

Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Chapter 8 Review

1. What is metabolism? Why must organisms metabolize material? How does it work?
2. Describe the forms of energy. Draw a simple scenario that explains each (i.e. ball rolling down a hill).
3. Explain both laws of thermodynamics what they have to do with metabolism.
4. Why do we care about the free energy change in metabolism?
5. How do ATP and ADP perform the work of metabolism?
6. Explain how enzymes function as catalysts. Explain the relationship between enzyme structure and function.
7. Provide two examples of enzyme-catalyzed reactions in biological systems.
8. How does regulation of enzyme activity control metabolism?
9. Define and give examples of:
  - Catabolic and anabolic pathways
  - Exergonic and endergonic reactions
  - Catalysts and enzymes
  - Activation energy
  - Enzyme-substrate complex
  - Active site
  - Cofactors and coenzymes
  - Induced fit
  - Competitive and noncompetitive inhibitors
  - Feedback inhibition