

Enzyme Lab

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Tuesday, March 19

What is an Enzyme

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- B. A sugar
- C. A base
- D. A turnip

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What part of an enzyme is most important for its function and why?

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The Enzyme's active site is the part of the enzyme interacting with it's specific substrate to speed up the reaction of that substrate in to products.

Which of the following enzymes will we be using in lab today?

- A. Peroxide
- B. Peroxidase
- C. Peroxin
- D. Hydrase

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Find the matching pairs:

1. Product

2. Substrate

3. Enzyme

4. Indicator

a) Guaiacol

b) Hydrogen
peroxide

c) Peroxidase

d) water

1. D 2. B 3. C 4. A

What reaction does the peroxidase we are using in lab catalyze?

Write out a full balanced equation



A spectrophotometer measures:

- A. How much light of a particular wavelength is absorbed by a sample solution.
- B. How much light bounces off the sample
- C. What color the light going through the sample is
- D. How fast the color of the light going through the sample changes.

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- In this picture of a spectrophotometer, the knob labeled with B is used to
- Adjust the wavelength
 - Toggle between absorption and transmission
 - Zero the instrument
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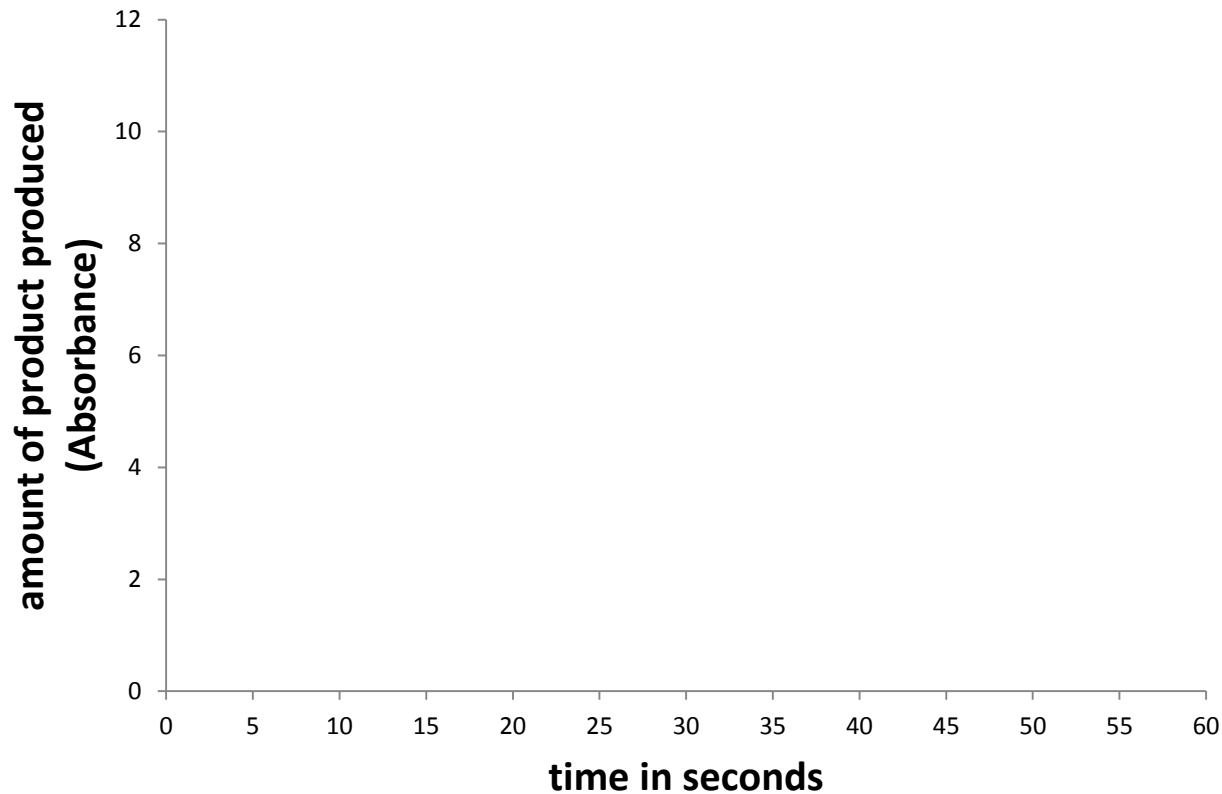
What are we measuring with the Spectrophotometer today?

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- B. The rate at which substrate is being used up
- C. The rate at which enzyme is being used up
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On the bottom of page 9, please label the X and Y axis appropriately for the data you will be graphing there



What is the ultimate purpose of today's lab?

- a) Find the K_M of hydrogen peroxide
- b) Measure the absorption of the reaction over time
- c) Find the V_{max} of peroxidase
- d) Find the K_M of peroxidase

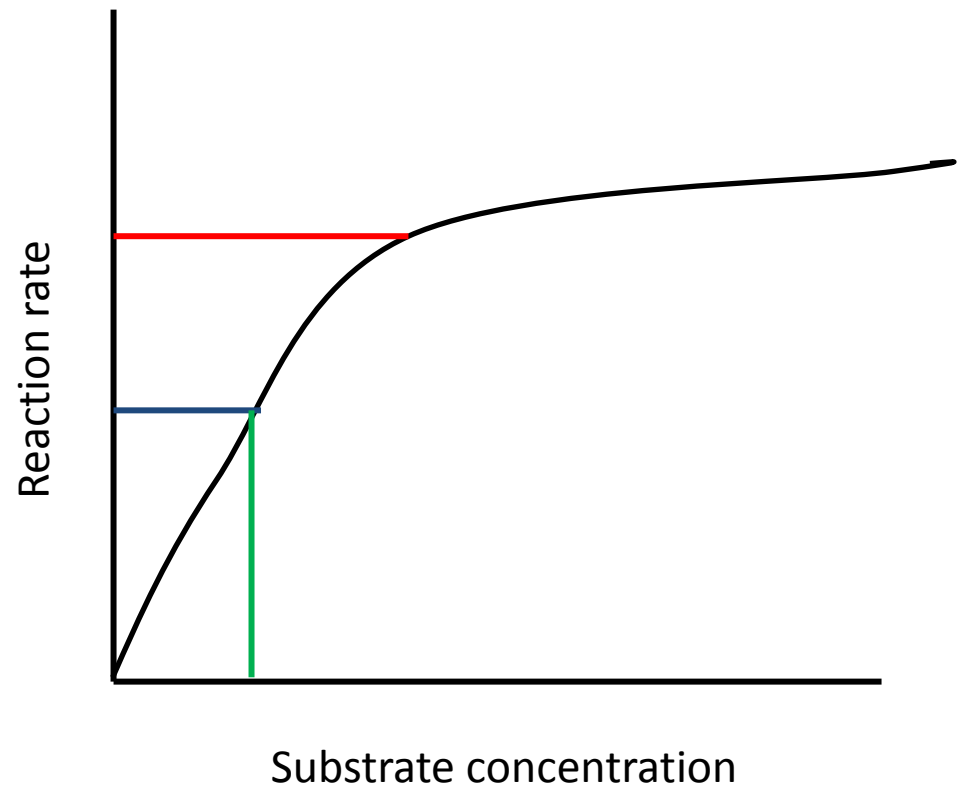
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Matching Pairs

match the letters with the colored line on the graph.

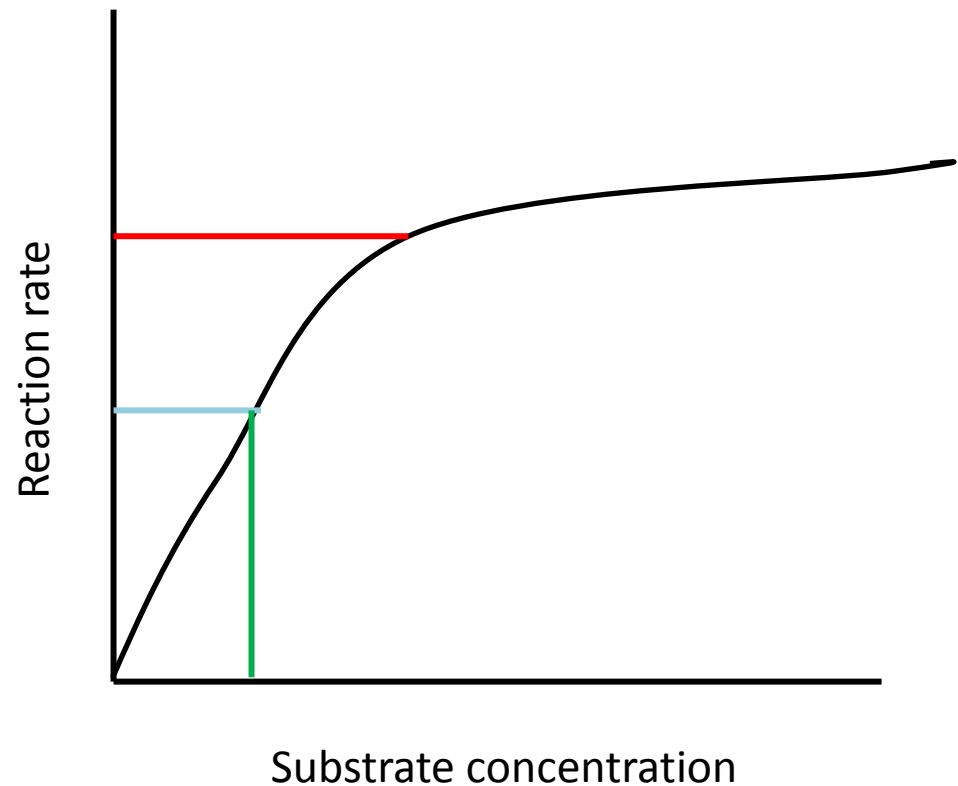
1. V_{max}
2. K_m
3. $\frac{1}{2} V_{max}$



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Which of the following statements is NOT correct?

The Michaelis Menten constant (K_M) of a particular enzyme is

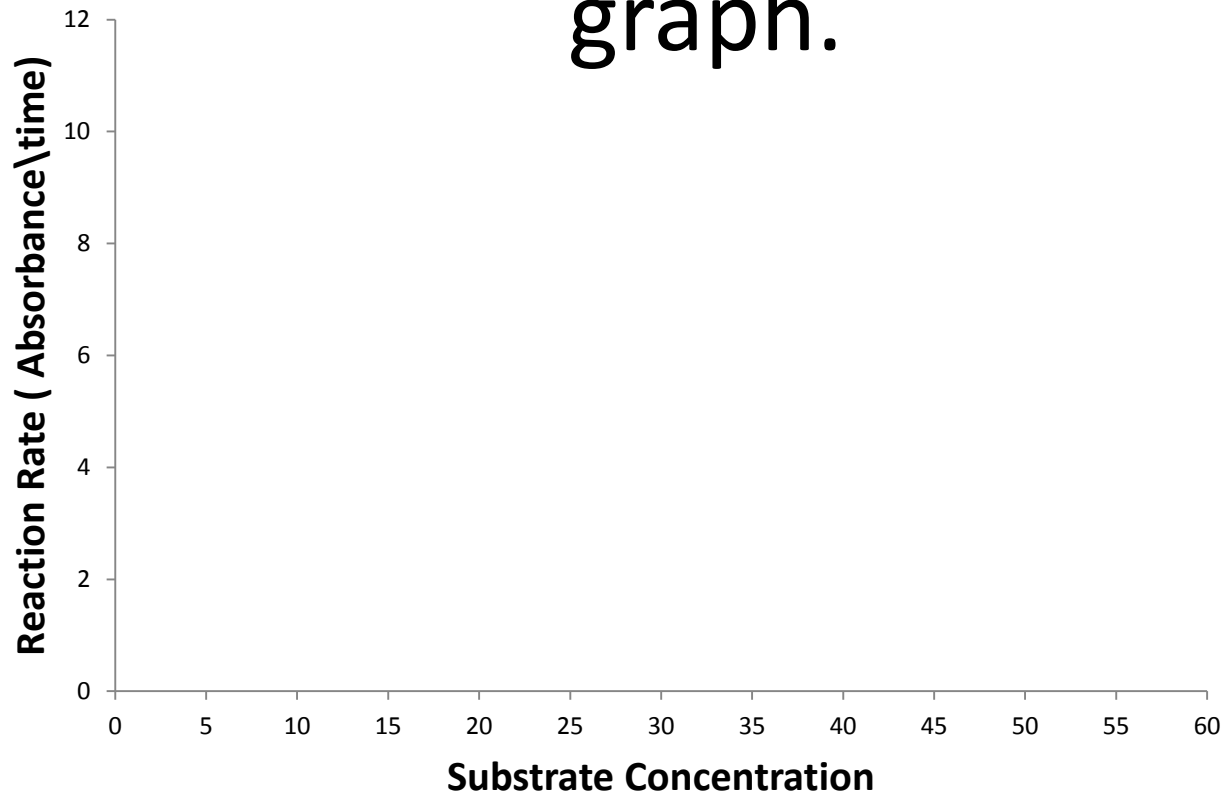
- a) Defined as the maximum reaction rate achieved with a given substrate concentration
- b) Defined as the substrate concentration where the reaction rate is half V_{max}
- c) A measure of the efficiency of the enzyme
- d) Low if the enzyme works at high speed even if the substrate concentration is low

Which of the following statements is NOT correct?

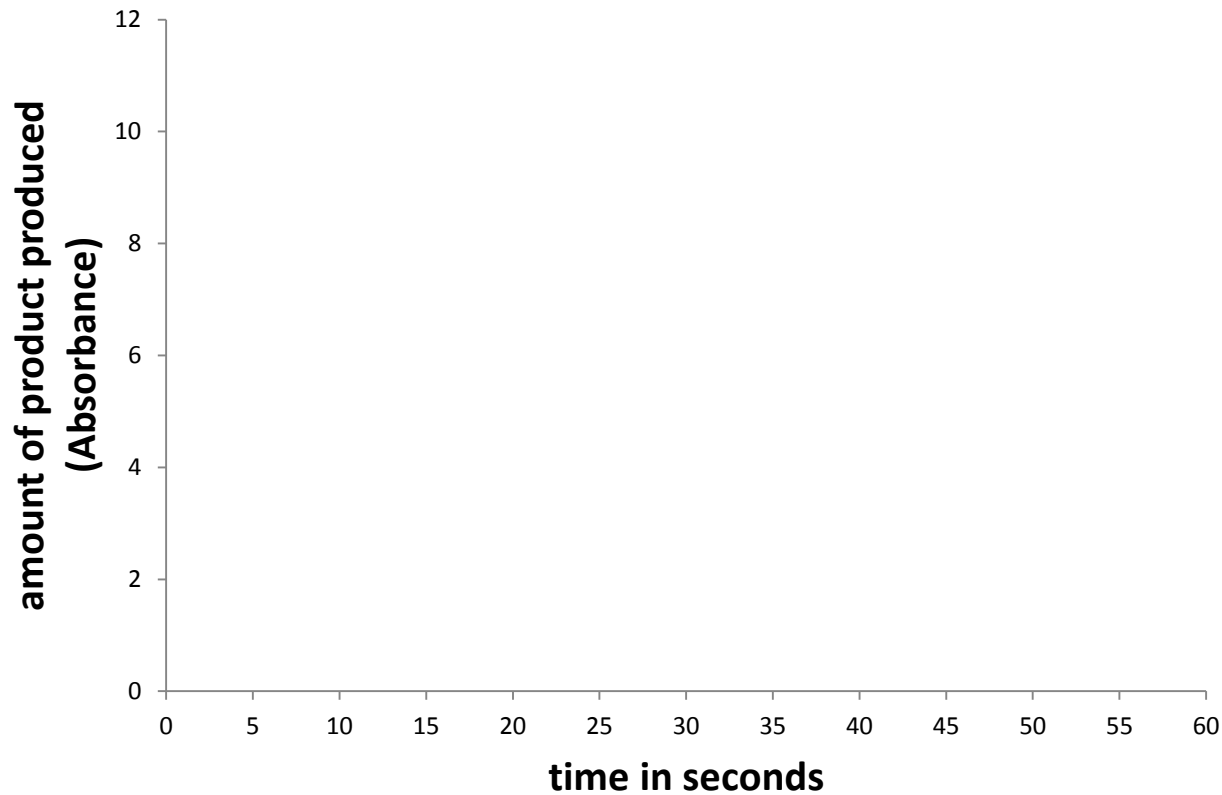
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- a) **Defined as the maximum reaction rate achieved with a given substrate concentration**
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- c) A measure of the efficiency of the enzyme
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On page 11 please label the X and Y axis appropriately for your second graph.



If you have done a reasonable job collecting your data, how should the first graph look – sketch on a blank sheet of paper



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