CALIFORNIA STATE SCIENCE FAIR
2011 PROJECT SUMMARY

Name(s)
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Project Number
J1010

Project Title
Saltwater Desalination: Creating More Freshwater

Abstract

Objectives/Goals
My project was to determine at which heat level I could collect the most freshwater by desalinating saltwater with a homemade model.

Methods/Materials
Saltwater similar to sea water was made by adding 35g of salt to every liter of water. 200mL of saltwater was put into a teapot and boiled once at low heat, a second 200mL at medium heat, and a third 200mL at high heat. A turkey basting tube was attached from the teapot to a stainless steel bottle in a bowl of ice. As water evaporated it travelled through the tube and into the bottle, condensing into fresh water. I then measured the amount of fresh water collected at each heat level and compared my results.

Results
The most fresh water was collected at low heat for each of the three trials.

Conclusions/Discussion
I was successful in proving my hypothesis correct by performing this project. Being careful to cover all gaps where vapor could escape, I was able to discover how best to desalinate salt water in order to collect more fresh water condensate. I had been correct in guessing that putting the salt water onto low heat would allow more fresh water to slowly collect. I was able to come to this conclusion because I was aware of the inevitable gaps and flaws of my model. Because I was aware of its imperfections, I was able to base my conclusion on the fact that if I allowed the water vapor to evaporate slowly on low heat, I could work around the flaws and collect as much fresh water condensate as possible.At an ideal facility, heat level would not matter and humans can be provided with drinking water taken from our vast oceans.

Summary Statement
Creating freshwater from saltwater using a home made model.

Help Received
My mother helped review my results and my science teacher Miss Skaff guided me through the science fair process.