CALIFORNIA STATE SCIENCE FAIR
2013 PROJECT SUMMARY

Name(s)
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Project Number
33971

Project Title
Solar Panels: Best in Heat or Cold?

Abstract

Objectives/Goals
My project was to determine if a solar panel charges an iPod 2 faster when it has an ice or heat pack underneath. I hypothesized that the solar panel would charge the iPod 2 faster when it has the ice pack underneath.

Methods/Materials
In my experiment, I tested which iPod 2 charged the fastest with a solar panel cell phone charger. I set up the experiment outdoors on the same time and same weather, but on different dates. With a heat and ice pack, I plugged in the dead iPod 2 into my made solar panel cell phone charger and timed how long it takes to charge to 100%. After testing both packs, I repeated for accuracy and recorded my results.

Results
I found that the solar panel with the ice pack underneath charged faster than the solar panel with the heat pack underneath in all of my four trials. The solar panel with the ice pack underneath took 122 minutes and 133 minutes to charge. The solar panel with the heat pack underneath took 245 minutes and 234 minutes to charge.

Conclusions/Discussion
I proved that my hypothesis is correct through my experiment. I predicted that the solar panel charger with the ice pack underneath would charge the iPod 2 faster than the solar panel charger with the heat pack underneath. My data shows that if one wants better results with solar panels, than it is best to use the solar panels in a breezy, cool area with a bright sun.

Summary Statement
My project is about seeing if solar panels work best in the heat or cold.

Help Received
Grandfather helped build the solar panel cell phone charger.

Preliminary