Name _____Block_____Date_____

Bioman Enzymatic Worksheet

Background

1. Why is it important to understand enzymes?

2. What are enzymes?

3. Why are enzymes important?

4. What is metabolism?

5. Two important types of reactions (names and descriptions):
   -
   -

Specificity

6. Are enzymes specific to the chemical reactions they catalyze? Explain why or why not?

7. Why is the active site of an enzyme important?

8. In your own words, describe what a substrate is.

9. In your own words, describe what a product is.

10. Play the game, then do the mini-quiz. What was your score? _____

Experiments

11. What are <u>three</u> factors that can affect how well an enzyme can catalyze reactions?

Enzymes and Temperature

12. As temperature increases, what happens to the speed of the substrates?

13. How does this affect the rate of reaction at first?

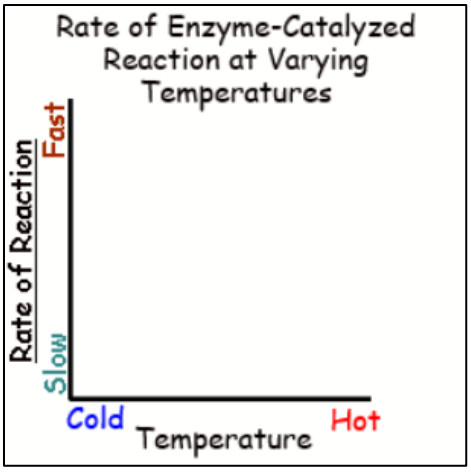
14. What happens to the rate of reaction at hot temperatures?

15. What does it mean when an enzyme is denatured?

16. Complete the graph at right.

17. Complete the mini-quiz. What was your score?

_____



Enzymes and pH

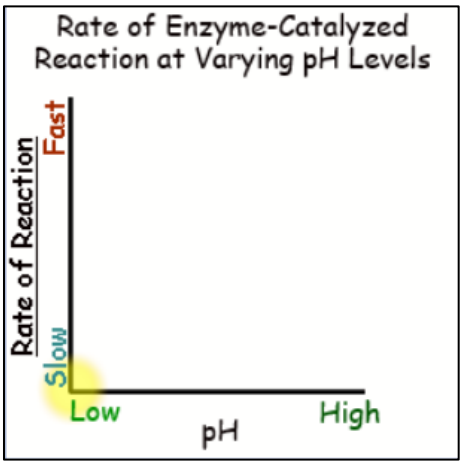
18. Review and draw the pH scale.

19. What happens to an enzyme when the pH is not optimal?

20. Complete the graph at right.

21. Complete the mini-quiz. What was your score?

_____



Enzymes and Substrate Concentration

22. What is substrate concentration? Use words or draw a picture.

23. What happens to the rate of reaction when the substrate concentration reaches a high %?

24. Complete the graph at right.

25. Complete the mini-quiz. What was your score?

26. Complete the overall quiz. What was your score?

_____