



**CALIFORNIA STATE SCIENCE FAIR
2010 PROJECT SUMMARY**

Name(s) Cameron K. Khansarinia	Project Number J1116
Project Title Communities Cleaning Water	
Abstract Objectives/Goals The objective of this experiment was to determine whether the antique/western method boiling polluted water, African method of adding moringa oleifera seeds, German technique of adding iodine, or the Japanese mode of inserting scallop shells into polluted water, would decrease the level of bacteria the most. My hypothesis was that the ancient method of boiling water used in the west to reduce bacterial colonies would be more effective than any other methods. Methods/Materials Then nine hundred forty-five milliliters of water was added to a boiling pot to begin testing the first method of purification, and boiled at 100 degrees C for 15 minutes. After ten minutes I swabbed the water with a sterile swab and made a zig zag pattern in the petri dish for the bacteria test. Three days later I recorded the amount of bacterial colonies from before and after the purification. Then the steps were repeated seven times more. Next I added iodine to the polluted water in a reusable water bottle for the iodine method, next the petri dish process was repeated. Then it was repeated seven more times. Next I added scallop shells to the polluted water and left it for twenty-four hours. The bacteria test process was repeated, and then seven more trials were conducted. Finally crushed moringa seeds were added to the polluted water and left for one hour, then the bacteria test process was repeated, and seven more trials were conducted. Results With the final data, bacteria levels decreased most when the water was boiled. On average the number of bacterial colonies decreased by 1,495 when the water was boiled. Then, the next most successful in decreasing bacteria was the German iodine manner, on average bacteria went down by 929 colonies. Next, in the African moringa method of purification, bacterial colonies decreased on average by 904. Lastly the bacterial tests with scallop shells, commonly used in Japan, the level of bacteria decreased on average by only 275. Conclusions/Discussion My hypothesis that bacteria levels would decrease most when the water was boiled was supported by the resulting data. The level of bacteria decreased most when polluted water was boiled, more than adding moringa seeds, scallop shells, and iodine. Therefore, despite the fact that the ancient method of boiling water was most effective in decreasing bacteria, methods in other cultures are still extremely productive.	
Summary Statement My experiment's goal is to determine which culture's method of purifying water is most effective in decreasing bacterial colonies in polluted water, thus solving the world's water catharsis.	
Help Received Ms. Fisher, ms science teacher helped me make petri dishes for the bacteria tests. My Mother helped me collect polluted water to be purified. Amanda Flores bought me scallop shells for the Japanese method. Mrs. Diaz edited many aspects of my project. Philippe Tran proofread my research report.	