

Name _____

AP Biology

TEXT: *Biology*, Campbell and Reece

7th Edition

Chapter 8

**Cell Biology – Bioenergetics: Cell Metabolism
Thematic Review Guide**

1. Define the following terms:

a. Catabolic pathway _____

b. Anabolic pathway _____

c. Kinetic energy _____

d. Potential energy _____

2. The First Law of Thermodynamics is the principle of... _____

3. The Second Law of Thermodynamics involves changes in... _____

4. What is meant by a change in free energy? _____

5. Compare reactions that are...

a. Exergonic _____

b. Endergonic _____

6. Sketch the ATP cycle.

7. How does ATP "couple reactions"? _____

8. Sketch the profile of an exergonic reaction.

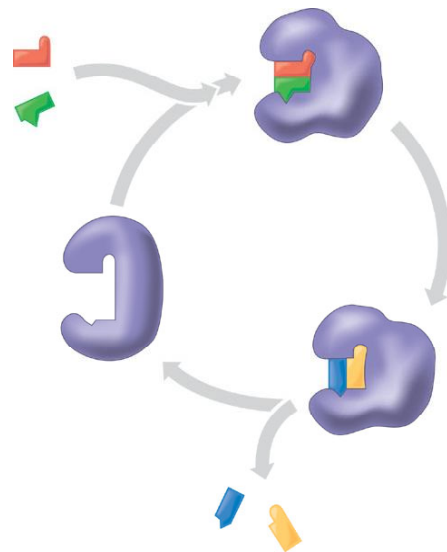
9. How do enzymes affect the energy profile? _____

10. Define activation energy. _____

11. Why are enzymes said to be specific? _____

12. List factors that influence the rate of enzyme reactions. _____

13. Label the diagram of the catalytic enzyme cycle.



14. How do competitive and noncompetitive inhibitors differ in their enzyme interactions?

15. What happens during allosteric regulation? _____

16. Describe feedback inhibition. _____

17. Define enzyme cooperativity. _____
