

## TOPIC 5: Cellular Energy

Please use the podcast from Council Rock High School for TOPIC 5 to guide you. The podcast can be found at <http://www.crsd.org/Page/31715>

1. What are examples of autotrophs?
2. What are examples of heterotrophs?
3. The most instant form of energy is known as \_\_\_\_\_.
4. Why is ATP a high energy molecule?
5. Complete the photosynthesis equation below  
$$\text{___ CO}_2 + \text{___ H}_2\text{O} + \text{_____}/\text{enzymes} \rightarrow \text{C}_6\text{H}_{12}\text{O}_6 + \text{___ 6O}_2$$
6. If the photosynthesis equation is reversed, then it is the formula for \_\_\_\_\_.
7. The \_\_\_\_\_ dependent reactions and the light \_\_\_\_\_ reactions make up photosynthesis.
8. Place a "D" if the statement refers to the light dependent reactions and an "I" if it refers to the light independent reactions  
\_\_\_\_ water is split into oxygen, protons, and electrons  
\_\_\_\_ CO<sub>2</sub> is taken in and converted into carbohydrates  
\_\_\_\_ light energy is not needed  
\_\_\_\_ light energy is needed
9. What initial process splits a molecule of glucose into 2 3-carbon molecules? \_\_\_\_\_
10. What is the NET ATP yield from glycolysis? \_\_\_\_\_
11. What are the two different types of fermentation mentioned?
  - a.
  - b.
12. (Circle one) CO<sub>2</sub> is created during **electron transport chain** / **Kreb's cycle**
13. In the electron transport chain, oxygen joins with electrons and protons to make \_\_\_\_\_.
14. By going through glycolysis, Kreb's Cycle, and Electron transport chain, a cell can make between \_\_\_\_\_ and \_\_\_\_\_ ATP as opposed to just the 2 of glycolysis.