Carbon Cycle Notesheet C. Kohn, Waterford WI

Name: Hour Date:

Date Assignment is due: Why late? Score: + ✓ -  
 Day of Week Date If your project was late, describe why**Directions**: Use the accompanying PowerPoint (*available online*) to complete this sheet. This sheet will be due upon the completion of the PowerPoint in class. These assignments are graded on a +/✓/- scale.

1. Carbon is an , or a
2. Atoms are
3. What does this mean?
4. What is a molecule?
5. How do we know that water is a molecule?
6. Draw each of the following below its name:  
     
   Oxygen Carbon Dioxide Water Methane
7. All living organisms are , meaning that
8. What are two reasons for why carbon is so widely-used among living organisms?   
     
   1   
     
   2
9. Carbon atoms are   
     
   as different organisms acquire the carbon they need to
10. What is the carbon cycle?
11. Draw the carbon cycle below. Be sure to include the following: a) CO2, b) green plants, c) animals, d) decomposing matter, e) combustion, f) arrows showing both how CO2 is absorbed and how CO2 is released.
12. The carbon cycle begins with in the .
13. What is carbon dioxide?
14. Why does carbon dioxide have really strong bonds?
15. Plants absorb from the in order to make   
      
     , the simplest
16. Plants rearrange ( ) from the and   
      
    ( ) from the to make   
      
    ( ) and ( ).
17. Draw photosynthesis below. Be sure to include the following: a) sunlight; b) CO2, c) water, d) a leaf, e) sugar, f) oxygen, and g) arrows showing what is absorbed and what is released.
18. What is photosynthesis?
19. What substances are absorbed during photosynthesis?
20. What substances are produced during photosynthesis?
21. Plants can use as a   
      
    to make more such as   
      
    (like or ) or (such as , the   
      
    tough that is found   
      
    and gives it its ).
22. Sugars, starches, and fiber are all called . What is a carbohydrate?
23. Can an animal get the energy it needs directly from the sun? Can a plant?
24. If neither plants nor animals can get the energy they need directly from the sun, how do these organisms acquire the energy they need?
25. Explain why plants are called producers and animals are called consumers:
26. Why do plants produce glucose? (Hint: it’s not produced for animals):
27. All carbohydrates consumed by animals are broken down into . The   
      
    cells of animals use this glucose to create   
      
    to .
28. The process in which plant and animal cells use and is   
      
    called .
29. In respiration, what is absorbed?
30. In respiration, what is released?
31. Do both plants AND animals release carbon dioxide during respiration? YES NO
32. Why is it called the *carbon cycle*?
33. Carbon is cycled between such as   
      
    and such as
34. What is an organic molecule?
35. What is an inorganic molecule?
36. Is an organic molecule the same kind of “organic” as organic food? YES NO
37. Organic carbon molecules that make up organisms are broken down by organisms called
38. Decomposers include (such as ),   
      
    and some animals such as .
39. In decomposition, and   
      
    are converted into (such as   
      
    \_ and ) and .
40. Decomposers convert into   
      
     .
41. What would happen if there were no decomposers?
42. In order to function properly, the carbon cycle must be .
43. We cannot change the ; we can only   
      
    change the amount of in which
44. True or False: we can change the amount of carbon that exists. Explain:
45. True or False: we can change the amount of organic carbon molecules that exist. Explain:
46. For living organisms to function properly, the amount of released into   
      
    the by ,   
      
    and should roughly equal the amount of carbon dioxide
47. What process decreases the amount of carbon dioxide in the air?
48. What processes increase the amount of carbon dioxide in the air?
49. Carbon dioxide is a - and - active molecule. What does this mean?
50. Carbon dioxide has that can hold
51. For this reason, carbon dioxide has an on the atmosphere.
52. The more in the , the   
      
    more that the atmosphere can hold. This means that air with more carbon dioxide   
      
    will than air with less carbon dioxide.
53. Carbon dioxide is sort of like a .
54. If the atmosphere has more carbon dioxide, how will this affect precipitation? Will there be more floods, or more droughts, or no change at all?
55. Why would this be a problem for agriculture? Agriculture is dependent on a   
      
     .
56. The production of food is really about maximizing the efficiency of the carbon cycle’s ability to
57. Like all animals, human beings both depend on plants to convert   
      
    of the sun into the all living things need to survive, and to convert  
      
    the in the air into the usable
58. How are strawberries an example of how agriculturalists have used genetics to change the carbon cycle?
59. True or false: Without the carbon cycle there is no way agriculturalists could produce food.
60. Agriculturalists depend on created by a   
      
     . Explain what this means:
61. How do we know that the carbon cycle is not balanced?
62. Why is carbon dioxide increasing?
63. What is climate?
64. How is climate different from weather?
65. How much faster is our climate changing today than at previous points in the history of the planet?
66. What is most likely the cause of this rapid change? (slide 24)
67. Fossil fuels, such as and , were formed   
      
    Instead of , some organisms were quickly   
      
    and was unavailable for to break down their bodies.
68. Burning fossil fuels quickly releases large amounts of into the air.
69. How is burning of fossil fuels similar to respiration and decomposition?
70. How is the burning of fossil fuels different from respiration and decomposition?
71. Changes to the climate will make agriculture much more .

Unit Wrap-up C. Kohn, Agricultural Sciences - Waterford WI

This page is designed to help raise your grade while enabling you to develop skills you will need for after high   
school. You will need to complete every question and blank in order to receive full credit for your notes. Note: if you cannot come up with a strategy to remember a difficult concept on your own, see your instructor for help.

1. What is a topic or concept from this unit that you found to be more challenging? Write or describe below:  
     
      
     
   In the space below, create a mnemonic, rhyme, analogy, or other strategy to help you remember this particular concept:
2. What is a 2nd topic or concept from this unit that you found to be more challenging? Write or describe below:  
     
      
     
   In the space below, create a mnemonic, rhyme, analogy, or other strategy to help you remember this particular concept:
3. What is a 3rd topic or concept from this unit that you found to be more challenging? Write or describe below:  
     
      
     
   In the space below, create a mnemonic, rhyme, analogy, or other strategy to help you remember this particular concept:
4. Circle the most appropriate response. You will only be graded on whether or not you completed this section.

Circle one: *I used my notes outside of class to prepare for the quiz.* Definitely – Yes – Sort of - No

Circle one: *I took extra notes in the margins for very difficult concepts.* Definitely – Yes – Sort of - No

Circle one: *I created a personal strategy for at least three difficult items.* Definitely – Yes – Sort of - No

Circle one: *I was very involved and actively studying during the quiz review.* Definitely – Yes – Sort of - No

Circle one: *I think I will be satisfied with the quiz grade I received this week.* Definitely – Yes – Sort of - No

Circle one: *I might need to meet with the instructor outside of class.* Definitely – Yes – Sort of - No