



**CALIFORNIA STATE SCIENCE FAIR  
2006 PROJECT SUMMARY**

<b>Name(s)</b> <b>Lakshmi D. Vijanderan</b>	<b>Project Number</b> <b>J1137</b>
<b>Project Title</b> <b>Can You Feel the Heat in Your Feet?</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> My goal for this project was to find which sock material best insulates your feet.</p> <p><b>Methods/Materials</b> Materials: different sock materials (cotton, wool, polyester, nylon, acrylic), 1 dozen water bottles, centigrade thermometer (Celsius), corks, water, and clock. Methods: I heated the water bottles up to body temperature (37.0 degrees celsius), placed the different sock materials over each bottle, and observed how the temperature of each bottle went down over 1 hour after the socks were put on. Then I repeated same procedure for all the sock materials.</p> <p><b>Results</b> The water temperature in the bottles without socks(my control) dropped from 37 degrees celsius to an average of 31.3 degrees celsius in one hour. The water temperature in the bottles with cotton socks dropped from 37 degrees to an average of 31.9 degrees celsius. The water temperature in the bottles with polyester socks dropped from 37 degrees to an average of 32.6 degrees celsius. The water temperature in the bottles with wool socks dropped from 37 degrees to an average of 33.7 degrees celsius. The water temperature in the bottles with acrylic socks dropped from 37 degrees to an average of 33.0 degrees celsius. The water temperature in the bottles with nylon socks dropped from 37 degrees to an average of 32.7 degrees celsius.</p> <p><b>Conclusions/Discussion</b> I found that wool best insulates your feet because the temperature of the water in the bottles with wool dropped the least. Acrylic ranked second. Polyester and nylon ranked third and had about the same results. Cotton insulated the least. My control bottles (no socks) lost the least amount of heat.</p>	
<b>Summary Statement</b> Which sock material best insulates your feet.	
<b>Help Received</b> Mrs. Mary Beth Hodge(teacher) helped advise	