



**CALIFORNIA STATE SCIENCE FAIR  
2004 PROJECT SUMMARY**

<b>Name(s)</b> <b>Tamara J. Van Dorn</b>	<b>Project Number</b> <b>J1140</b>
<b>Project Title</b> <b>Which Bubble Solution Produces Bubbles that Last the Longest?</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> The objective is to determine whether store bought or one of two home-made bubble solutions will produce bubbles that last the longest.</p> <p><b>Methods/Materials</b> I purchased bubble solution at the store. I made two bubble solutions using water and JOY dish detergent. To one I added glycerine and to the other I added corn syrup. For the floating bubble experiment I blew eight bubbles (one at a time) with each bubble solution. I used a stop watch to time each bubble until it popped and recorded the times. I graphed the results. For the tray experiment I blew eight bubbles (one at a time) with each bubble solution onto a tray for each type of solution. I used a stop watch to time each bubble until it popped and recorded the times. Then I graphed the results.</p> <p><b>Results</b> In both tests I performed, the glycerine solution gave the best results. The average time for the glycerine bubble floating in the air was 32.5 seconds. The average time for the glycerine bubble on the tray was 2 minutes 50 seconds. The average time for the corn syrup bubble floating in the air was 28 seconds and on the tray was 34.75 seconds. The average time for the store-bought bubble in the air was 31.25 seconds and on the tray was 25.5 seconds. I was really surprised when the glycerine bubbles on the tray lasted more than a minute each and the other two were not even close.</p> <p><b>Conclusions/Discussion</b> My hypothesis was correct for both tests. The glycerine solution was the winner. I feel this is because it had the best hygroscopic qualities which helped its bubbles last the longest. The longer the water in a bubble can be kept from evaporating the longer the bubble will last.</p>	
<b>Summary Statement</b> By blowing bubbles into the air and onto trays and timing them until they popped I was able to determine which bubble solution produced bubbles that lasted the longest.	
<b>Help Received</b> My father helped me to do research on the internet and to graph the results on the computer. My mother and brother helped me to blow bubbles and time them. My mother helped me to set up my science board and type my report.	