Enzyme Lab

Explanation:

 Enzymes, substrates, active sites, inhibitors

 Equipment and how to use it

 Graphing

Testing

 Effect of concentration on enzyme activity

 Effect of temperature on enzyme activity

 Effect of pH on enzyme activity

Questions About the experiments

Data Sheet for Enzyme Lab

Enzymes and concentration

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Conc. | Mixing | H2O2 | RPM | ml O2 | seconds | Rate = O2 amount / time |
| 100% | 10 ml enzyme |  |  |  |  |  |
| 70% | 7 ml enzyme + 3 ml ringers |  |  |  |  |  |
| 50% | 5 ml enzyme + 5 ml ringers |  |  |  |  |  |
| 30% | 3 ml enzyme + 7 ml ringers |  |  |  |  |  |

Graph your data



Enzyme temp

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | °C | ml H2O2 | RPM | ml O2 | seconds | Rate = O2 amount / time |
| Room temp |  |  |  |  |  |  |
| Warm |  |  |  |  |  |  |
| hot |  |  |  |  |  |  |



Enzyme at pH

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Test | pH | ml H2O2 | RPM | ml O2 | seconds | Rate = O2 amount / time |
| 1 |  |  |  |  |  |  |
| 2 |  |  |  |  |  |  |
| 3 |  |  |  |  |  |  |
| 4 |  |  |  |  |  |  |
| 5 |  |  |  |  |  |  |



Summary Questions

What is an enzyme

What does it do

How does it work

What was the most active concentration

What was the least active concentration

What was the most active temperature

What was the least active temperature? Why?

What was the most active pH range?

What was the least active concentration?

When do enzymes work best?