CALIFORNIA STATE SCIENCE FAIR
2004 PROJECT SUMMARY

Name(s)
Sarah M. Beshir

Project Number
J1504

Project Title
The Greenhouse Effect

Abstract

Objectives/Goals
In this science project I attempted to find out how colors and type of surfaces affect the heat trapping ability of a greenhouse. My hypothesis was that light colors and smooth surfaces affect the heat trapping ability of a greenhouse more than dark colors and rough surfaces.

Methods/Materials
Filling each of six bottles (three of which have white paint on the upper third to represent greenhouse gases) with dirt, sand and water and then putting them under various amounts of light intensity.

Results
My results show that, in most instances, the black-colored dirt always had the lowest temperature while the light-colored sand and smooth-surfaced water had the highest temperature.

Conclusions/Discussion
I learned a lot about the Greenhouse Effect, the impact of the various surface materials and texture on the Greenhouse Effect, and the various things humans could do to reduce the emission of greenhouse gases. The Greenhoue Effect is caused by human activities.

In my experiments, I had dificulty with the plastic bottles and temprature reading. It would be a good idea to use glass bottles instead of plastic bottles because glass bottles can withstand higher temperatures than plastic bottles. It also would help to use digital thermometers to make sure of the exact temperature because if the temperature reading is not correct it could change the results. It would also be a good idea to start with a lower light intensity than where I started, and gradually go to higher light intensities by either putting more distance between the bulb and the bottles or by starting with light bulbs that have lower intensity.

Summary Statement
The effect of color and type of materials on the heat-trapping ability of a greenhouse.

Help Received
Mother adviced with board display. Father adviced with report.