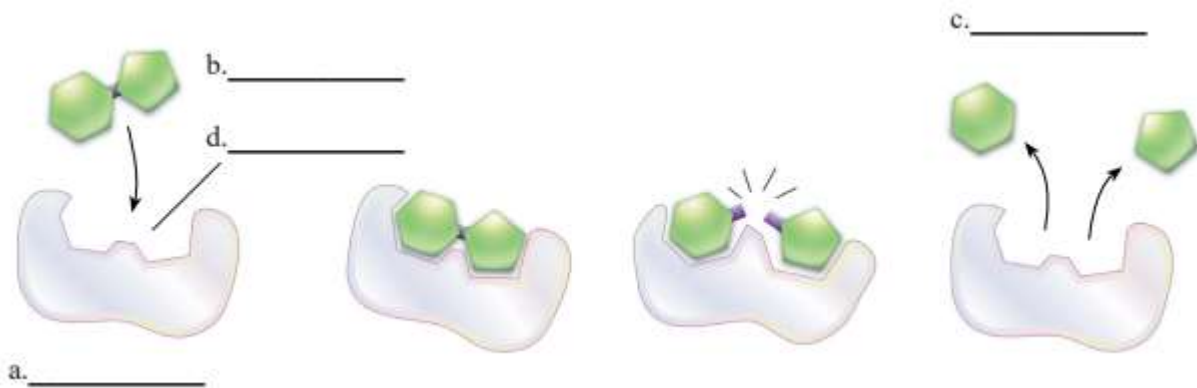


Name _____

Enzyme Modeling Activity

Catabolism

1. Draw and label the enzyme, products, and active site after the enzymatic action.
2. What happened to the enzyme after the reaction ended?
3. Given what you now know about catabolism, identify the following components in the model illustrated below:
enzyme, substrate, products, and active site.



Anabolism

4. Draw and label the enzyme and products after the enzymatic reaction.
5. What is one way the enzyme or the reaction are similar in catabolism and anabolism reactions? What is one way the enzyme or reaction is different?
6. Could the same enzyme be used to CATABOLIZE the two orange pieces? Why or why not?

Competitive and Noncompetitive Inhibition

7. Which is the substrate for this particular enzyme, the red (D) piece or the tan (E) piece? How do you know?
8. Experiment with the purple (F) piece and the blue (G) piece. Which is the competitive inhibitor and which is the noncompetitive inhibitor? How do you know?
9. Draw and explain how the competitive inhibitor prevents the substrate and the enzyme from binding to each other.
10. Draw and explain how the noncompetitive inhibitor prevents the substrate and the enzyme from binding to each other.