CALIFORNIA STATE SCIENCE FAIR
2012 PROJECT SUMMARY

Name(s)
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Project Number
J0214

Project Title
How Dust Layer Affects the Absorption Rate of a Solar Panel

Abstract

Objectives/Goals
My hypothesis was that dust layer will affect the absorption rate of a solar panel because the dust layer will block the sun from hitting the solar panel, therefore making it so the solar panel is less effective.

Methods/Materials
12 volt , 1.5 watt solar panel

Voltage meter

Results
The results of my investigation on how dust layer effects the absorption rate of a solar panel shows more dust layer applied to the solar panel, the less the solar panel is going to absorb.

Average volts for week 1, control: 16.63 volts

Average volts for week 6: 14.08 volts

Conclusions/Discussion
I found that my hypothesis was correct. Dust layer did effect the absorption rate of a solar panel because the dust blocked the photovoltaic cells from producing energy from the sun, therefore making the solar panel less efficient. The average result for week 1, no dust layer as 16.63 volts. After 5 more weeks of testing, week 6 had a result of 14.08 volts. This helped me come to conclusion the more dust on the solar panel the less the solar panel is going to absorb from the sun.

Summary Statement
My project is testing whether a solar panel can produce energy if dust layer is blocking the photovoltaic cells from the sun.

Help Received
I did this project by myself, no help was received.