



**CALIFORNIA STATE SCIENCE FAIR  
2006 PROJECT SUMMARY**

<b>Name(s)</b> <b>Alexandra T. Whorley</b>	<b>Project Number</b> <b>J0537</b>
<b>Project Title</b> <b>Orange Juice in Action: The Effects of Oxygen on Vitamin C</b>	
<b>Abstract</b>	
<b>Objectives/Goals</b> The object is to find out if vitamin C in orange juice is affected more by the oxygen in the air if the juice is covered or uncovered.	
<b>Methods/Materials</b> Tested amount of vitamin C in 6 cups of orange juice by putting drops, one at a time, into a blue starch/water/iodine mixture until the color changed. Recorded the number of drops for each cup. The more drops, the less vitamin C. Averaged results for 3 covered and 3 uncovered cups. Repeated every day for 10 days. Materials: orange juice, colored iodine, 6 cups for the orange juice, 6 testing cups, measuring cup, eyedropper, water, metal pot, use of a stovetop, cornstarch, stirring spoon, permanent marker, measuring spoons, 3 cup covers, refrigerator, and container for starch solution.	
<b>Results</b> The covered cups had less vitamin C than the uncovered cups at the end of the experiment.	
<b>Conclusions/Discussion</b> My hypothesis was that the covered juice would keep its vitamin C longer than the uncovered juice because oxygen will cause the vitamin C to evaporate. The results from my experiment prove that my hypothesis was not correct. First, I learned from my research that the vitamin C does not evaporate, it actually oxidizes. Second, the covered juice didn't keep its vitamin C longer than the uncovered juice. The opposite happened. I also learned a lot about vitamin C: what destroys it, how to preserve it for longer, how your body needs it, and what it can do to keep you healthy.	
<b>Summary Statement</b> My project's goal was to find out whether vitamin C in orange juice was preserved longer if it's covered or uncovered.	
<b>Help Received</b> My family helped me as lab assistants until I was used to doing it myself. Since the only colored iodine I could find was in hollow, plastic cotton swabs, my dad helped me get the iodine out of the swabs. My mom showed me how to use Excel to make my data table.	