CALIFORNIA STATE SCIENCE FAIR
2011 PROJECT SUMMARY

Name(s)
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Project Number
31898

Project Title
Can I Make a Difference?

Abstract

Objectives/Goals
The purpose of this project is to purify water with home based materials,having Haiti in mind.I think home base purifying system can be achieved by using these materials:big rock,metamorphic rock,t-shirt,white sock,cotton,gravel,filter paper,and sponges.

Methods/Materials
The materials were soda bottle, sponge, white sock, gravel, pencil, dirty water, paper, stopwatch, pH meter, litmus paper, electrical conductivity tester, digital scale and graduated cylinders.In experiment one,I chopped off the bottom of a soda bottle and flipped the bottom.Then,I inserted filter paper,as the first layer.I collected dirty water and poured 20mL of sample into purifier one and retrieved the result.I compared the results with the initial dirty water through observation.I repeated the same procedure as I add layers of different materials.In experiment two,I changed the sequence of layers of materials, to get a better result.I compared the samples retrieved from purifier one and purifier two.In experiment three,the pH and electrical conductivity were determined using a pH meter,pH paper and conductivity tester.In experiment four,I determine the density of the water samples and relate this to the amount of impurities present in water.I measured the mass of each sample,measured the volume and used the density formula.

Results
In experiment one,the purity of the water improved,however,the water still stunk.In experiment two,when I compared the sample water from purifier one and purifier two,there was a significant improvement.Water from purifier two using the new sequence,became clearer,however the odor remains the same.In experiment three,water sample 13,using purifier two,was a neutral substance, because its pH was 7.0.Using a conductivity tester,all water samples from purifier one and purifier two conducted electricity.Lastly,in experiment four,densities of all water samples were all 1 gram/ mL,except sample number three, samples 11 and 14 with densities of0.9 gram /mL,0.9 gram/mL and 0.95 gram/mL respectively.

Conclusions/Discussion
This experiment was not successful because the water did not come out clean enough so you could drink.I found out that purifier two was better than purifier one. Therefore,the sequence of layering the materials affects the purification process,but I couldn#t be sure if it is safe to drink. I recommend that a bacteria experiment can be done to find out the presence of bacteria in each water sample.

Summary Statement
My project is to purify water using home based materials that can easily be retrieved by needy people in other countries like Haiti.

Help Received
Mrs. Genota provided materials and guided me throughout the process. She also encouraged me to continue and finish the project on time.