

Virtual Lab: Enzyme Controlled Reactions Pre-Lab & Post-Lab Questions

1. Which of the following does NOT apply to an enzyme:
 - a. Catalyst
 - b. Inorganic
 - c. Protein
 - d. All of the above apply to an enzyme
2. When an enzyme catalyzes a reaction:
 - a. Substrate(s) bind in the active site
 - b. Products bind in the active site
 - c. The shape of the enzyme remains unchanged
 - d. The enzyme is consumed by the reaction
3. Which of the following would interfere most with the ability of an enzyme to catalyze a reaction?
 - a. Reduced concentration of substrate available
 - b. Reduced concentration of product available
 - c. Increased concentration of substrate available
 - d. A change in the pH
4. Feedback mechanisms regulate the rate of enzyme activity, effectively “turning off” an enzyme in a reversible way until more product is needed. Which of the following would be most effective as a feedback mechanism?
 - a. Reduced concentration of product
 - b. Increased concentration of substrate
 - c. A change in pH
 - d. Temporary binding of a non-substrate molecule in the active site
5. Which of the following statements is accurate in describing the activity of the lactase enzyme?
 - a. Lactase can function equally effectively at many different pH levels
 - b. The shape of lactase does not change during the reaction
 - c. Lactase is converted to glucose and galactose by the reaction
 - d. One lactase enzyme can catalyze many reactions
6. Look up and write in the following definitions as they apply to chemical reactions:
 - a. Catabolic
 - b. Anabolic
 - c. Endergonic
 - d. Exergonic
7. Is the action of the enzyme illustrated in the video:
 - a. Anabolic or catabolic?
 - b. Endergonic or exergonic?
8. Endergonic or exergonic? Is the action of lactase:
 - a. Anabolic or catabolic?
 - b. Endergonic or exergonic?
9. Why is enzyme activity similar to, but not exactly like, a “Lock” and “Key”?