CALIFORNIA STATE SCIENCE FAIR
2008 PROJECT SUMMARY

Name(s)
Ayla L. Nelson

Project Number
J0120

Project Title
Shapes of Parachutes and Descent Rates

Abstract

Objectives/Goals
What I wanted to find out was, if keeping the surface area constant, how does the shape of a parachute affect the descent rate of a given load?

Methods/Materials
To find this out I decided to create three parachutes. Each of the parachutes has the same surface area yet the shape of each parachute differs. Parachute one is a square. Parachute two is a rectangle. Parachute three is a rectangle like the second parachute with the exception that it has a shorter width and a longer length then the second parachute does.

When the parachutes were created, I made a model rocket that would get the parachutes up in the sky a substantial distance so that I would have more time to collect data than if I were to drop the parachutes off a ten foot roof.

The rocket provided another plus; I could place an altimeter in the payload of the rocket to help measure the height and time of the parachutes# descents. The altimeter being an electrical device helped make sure the data was more accurate.

I launched each parachute three times each. That way I could collect more samples, so I could have a more accurate average decent rate for each parachute.

Results
I found that, as I hypothesized, the more rectangular, and less square, a given parachute is, the faster the descent rate.

Summary Statement
The purpose of my project was to find out how changing the shape of a parachute, yet keeping the surface area constant, changes the descent rate of a given load.

Help Received
Father ordered equipment; supervised rocketry activities; drove to the lake; helped with Excel; assisted in gluing the board.