Name _____

ENZYME READING GUIDE

p. 39-42

Directions—Use the space provided to address each item.

1. A chemical reaction is aprocess during which what happens (at a molecular level)?

2. The starting materials for a chemical reaction are called (what do you have at the beginning of a reaction)?

3. What are the substances formed during and at the end of a chemical reaction called?

4. Which has more energy in an energy releasing (exothermic) type of reaction, the reactants or products?

5. Which has more energy in an energy absorbing (endothermic) type of reaction, the reactants or products?

6. Once an exergonic reaction is started, is there a need for a net addition of energy in order for the reaction to continue (more from our classroom discussion than the text)?

7. What is meant by metabolism?

8. Briefly describe what is meant by activation energy (provide an example).

9. Briefly describe why raising the heat in a system facilitates chemical reactions (both exergonic and endergonic) to occur.

10. Draw a graph which indicates an exothermic reaction (be sure to label both axis and identify activation energy).

11. Although it is not a chemical reaction, would you consider the process of raising a ball from your desktop to the ceiling to be an endothermic or exothermic process? Explain your reasoning.

12. In the same way, classify the process of the ball falling to the floor from your desk as being exothermic or endothermic? Explain your reasoning.

13. Draw a graph which indicates an endergonic reaction (be sure to label both axis).

14. Which type of reaction, exothermic or endothermic, would you consider to be spontaneous?

15. Describe the nature of enzymes.

16. Describe what is meant by substrate in regard to enzymes.

17. Describe what is meant by active sites in regard to enzymes.

18. Describe the three steps involved in enzyme activity.