Enzyme V-Lab

Go to <http://www.kscience.co.uk/animations/model.swf>

1. What color are the following:
   1. Enzyme
   2. Substrate
   3. Product
   4. Inhibitor

In order to change the numbers to fill out the chart you have to:

* Click the arrows to change the number
* Click setup
* Click start

For this first section you will be manipulating the amount of substrate

|  |  |
| --- | --- |
| Amount of substrate | Amount of product after 10 seconds |
| 5 |  |
| 10 |  |
| 15 |  |
| 20 |  |
| 25 |  |
| 30 |  |
| 35 |  |

In this section you will be manipulating the temperature. Make sure you reset the substrate to 20.

|  |  |
| --- | --- |
| Temperature | Amount of product after 10 seconds |
| 5 |  |
| 15 |  |
| 25 |  |
| 35 |  |
| 45 |  |
| 55 |  |
| 65 |  |

In this section you will be manipulating pH. Make sure you reset the temperature to 25.

|  |  |
| --- | --- |
| pH | Amount of product after 10 seconds |
| 2 |  |
| 4 |  |
| 6 |  |
| 8 |  |
| 10 |  |
| 12 |  |
| 14 |  |

In this section you will be manipulating the number of inhibitors. Make sure you reset the pH to 7.

|  |  |
| --- | --- |
| Amount of inhibitors | Amount of product after 10 seconds |
| 0 |  |
| 1 |  |
| 2 |  |
| 3 |  |
| 4 |  |
| 5 |  |
| 6 |  |

Graph your data on the graph paper provided. You should have a graph for each chart.

Answer the following questions from based on the data:

1. What effect does substrate concentration have on the amount of product?
2. What effect does temperature have on the amount of product?
3. What effect does pH have on the amount of product?
4. What does the inhibitor do?