



**CALIFORNIA STATE SCIENCE FAIR
2004 PROJECT SUMMARY**

Name(s) Elizabeth M. Raymond	Project Number J0825
Project Title Getting the Bugs (and Other Things) Out of Water	
Abstract Objectives/Goals My objective is to determine the best method of purifying water. I believe that the distillation method will work the best to remove both chemical and biological contaminants. Methods/Materials Obtain untreated lake water, and test it for the presence of chemical and biological contaminants using commercial water testing kits. Then purify the water using 9 different methods; coffee, foam, fiber and activated carbon filters, bleach, chlorine and iodine tablets, boiling and distillation. Then test each sample of purified water for chemical and biological contaminants using the water testing kits. Results Distillation method worked the best, removing all contaminants. Boiling removed all bacteria and iron. Activated carbon removed some bacteria and iron. Chlorine, bleach, and iodine removed all bacteria but no chemical contaminants. Coffee filter removed some bacteria and no chemical contaminants. Foam and fiber filters added more bacteria into the water and removed no chemical contaminants. Conclusions/Discussion My hypothesis was correct being that the distillation method was more effective at removing the contaminants than the other methods. From doing this experiment I proved that different methods of water purification are more effective than others, and it is important to choose the correct method because some methods hardly work at all.	
Summary Statement Given the importance of water, my project was designed to figure out which method of water purification is most efficient in removing harmful substances such as chemical and biological contaminants.	
Help Received Science teacher Mrs. Dwyer oversaw each step of project as class assignment; Dad helped with purchasing materials, transportation, and assisted with the experiments.	