Honors Biology Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
NDHS Per: \_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Enzyme Quest Study Guide**

**Day 1**  
Parts of Chemical Reaction  
Activation Energy of Reaction  
Role of Catalysts in Chemical Reactions  
Exothermic vs. Endothermic  
Draw and label an energy diagram for an endothermic and exothermic reaction. Be able to explain why the diagram shows it to be an exothermic or endothermic reaction.   
Spontaneous Reactions vs. Non-spontaneous reactions

**Day 2**  
Enzymes - What are they?   
Be able to draw an energy diagram for a regular chemical reaction and the same reaction with the presence of an enzyme.   
Active Site  
Substrate  
Induced Fit Theory  
Factors that Affect Enzyme Reactions:  
 Optimal Temperature  
 Optimal pH   
 - know normal range of most biological reactions  
 Denaturation: What is it? What does it do to proteins and enzymes?   
 Enzyme and Substrate Concentrations  
 Cofactors and Coenzymes   
 Competitive vs Non-competitive Inhibition  
 Regulatory Feedback