



**CALIFORNIA STATE SCIENCE FAIR
2009 PROJECT SUMMARY**

Name(s) Nichole J. Baffone	Project Number J0401
Project Title Very Vitamin C	
Abstract Objectives/Goals To determine the vitamin C content of different types of orange juice. Methods/Materials Samples of three different kinds of orange juice: a. Home-made fresh-squeezed b. Premium not-from-concentrate juice (e.g. Tropicana# or Florida's Natural#) c. Reconstituted orange juice made from frozen concentrate Juicer for extracting juice from oranges, Cheesecloth, Vitamin C tablets, Distilled water, Transfer pipettes, Masking tape, Permanent marker, Small funnel, Chemical safety goggles, Lab apron, Rubber (latex) gloves, Iodine solution, Soluble starch, 50, 250, and 500 ml graduated cylinders, 50 mL Erlenmeyer flask, 50 mL buret Ring stand, Buret clamp, Plastic transfer pipettes, Electronic kitchen balance, Glass jars Results My data showed that my hypothesis was correct; the fresh orange juice contained the most Vitamin C. For each sample of orange juice I did three tests. The test results for fresh orange juice were: 10.8 mL, 11.6 mL, and 12 mL. My test results for store bought orange juice were: 6.2mL, 6.5mL, and 6.3mL. My results for frozen orange juice were: 6.9 mL, 7 mL, and 6.9 mL. With my test results I proceeded to figure out the Vitamin C percentage in my samples. I used a mathematical equation to calculate the Vitamin C content. The equation that calculated the proportion is: $X/s=20mg/v$ Where x equals amount of orange juice sample V= average amount of iodine solution to titrate each type of juice S= 18.9 or average amount of iodine solution to titrate the standard or control All I had to do was insert the values to get the results. This calculation shows that fresh orange juice had the most Vitamin C with 10.84%. The premium orange juice contained 6.70% and the frozen juice had 7.33% vitamin c. The fresh squeezed orange juice had much more Vitamin C than the others. Conclusions/Discussion From the results of my experiment, I conclude that my hypothesis was correct. Fresh orange juice clearly had more vitamin C than the frozen and premium juice. My result for the second day went as I expected for one thing. All orange juices vitamin C percentages went down except for one- the fresh orange juice. The fresh orange juice gained 3.23 mg of vitamin C. In a further study I would perhaps see how much Summary Statement To determine the vitamin C content of different types of orange juice. Help Received Mother helped with proofreading report, Father supervised actual experiment, Teacher Mrs. Wolfe for helping with the math equation, Science buddies website and Simi Valley Library for research materials.	