



**CALIFORNIA STATE SCIENCE FAIR
2011 PROJECT SUMMARY**

Name(s) Nanita J. Balagopal	Project Number 31871
Project Title Vitamin C Fever	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals The objective of my project was to find out if heat or refrigeration affects the amount of Vitamin C in freshly-squeezed orange juice. My hypothesis was that heating orange juice will reduce the amount of Vitamin C, compared to refrigerated juice.</p> <p>Methods/Materials One ounce of freshly squeezed Washington Navel orange juice was placed into cups. The juices were placed at three different temperatures, 37 °F, 70 °F & 100 °F for 6 hours respectively. A total of 4 trials at each of these temperatures were conducted. After 6 hours, 10 drops of starch solution, was added into each of these cups, followed by the addition of 2% Iodine in drops until the end point was reached. The end point is reached when the final solution turns into a deep blue color. The vitamin C content is measured by counting the number of drops of iodine it takes to reach the end point.</p> <p>Results The average number of drops for the juices placed at 37°F, 70°F & 100°F were 31.25, 28.5 and 27.25 respectively. The results indicate that the refrigerated orange juice had the most Vitamin C content and the heated orange juice had the least.</p> <p>Conclusions/Discussion My hypothesis was accurate. Heated orange juice had the least amount of Vitamin C content compared to the refrigerated juice. This study is significant because it is not only important to take in Vitamin C in the form of orange juice, but drinking it cold is going to make you healthier.</p>	
Summary Statement How Heat and Refrigeration Affects Vitamin C Content in Orange Juice	
Help Received My mom helped by getting the supplies and monitoring the 6 hour heating and cooling experiments while I was at school.	