



# CALIFORNIA STATE SCIENCE FAIR 2008 PROJECT SUMMARY

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<b>Project Title</b> <b>Watered Down Facts</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> The purpose of this experiment was to determine if tap water or bottled water was more pure. Pure samples contain less constituents therefore they would be healthier for the body.</p> <p><b>Methods/Materials</b> For this experiment I collected tap water from four different locations in the Frazier Park area: El Tejon School, Frazier Park Elementary School, Lake of the Woods, and Pinion Pines. I then purchased six leading brands of bottled water: Spring! (Natural Spring Water), Deja Blue (Purified Drinking Water), Evian (Natural Sping Water), Aquafina (Purified Drinking Water), Crystal Geyser (Natural Alpine Spring Water), and Arrowhead (Mountain Spring Water). I used water testing strips from "Water Works School Test Kit" to test for nine constituents determining the purity level of each water sample. The nine constituents I tested for were: Free Chlorine, Total Chlorine, Iron, Copper, Nitrate, Nitrite, pH, Total Alkalinity and Total Hardness. I tested each sample six times for validity running a total of 539 tests in all. With each test I was able to determine the parts per million (ppm) for each constituent so that I could compare the tap water samples to the bottled water samples.</p> <p><b>Results</b> Total Alkalinity and Total Hardness were found to have the most amounts of measurable data resulting in well over 100 ppm. The pH and Nitrates showed an average of 10 ppm or less while the remaining five constituents--Free Chlorine, Total Chlorine, Iron, Copper, and Nitrites--tested below detectable limits.</p> <p><b>Conclusions/Discussion</b> My results supported the portion of my hypothesis which stated tap water would be healthier for the body. My results disagreed with the portion of my hypothesis which stated that tap water would contain less constituents. I discovered that tap water contained a higher level of hardness and alkalinity. I learned that certain constituents such as alkalinity and hardness are necessary to replenish the minerals that the body uses throughout the course of the day. My finding is that tap water is the healthiest alternative.</p>	
<b>Summary Statement</b> This experiment was to see if Frazier Park's tap water was compared to bottled water, would the tap water contain less constituents and would the tap water result in a healthier form of water.	
<b>Help Received</b> My Mom was my lab assistant, chauffer and financial supporter of this project; Mrs. Bloom was my Project Advisor; Mr. Robert Cortez and Mrs. Kerri Vaughan with Zalco Labs had provided information and ran two complimentary test; my mentor, Dr. W, Wayne Cooper, provided his knowledge and advise	