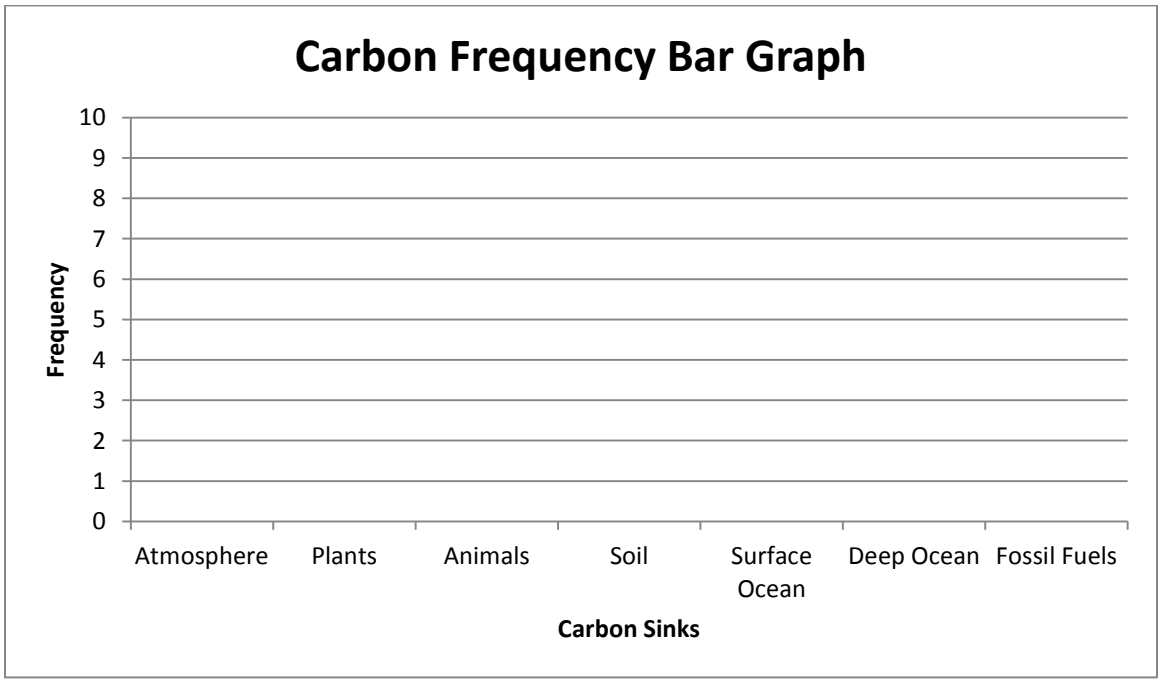


Adapted by B. Feldmann from Jennifer Ceven's adaption from "The Incredible Journey" Project WET

Data: Record the places you have traveled as a carbon molecule.

	Station Stop	What Happens (Dice Description)	Next Station
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

Graph: Create a bar graph showing the frequency of your carbon molecule at each station.



Conclusion Questions:

1. *Yes or No:* In the course of the carbon cycle, are carbon atoms themselves ever created? _____
Ever destroyed? _____

2. *Choose A or B:* Photosynthesis is the process by which plants... (a) release carbon dioxide into the atmosphere
(b) turn carbon dioxide into sugar for energy

3. *Fill in the Blank:* As carbon dioxide concentration increases, atmospheric temperature _____.

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