



**CALIFORNIA STATE SCIENCE FAIR  
2006 PROJECT SUMMARY**

<b>Name(s)</b> <b>Sudarshan (Sudi) R. Bhat</b>	<b>Project Number</b> <b>J1302</b>
<b>Project Title</b> <b>Do Not Drink That Water</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> The objective of this experiment was to explore bacterial content in water we come in close contact with every day. I chose a total of six sources of water within a 2 mile radius of my house. These waters include bottled water, tap water, drinking fountain water, pool water, and water from the Saratoga Creek. Distilled water was used as a control in this experiment.</p> <p><b>Methods/Materials</b> I used 2.5 oz. glass bottles to collect my water samples. These bottles were boiled in hot water for 15 minutes to be sterilized. I used sterilized pipettes to pipette 1ml of each sample into three Petri dishes. I then poured a generous amount of agar into each Petri dish. I closed the Petri dish immediately to prevent airborne microbes from getting into the agar and sealed them with masking tape to prevent leakage of these potentially pathogenic microorganisms. I then placed these eighteen dishes (three tests per sample) up-side-down into an incubator at 37°C. Three days later, I checked the dishes for bacterial count. I also took pictures of all the dishes. All previous steps were repeated three times to ensure stability and repeatability of the experiment.</p> <p><b>Results</b> I finally came to following conclusions. Distilled water, as a control, had no visible growth whatsoever. Tap water had a total average of 1.66 bacterial colonies, swimming pool water had 2.22 colonies, bottled water had a total average of 2.99 colonies, drinking fountain water had 9.44 colonies and the dirtiest of them all, creek water, had a total average of 22.66 bacterial colonies. Bottled water was more contaminated than tap water due to its packaging and sealing. I believe I know the answer as to why there was such a great difference between tap water and drinking fountain water. Water in the fountain may not be used for long periods of time. Colonies were found to be punctiform, circular, irregular, and filamentous.</p> <p><b>Conclusions/Discussion</b> I am happy to note that the water supplied by Santa Clara County is one of the cleanest in the water samples I chose to do my research. I have influenced several of my friends to let the fountain water run for couple of minutes before drinking. Bottled water manufactures may want to add a vacuum seal to their bottles to avoid contaminants seeping in during handling and storage of these bottles. Small creeks are great for wading and watching small fishes and tadpoles but <b>DO NOT DRINK THAT WATER.</b></p>	
<b>Summary Statement</b> A population study of bacterial content in water within a two mile radius of my residence.	
<b>Help Received</b> Parents drove to gather samples; Miller Middle School and Mrs. Bixby for a lab, equipment, and supervision.	