

Name _____

Directions: Click on the links or go to the links in google classroom to watch the following two videos on enzymes. As you listen to the videos, complete the questions and take the five question quizzes. Due by Friday

Video 1: Functions of Enzymes: Substrate, Active Site, Activation Energy:

<http://education-portal.com/academy/lesson/function-of-enzymes-substrate-active-site-activation-energy.html>

1. What is activation energy?
2. What part of the snowball analogy represents activation energy?
3. What do enzymes do in chemical reactions?
4. Thinking about the snowball analogy, what would an enzyme do for you if you were making the snowball?
5. What do most enzyme names end in? _____
6. What is a substrate?
7. Enzymes have high specificity. What does this mean? (Hint: Watch closely when the enzyme lactase comes in contact with the sugar sucrose)
8. What is an enzyme-substrate complex?
9. What is an active site of an enzyme?
10. Enzymes are also called catalysts. What do catalysts do?

Take the quiz and write the correct answer to each question.

11. Which of the following can an enzyme NOT do?
12. Which of the following is true about enzymes?
13. Which of the following is NOT true of lactase?
14. The change in free energy of a reaction is...
15. The location of substrate binding is called the _____.

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Video 2: Function of Enzymes – Environmental Effects

<http://education-portal.com/academy/lesson/function-of-enzymes-environmental-effects.html>

16. Draw the graph that shows the Effect of Substrate Concentration on Rate of Reaction. Label the axes and the point of saturation.

17. What does it mean when the point of saturation is reached?

18. Draw the graph that shows the Effect of Temperature on Rate of Reaction. Label axis & optimum temperature.

19. As temperature increases what happens to the movement of molecules?

20. What is an enzyme's optimum temperature?

21. An enzyme is denatured when the temperature is greater than its optimum temperature. Define denatured and draw a picture to show what it happens to an enzyme when it is denatured.

22. Acidic pH is less than _____ to _____; basic pH is greater than _____ to _____; neutral pH is _____.

23. Enzymes function at a specific pH. In our bodies different enzymes function at different pH. For example, pepsin, found in our stomachs, functions at a _____ pH. However, when the pepsin moves from our stomachs to our small intestines it becomes denatured because the pH of our intestines is basic. What does it mean when an enzyme becomes denatured because of pH?

Take the quiz and write the correct answer to each question.

24. Pepsin works optimally in your stomach due to its _____.

25. The following conditions can denature an enzyme:

26. Which of the following would likely NOT increase a reaction rate of an enzyme in your mouth that was not yet at optimal conditions? _____

27. An increase in temperature

28. An enzyme will reach its saturation point