CALIFORNIA STATE SCIENCE FAIR
2016 PROJECT SUMMARY

Name(s)
Kaushik Sai Tota

Project Number
36525

Project Title
Developing Magnesium Air Fuel Cells

Abstract

Objectives/Goals
My project is an alternative source of electricity that can help slow down global warming. My objective was to build a fuel cell that could generate useful electricity with clean energy sources. My fuel cell uses magnesium, salt water, and oxygen from the atmosphere to generate electricity.

Methods/Materials
3-D printed fuel cell frame, carbon fabric, cotton, salt water, magnesium sheets, alligator clips, Powerboost 1000 Chip w/USB port

Results
My fuel cell, at full capacity, generated 3.47 volts and .74 amperes. I successfully generated enough voltage and current using the fuel cell to charge a smartphone and light an LED at the same time.

Conclusions/Discussion
I was able to accomplish my goal of building a fuel cell that uses clean energy sources to generate electricity. My fuel cell had a portable design, and could charge a smartphone and light an LED.

Summary Statement
I built a fuel cell that generates electricity using salt water, magnesium, and oxygen from the atmosphere.

Help Received
I created the design for my fuel cell, and put together the fuel cell. My mentor, Dr. Ismail from Schmahl Science Workshops, helped me gather materials.