Name: _____ Block: _____ Date: _____

Biology 12 - Chapter 5 - Enzymes

" **Please answer the following questions on a *separate sheet of paper*, in *full sentences*.**

1. What **advantages** can you see in having **complex metabolic pathways** within body cells to produce various substances, such as amino acids and ATP?

2. What are **enzymes**, and how do they accomplish their functions?

3. How does the "**Lock and Key**" theory of enzyme action differ from the "**Induced Fit**" theory.

4. Why do you think each enzyme has its own **preferred** pH at which it operates?

5. What exactly happens to the structure of an enzyme that has become **denatured**? Describe the **factors** or **processes** that might cause an enzyme to become denatured.

6. What happens to the **rate of product formation** if you continue to add:
   a) substrate
   b) enzyme
   c) an inhibitor
   d) heat

7. Discuss, using examples, the effects of **reversible** and **non-reversible inhibitors** on enzyme activity.

8. Explain, using a labeled diagram, what is meant by **non-competitive inhibition**. Give 2 examples of **non-competitive inhibitors**.

9. Using examples, describe and differentiate between the following terms: **coenzyme**, **apoenzyme**

10. Describe the **relationship** between ATP and ADP.