



**CALIFORNIA STATE SCIENCE FAIR  
2011 PROJECT SUMMARY**

<b>Name(s)</b> Anjana Srinivas	<b>Project Number</b>  31177
<b>Project Title</b> What's in Our Water? A Comparison of Raw Water Quality in Three Countries	
<b>Abstract</b> <b>Objectives/Goals</b> The objective of this experiment is to compare the quality of reservoir water in three cities located in three different countries, namely, San Diego, USA, Singapore, and Chennai, India. <b>Methods/Materials</b> The most important reservoirs in these three cities were selected for water sampling. Three samples were collected from each reservoir. Eight important qualities of the water were tested. These are temperature, pH, dissolved oxygen, bio oxygen demand, nitrates, turbidity, total dissolved solids, and hardness. The results of these tests were then calculated into weighted averages using the National Sanitation Foundations Water Quality Index for comparison. <b>Results</b> The results of the different tests were computed into water quality index values. The index values range from 0-100, 100 being excellent water. A total of 11 reservoirs, with 3 samples from each reservoir were tested in the three countries. The results were then calculated into a weighted average to arrive at an overall composite water quality index for each city. Singapore and Chennai, India both had a water quality index of 71, and San Diego, USA had a water quality index of 79. <b>Conclusions/Discussion</b> All three cities had comparable water quality. But water quality was only in the medium range, indicating that there is a lot more that can be done to further improve the water quality at the source and bring the level to excellent quality. This will help reduce water treatment cost and at the same time improve the fresh water eco-system and the environment at large. It is common fact that the water quality at the tap is poorer in developing countries like India, compared to developed countries like Singapore and USA. But the results of this project indicate that water quality at the source in these countries is similar, suggesting that countries like India should pay more attention to their treatment and transportation methods to improve the quality of drinking water at the tap.	
<b>Summary Statement</b> This experiment tested the quality of reservoir water in three cities located in three different countries, and did a comparison between them.	
<b>Help Received</b> Mrs. Erin Schumacher and Mrs. Elaine Gillum guided me through this project, and helped me gather my testing materials; Professional Geologist Mr. Brian Oram mentored me on this project; parents drove me to the reservoirs and proof read my work.	