Photosynthesis Notesheet by 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

# Unit Preview

1. What do plants eat? What powers their cells?
2. How does a plant use sunlight during photosynthesis? What is the light actually used for?

**Units**

1. Radish Races

2. Lab Safety

3. Carbon Cycle

4. Science Writing

5. Cell Biology

6. Cell Respiration

7. Photosynthesis

8. C3/C4 Plants

9. Research Statistics

10. Plants and Climate

11. Final Experimental Project

12. Parli. Pro.

**Weekly Schedule**

*Page through this notesheet. Then answer the questions below:*  
Circle one: *I need to review my notes & practice before the quiz.* Definitely – Yes – Sort of - No

Circle one: *I have never seen or heard of some of these concepts.* Definitely – Yes – Sort of - No

Circle one: *This may be a challenging unit for me personally.* Definitely – Yes – Sort of - No

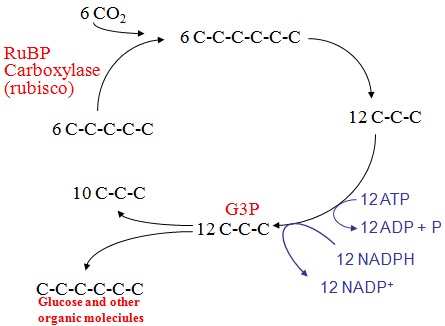
Circle one: *I may need extra strategies for some topics/vocab.* Definitely – Yes – Sort of - No

1. Why does a plant photosynthesize? What is the primary purpose of this?
2. Do plants have mitochondria? Why does this matter?

Notes C. Kohn, Agricultural Sciences - Waterford WI

**Directions**: Use the accompanying PowerPoint ([available](http://bit.ly/cell-resp-notes) online) to complete this sheet.   
This is graded on a + ✓- scale. + = all blanks are filled in, all lines are used, and all work is legible and neat.

1. In the space below, describe photosynthesis in a nutshell:
2. Write the photosynthesis equation below:
3. Plants absorb
4. Plants produce and release
5. Draw the processes of photosynthesis in the space below. Label all parts:
6. The plant cell is very to an . Each has   
     
   similar such as the
7. Both use as their
8. What do plants use as their source of hydrogen to power ATP Synthase in their mitochondria?   
     
    from
9. How do plant cells differ from animal cells?
10. Draw an animal cell and plant cell in the space below. Draw and label each of the following in each cell: *cytoplasm, cell membrane, cell nucleus, mitochondria.* Also include the following in plants: *cell wall, chloroplasts*
11. What two things does the cell wall do for a plant?
12. What is a chloroplast?
13. Chloroplasts can use (or ) to power the removal  
      
    of from .
14. This is used to turn to   
      
    make . The is used to   
      
    \_
15. In the space below, list the two main parts of a chloroplast and their purpose:   
      
    \_ . This is where   
      
       
      
    \_ . This is where
16. In the space below, draw a chloroplast and label the following: thylakoid, stroma, and grana.
17. Thylakoids store . Thylakoids are lined with a pigment called
18. What does chlorophyll do for the plant?
19. What is the function of light in photosynthesis?
20. Why would a plant want to use energy to split apart a water molecule?
21. Thylakoids have on their
22. The hydrogen from this water is used to
23. The ATP from the thylakoids will be used for what specific purpose?
24. A stack of thylakoids is called a .
25. The thylakoids of chloroplasts are most similar in function to what part of the mitochondria?   
      
     How so?
26. How does the ATP produced in the chloroplast differ from the ATP produced in the mitochondria?
27. Where does the light reaction take place?
28. What happens in the light reaction?
29. Photophosphorylation literally means
30. What happens during photophosphorylation?
31. ATP produced during the will be used to
32. What happens to the hydrogen that was used to power ATP Synthase during photophosphorylation?
33. The is the process in which
34. Where does the Calvin Cycle occur?
35. Hydrogen used during the will be picked up by a   
      
    called after it passed through
36. In the space below, label each part:
37. NADP+ is almost identical to what molecule from respiration?
38. What is the job of NADP+?
39. The Calvin Cycle begins by .
40. The are separated and the oxygen is
41. Carbon (from ) is then added to a molecule called .
42. RuBP is a that accepts carbon from
43. What happens once RuBP accepts another carbon atom?
44. Each molecule is called .
45. Why is G3P important?
46. How many G3P’s are produced for each RuBP that accepts a carbon atom? What happens to each?
47. Draw each of the following below – 1) RuBP 2) RuBP w/ a sixth carbon 3) RuBP splitting into two G3P’s
48. Fill in each bow below using the image for the Calvin Cycle from the PowerPoint:



1. Summarize the 10 steps of photosynthesis below:   
      
   1   
     
   2   
     
   3   
     
   4   
     
   5   
     
   6   
     
   7   
     
   8   
     
   9   
     
   10

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

1. Write the 3 topics that you most need to review before the quiz:  
     
   1\_   
     
   2\_   
     
   3\_
2. Create 3 **high-level questions** related to this material   
   (*These questions could be something you still don’t know or questions that reflect understanding that you have now that you did not have before.*)  
     
   1\_   
     
   2\_   
     
   3\_
3. List 6 **vocabulary words** that you did not know before or have not used very often prior to this unit:  
     
   1\_ 2 3

4 5 6

1. In the spaces below, fully write three strategies that will help you to remember specific vocabulary words or topics from this unit. **NOTE**: A strategy is *not* an activity such as reviewing your notes, studying hard, etc. A strategy is a mnemonic, rhyme, analogy, or other brain-based device that is specific to one item from the unit.

1.\_   
  
2.\_   
  
3.\_

1. Circle the most appropriate response. You will only be graded on whether or not you completed this section, so be entirely honest with yourself when completing 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