Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period: \_\_\_\_ Seat #\_\_\_\_

**RWS 2.4: Chemical Reactions and Enzymes**

1. Define the following terms:
   1. Chemical reaction
   2. Reactants
   3. Products
   4. Activation energy
2. Draw the graph shown in Figure 2-23. Use different colors for the reaction pathway with the enzyme and without the enzyme. Label the reactants, products, and the activation energy with and without the enzyme.

1. What is a catalyst?
2. What type of macromolecule are most enzymes?
3. How do enzymes help to speed up reactions?
4. What is another name for the reactants of enzyme-catalyzed reactions?
5. Draw Figure 2-24 in the space below
6. What is the active site of an enzyme?
7. How are enzymes and their substrates similar to a lock and key?
8. What can happen to enzymes if they enter an environment with an extremely high temperature or pH?
9. Predict which temperature-20**°**C, 39**°**C, or 50**°**C-you would expect a human enzyme to function best. Explain why.