



**CALIFORNIA STATE SCIENCE FAIR
2002 PROJECT SUMMARY**

Name(s) Michael R. Davis	Project Number 22906
Project Title The Effect of Temperature on the Enzyme Peroxidase	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals I tested the effects of temperature on the enzyme peroxidase.</p> <p>Methods/Materials In the presence of hydrogen peroxide, peroxidase reacts to produce visible gas bubbles. I used prepared slices of potato, with uniform size and shape, because they are a peroxidase source. The potatoes were heated/cooled to temperatures that ranged from one to one-hundred degrees Celsius. I used a pipette to apply 1 mL of hydrogen peroxide to the surface of the potato. Then I measured the area of peroxidase that reacted with the potato.</p> <p>Results I found that the amount of foam increased relative to the temperature, until it reached 62° C, at which point it dropped off to 0%.</p> <p>Conclusions/Discussion As the temperature increased, so did the amount of foam. The kinetic energy of the enzyme increased, enhancing the interaction with the substrate, causing a larger reaction. However, when the enzyme reached 62° C., it became denatured and useless.</p>	
Summary Statement I tested the effects of temperature on the enzyme peroxidase.	
Help Received I recieved no help on my project.	