

Enzymes Questions

1. Explain why enzymes are called biological catalysts.
2. How do enzymes speed up chemical reactions? Why is this important in biology?
3. What is the **induced fit model**? Why is this important for enzyme function?
4. Sketch and label a potential energy diagram that outlines the effect of an enzyme on a reaction.
5. Describe the role of the active site in the lock and key model of enzyme action.
6. Provide an example from this unit of a catabolic reaction that uses enzymes.
7. Provide an example from this unit of an anabolic reaction that uses enzymes.
8. Catabolic reactions are often exergonic and anabolic reaction reactions are often endergonic. Explain why you think this may be so.

9. Describe two different factors that affect enzyme activity. Explain why each has an impact on the rate of enzyme activity.

10. Explain how a competitive inhibitor can inhibit an enzyme's function.

11. What is the difference between cofactors and coenzymes?

12. What is the difference between competitive inhibitors and non-competitive inhibitors?

Draw a sketch to support your answer.

13. What is the difference between an allosteric activator and an allosteric inhibitor?

14. Draw a diagram that demonstrates how allosteric regulation is used in feedback inhibition.

15. Describe feedback inhibition and give 2 examples of where it is used in the human body.