CALIFORNIA STATE SCIENCE FAIR
2005 PROJECT SUMMARY

Name(s)
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Project Number
S0617

Project Title
The Low-Down on Landslides

Abstract

Objectives/Goals
The objective of this project is to test several methods of landslide prevention to determine which is the most effective.

Methods/Materials
Six identical 90 degree slopes were created from a 2:1 mixture of topsoil and sand. The first was the control slope and used no landslide prevention. The second had a piece of plywood in front of it to represent a barrier wall. The third had netting stretched across it representing erosion control netting, and the fourth had dowels inserted into the top of the cliff representing soil nails. The fifth and sixth slopes were adjusted, without changing the volume of soil, into 60° and 30° slopes, respectively. 30 oz of water was sprayed on each slope.

Results
The control slope collapsed, but none of the other slopes collapsed.

Conclusions/Discussion
The results were inconclusive and did not show the most effective method. Also, there were some problems with the models. For example, the model did not accurately represent a landslide prone hill because it lacked a discrete sliding surface. The barrier wall and erosion control netting representations were also not to scale. There was a large range of times for the spraying of the water on the slopes which could have also skewed the results.

Summary Statement
This project tests different methods of landslide prevention to find the most effective one.

Help Received
Father helped spray models