**4.4 Overview of Cellular Respiration (pg 113-115)**

**Reading Guide**

**Page 113**

1. Connect: How is breathing related to Cellular Respiration?

**Main Idea: Cellular Respiration makes ATP by breaking down sugars.**

1. Prediction: What do you think will be explained in the following paragraphs?

\*Now, read the 2 paragraphs in this section

1. According to the text, what is the function of Cellular Respiration (from now on will be referred to as CR)?
2. The text describes CR as an “aerobic” process. What does this mean?
3. According to the 2nd paragraph, in order for the mitochondrion to make ATP, what must occur 1st?
4. Use the 2nd paragraph to explain the following diagram:
5. Where in the cell does glycolysis take place? If you were to number the sentences in the paragraph, which sentence supports your answer?
6. Why is glycolysis “anaerobic?”
7. What are the products of glycolysis, be sure to include how many molecules of each.  
     
   **Main Idea: Cellular Respiration is like a mirror image of photosynthesis.**
8. Using the paragraph on page 114 and the last paragraph on page 115, justify the main idea stated above.
9. Write out the following equations using chemical formulas:  
     
   Photosynthesis: \_\_\_\_\_\_\_\_+\_\_\_\_\_\_\_\_ 🡪 \_\_\_\_\_\_\_\_+\_\_\_\_\_\_\_  
   Cellular Respiration: \_\_\_\_\_\_\_\_+\_\_\_\_\_\_\_\_ 🡪 \_\_\_\_\_\_\_\_+\_\_\_\_\_\_\_

THE KREBS CYCLE AND THE ELECTRON TRANSPORT CHAIN

1. According to the book (pg. 115) what process occurs after glycolysis?

DIRECTIONS: Read each step of the Kreb’s Cycle and answer the following question:

1. Step 1: What waste product is released?
2. Step 2-3: What is the energy transferred down to the 2nd stage of CR and where is it located?
3. Step 4 and following paragraph: How many ATP molecules are made from CR -not including glycolysis-?
4. What is the purpose of the oxygen molecule?
5. How many TOTAL ATP are made from CR -INCLUDING glycolysis-?