



CALIFORNIA STATE SCIENCE FAIR 2005 PROJECT SUMMARY

Name(s) Lila Gitesatani	Project Number J0912
Project Title Water Quality	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals The objective of this project was to test different samples of water for chemicals that can lead to pollution. It was hypothesized that the lake water would be the dirtiest, and the bottled water would be acceptable. Also the filtered tap water would be the cleanest.</p> <p>Methods/Materials For this project 15 samples of water were collected. Ten samples were tap waters gathered from San Diego County one was filtered the other remained unfiltered, in all we had 5 different locations. Three samples were bottled waters; Essentia, Arrowhead, and Kirkland bottled water. The remaining 2 were from lakes; lake Murray and Miramar. All samples were tested for 11 diverse pollutants. To test for bacteria, the samples were put in a liquid broth then incubated for 7 days and monitored daily for bacterial growth. The other tests were done by titration or oxidization reduction reactions. Special titrators measuring with ppm were used and in others special comparators were used. The water samples were tested for alkalinity, hardness, Iron, Chloride, Chlorine, Copper, Nitrate, Sulfide, pH, and total dissolved solids.</p> <p>Results The results were very good. For the most part, all the sample waters stayed within their range. The only problem was the amount of Chlorine in the unfiltered tap waters was double the maximum containment level. The amount of hardness, also, went above its maximum containment level in some unfiltered tap waters. In general, all water samples were safe to drink except the lake water. The lake water had the highest amount of bacteria even when diluted. Luckily, all the drinking water had a low amount of bacteria.</p> <p>Conclusions/Discussion From among the bottled waters, the Kirkland and Essentia brand were both very good, only Essentia had much more bacteria than Kirkland. Also, the tap water was better filtered. Through these experiments it is easy to say that it is better to filter our home tap water, in the long run it will be cheaper and better for us. Also, bottled water is not as good as most people believe.</p>	
Summary Statement This project tested 15 samples of water for 11 pollutants to find which type was the best.	
Help Received Used lab equipment at Bio-Quant lab under the supervision of Dr. Samer, and Dr. Bassam; Mrs. Hanan supervised the use of pollutant testing kit at the Islamic School of San Diego.	