



**CALIFORNIA STATE SCIENCE FAIR  
2014 PROJECT SUMMARY**

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| <b>Name(s)</b><br><b>Jana Soucar</b>   | <b>Project Number</b><br><br>34487 |
| <b>Project Title</b><br><b>The Fabric Truth</b>  |                                    |
| <b>Objectives/Goals</b><br>The objective of my experiment is find which fabric is the most effective insulator. The supposition of this experiment was that wool would insulate the best, due to its thickness and napped state.<br><b>Abstract</b><br><b>Methods/Materials</b><br>Four groups of ten cups were filled with one cup of hot water and set outside on a cold balcony from 5:00PM - 9:00PM. Each group was covered with a different fabric: one group with wool, one group with flannel, one group with cotton, and one group uncovered.<br>Each cup's temperature was checked, and after exactly one hour each cup was checked again. The group with the least average decrease in temperature is the most effective insulator.<br><b>Results</b><br>The group of cups covered in wool was the most effective insulator, while the uncovered group was the least.<br><b>Conclusions/Discussion</b><br>The conclusion is that the thickest, most tightly woven, and napped materials insulate the best, because fabric in this state traps more air and body heat, and stops air from moving in and out of the material, which causes cold. |                                    |
| <b>Summary Statement</b><br>Determine which fabric type is the most effective temperature insulator  |                                    |
| <b>Help Received</b><br>Both parents helped with board set up  |                                    |