



**CALIFORNIA STATE SCIENCE FAIR
2009 PROJECT SUMMARY**

Name(s) J. Alejandra Alvarez	Project Number J1202
Project Title Fishing for Chlorine and Bacteria	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals The purpose of this project was to see how much bacteria and chlorine was in the water after and before Willit's water treatment plant. The procedure consists on two experiments that involve collecting 3 water samples before and 3 water samples after the water treatment plant in each test. I collected the water samples from 3 locations before the water treatment . The locations are just before the water treatment plant (water intake to plant), 1 mile before the water treatment plant, and 1 1/2 miles before the water treatment plant. Then I collected water from 3 more locations after the water treatment plant;just after treatment plant, 2 1/2 mile after the water treatment plant, and 3 miles after the water treatment plant. I repeated it for the second test, then, I did the same thing for the second experiment. NOTE: The distance from the water treatment plant to the different locations I took the water samples from (before and after) are not accurate, they are estimated.</p> <p>Methods/Materials I used a chlorine test kit to test each of the samples for the level of chlorine. I used Petri dishes with agar to grow bacteria of each sample. For the first experiment, I set my Petri dishes in an incubator at 37 degrees Celsius at 9:00 am on Saturday, Feb. 28th. I adjusted the temperature to 50 degrees Celsius on Sunday, and reset it to 37 degrees Celsius on Monday at 10:30 am. The incubator stayed at that temperature until Wednesday at 9:30 pm, when I took the Petri dishes out. Then I measured the bacteria by the area it had covered on the Petri dishes. For the second experiment, I set my Petri dishes in an incubator at 39 degrees Celsius at 10:00 pm Friday, April 10th. The incubator stayed at the same temperature for the rest of the five days. I took the Petri dishes out on Wednesday at 10:00 pm. Then I measured the bacteria by the area it had covered on the Petri dishes.</p> <p>Results The results of my procedure half supported my hypothesis. There was more bacteria before the water treatment plant than the water that came after the water treatment plant. But there was no chlorine in any samples from experiment one and experiment two.</p> <p>Conclusions/Discussion I learned that inside pools can cause asthma. It's not just the chlorine that is bad for you, it is the mixture of chlorine and organics, like urine and sweat, that you breath in an inside place with no fresh air.</p>	
Summary Statement I wanted to find out how much chlorine and bacteria the water had before and after the water treatment plant.	
Help Received Mother help mount board;teacher guided through steps;water treatment plant of willits with water samples and answered questions	