



**CALIFORNIA STATE SCIENCE FAIR  
2013 PROJECT SUMMARY**

<b>Name(s)</b> <b>Oliver N. Hill</b>	<b>Project Number</b> <b>J1308</b>
<b>Project Title</b> <b>Surface Tension: When Does It Break?</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> My objective was to test if temperature and dissolved molecules will have an effect on breaking the surface tension of water. I believe the lower the temperature of the water, the higher the surface tension will be. I believe that baking soda will increase the surface tension and powdered detergent will lower the surface tension.</p> <p><b>Methods/Materials</b> My objective was to test if temperature and dissolved molecules will have an effect on breaking the surface tension of water. I believe the lower the temperature of the water, the higher the surface tension will be. I believe that baking soda will increase the surface tension and powdered detergent will lower the surface tension.</p> <p><b>Results</b> All of the 50 degree water experiments had higher surface tensions than the 100 and 150 degree water experiments. My highest average result was 13.393 grams to break the surface tension with 50 degree water and no dissolved molecules. My lowest average result was 4.906 grams to break the surface tension with 100 degree water and powdered detergent.</p> <p><b>Conclusions/Discussion</b> I learned that if you put sugar, salt, powdered detergent or baking soda in water, the surface tension will be lower. If you have a lower temperature of water, the surface tension will be higher.</p>	
<b>Summary Statement</b> My project tests the effects of temperature and dissolved molecules on breaking the surface tension of water.	
<b>Help Received</b> Mom helped with research and grammar.	