

Name: \_\_\_\_\_ Student ID \_\_\_\_\_

Metabolism Worksheet - Lab Exercise 8B  
Chapter 8 Biology 1

1. Draw out an overview of the metabolism pathways. Use this entire page. You must include all of these terms: glucose, NAD<sup>+</sup>, NADH, ATP, pyruvate, acetyl CoA, oxaloacetate, citrate, CO<sub>2</sub>, lactate, ethanol, beta oxidation, proteins, deamination, urea, Krebs cycle, FADH<sub>2</sub>, electron transport chain, O<sub>2</sub>, H<sub>2</sub>O.

2. One NADH equals \_\_\_\_\_ ATP
3. One FADH<sub>2</sub> equals \_\_\_\_\_ ATP
4. Glycolysis takes place in the \_\_\_\_\_.
5. Do all heterotrophic organisms use the glycolytic pathway? \_\_\_\_\_
6. Is glycolysis conserved in evolutionary terms. \_\_\_\_\_
7. Did glycolysis precede photosynthesis why or why not.
  
8. Beta oxidation takes place in the \_\_\_\_\_.
9. Krebs cycle is located in the \_\_\_\_\_ in humans and in the \_\_\_\_\_ in bacteria.
10. Electron transport chain is located in the \_\_\_\_\_ in humans and in the \_\_\_\_\_ in bacteria.
11. The initial electron donor is \_\_\_\_\_ and the final electron acceptor is \_\_\_\_\_. All of the electrons come from \_\_\_\_\_.
12. Is the passing of electrons in the electron transport chain energy releasing? \_\_\_\_\_. You produce a \_\_\_\_\_ by passing the electrons in the electron transport chain.
13. The oxidation of one molecule of glucose produces \_\_\_\_\_ ATP.
14. The oxidation of one 20 carbon fat produces \_\_\_\_\_ ATP.
15. List the two pathways which are considered anaerobic.
  
16. Describe the cellular pathway involved in making beer and wine.

17. Label the following diagram. Place terms anywhere arrows point and also label the proteins. Include these terms. NADH, NAD<sup>+</sup>, H<sup>+</sup>, O<sub>2</sub>, H<sub>2</sub>O, ADP, ATP, Complex I, complex II, complex III, complex IV

