



**CALIFORNIA STATE SCIENCE FAIR
2007 PROJECT SUMMARY**

Name(s) Essa J. Tawasha	Project Number S0319
Project Title Measuring the Threshold of Taste	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals To determine the threshold of taste for sweetness, sourness, and saltiness and to find out what is the lowest concentration of a solution that still has perceptible taste for salt, sugar, and vinegar.</p> <p>Methods/Materials Short Procedure: Test to see whether or not people can taste different concentrations of solutions ranging from 10% to .01% Materials and Equipment: Salt (sodium chloride); Granulated Sugar (sucrose); Vinegar; Water (preferably distilled); Stirring Rod or Spoon; Gram Balance; 100 mL Graduated Cylinder; 10 mL Graduated Cylinder; Cotton Swabs; Plastic Cups; Paper Towels.</p> <p>Results The data showed that people were able to taste the salt solution best at any concentration, proving my hypothesis false. Salt and vinegar tied until the testing of the .1% and .01% concentrations where twenty percent more of the people were able to taste the salt at .1% concentration and 10% more of the people were able to taste salt at .01% concentration. Sugar came in last place, but it tied with salt and vinegar until the testing of the solutions at 1%, .1%, and .01% concentration. Everyone that tested my solutions was required to rinse out their mouths and dry their tongues in between each test to insure the quality of the data.</p> <p>Conclusions/Discussion In concluding the experiment, I determined the threshold of taste for sweetness, sourness and saltiness to find out what is the lowest concentration of a solution that still has perceptible taste for salt, sugar and vinegar. Salt had the greatest threshold of taste proving my hypothesis that vinegar would have the greatest threshold of taste incorrect. Vinegar came in second, and sugar came in third. The most likely reason why salt came in first and vinegar came in second is that there is a greater surface area on the tongue dedicated for salty and sour taste than for sugar. If I were to expand on this project, I would use more sugary, salty, and sour substances like corn syrup and lemon juice. If the quality of this experiment were to be increased, I would have used a more accurate balance to weigh out each substance.</p>	
Summary Statement Determining the threshold of taste for sweetness, sourness, and saltiness and finding out what is the lowest concentration of a solution that still has perceptible taste for salt, sugar, and vinegar.	
Help Received Got some of the materials from my teacher.	