CALIFORNIA STATE SCIENCE FAIR
2013 PROJECT SUMMARY

Name(s)
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Project Number
J0601

Project Title
Salt Water Battery

Abstract

Objectives/Goals
The objective of this experiment is to make a small salt water battery and to see if it can generate enough electricity to light a small low voltage bulb. And also to find out what is the effect of varying amounts of hydrogen peroxide on the saltwater solution by measuring the voltage.

Methods/Materials
First I made a circuit for the bulbs to be connected, then connected red alligator clip to the steel wool and black alligator clip to the magnesium coil and other ends of the wires to the bulbs. Then, I made a strong solution of warm saltwater. Then, I inserted the steel wool and magnesium coil into the empty plastic container. Finally, I poured the warm saltwater solution into the plastic container, which contained the steel wool and magnesium electrode. I noted a slight amount of light in both bulbs and measured the voltage across them. Then, I added varying amounts of hydrogen peroxide (H2O2) to the warm saltwater solution to strengthen the light in the bulb and recorded my data and results. Three set of readings were taken each time.

Results
As I poured the warm saltwater solution into the plastic container containing steel wool and magnesium electrodes, the light bulb glowed up after a while, which was the positive sign of my experiment indicating I was able to make a small saltwater battery enough to light a small bulb. Further, by adding different amounts of hydrogen peroxide solution to salt water solution resulted in a little stronger light, which indicated that the saltwater solution got more oxygen from the hydrogen peroxide.

Conclusions/Discussion
Based on the information that was collected and the experiment that has was completed, it was concluded that the solution of warm salt water along with the dipped steel wool and magnesium coil, did result in a small amount of electricity, enough to light a small low voltage bulb. I also concluded that adding different amounts of hydrogen peroxide resulted in the light getting brighter which supported my hypothesis.

Summary Statement
To make a small saltwater battery enough to generate small amount of electricity and to observe the effect of adding different amounts of hydrogen Peroxide to the saltwater solution.

Help Received
Father, partially helped pasting report