



**CALIFORNIA STATE SCIENCE FAIR
2005 PROJECT SUMMARY**

Name(s) Elizabeth M. Hatakeyama	Project Number J0515
Project Title Surface Tension of Water	
Abstract Objectives/Goals To what extent does the surface tension of water decrease as the amount of detergent is increased? If adding detergent to distilled water affects its surface tension, then capillary rise will decrease with increasing concentration of detergent. It should reach a point where the addition of detergent no longer affects the height of the solution in the capillary tube. Methods/Materials I started with distilled water and continually added small amounts of detergent to the water. I took capillary height readings after each addition of soap. I continued until the capillary height remained constant even when adding more soap. Results The capillary height started at 16mm for distilled water, then gradually got lower until it stayed at 6mm. Conclusions/Discussion The results supported my hypothesis and verified information that I read in a reference book which stated that the surface tension of a soap solution is approximately one third that of distilled water. In my experiment, the final capillary height of the soap solution was 37.5 percent of the capillary height of the distilled water.	
Summary Statement I measured the affect of soap on the surface tension of distilled water.	
Help Received Dad helped perform the experiment and type the report. Medical Analysis Systems, Inc. provided beakers, capillary tubes and the use of an analytical balance.	