



**CALIFORNIA STATE SCIENCE FAIR  
2009 PROJECT SUMMARY**

<b>Name(s)</b> <b>Haley F. Washburn</b>	<b>Project Number</b> <b>S1720</b>
<b>Project Title</b> <b>Do Different Juices Affect the Effectiveness of Antibiotics?</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> The purpose of my science project was to determine if different juices would help my test antibiotics create a larger are of bacterial inhibition than they would have alone. It is commonly believed that green tea, pomegranate juice, grapefruit juice, and cranberry juice are beneficial to your health, for this reason I wanted to see what would happen if I mixed them with penicillin and amoxicillin.</p> <p><b>Methods/Materials</b> For my control I tested the antibiotics and juices individually to determine if they created an area of inhibition around the test dot. To do this I dipped an absorbent test dot in the test liquid and placed it in a petri dish that I swabbed with bacillus subtilus bacteria. After I completed my control tests I mixed 10 ml of test antibiotic and 50 ml of a test juiec in a seperate perscription container. I repeated the steps I used to test my control liquids to test my mixed liquids. Each test was completed 11 times for more accurate results. After 48 hrs and 96 hrs I measured the areas of inhibition and documented them in my log book. I had a total of 17 different test substances.</p> <p><b>Results</b> After 48 hrs of incubation all of my mixed substances had larger areas of inhibition than the control substances. After 96 hrs the mixed test substances still had larger areas of inhibition than the control test substances, however the overall areas of inhibition were decreasing.</p> <p><b>Conclusions/Discussion</b> Through testing I discovered that these juices did help the antibiotics create a larger area of inhibition, however, through my research I discovered that while these juices have health benefits on their own, they also contribute to negative drug interactions. I feel that further investigation is needed before drinking these juices while taking medications.</p>	
<b>Summary Statement</b> The objective of this project was to determine if by adding juices with possible health benefits to antibiotics you then increase the antibiotics ability to fight bacteria.	
<b>Help Received</b> Dr. Mary F. Paine Ph.D., provided guidance and research information., Dr. John Inouye M.D. provided antibiotics., Professor Bert Tribbey provided guidance with ANOVA testing analysis., My mom photographed my experiment.	