CALIFORNIA STATE SCIENCE FAIR
2003 PROJECT SUMMARY

Name(s)
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Project Number
S0103

Project Title
Float O' Fall? An Experiment Designed to Test the Drag Coefficients of Single and Clustered Parachutes

Abstract

Objectives/Goals
The purpose is to test the drag coefficient of one parachute and then compare it to the drag coefficient of clustered parachutes. We wanted to start out with one parachute and work our way up to the clustered parachutes. We would have liked to start from a higher height, but the highest we could find was a little over twelve feet. We believed at the beginning of this project that it was going to be difficult to build a parachute that worked decently enough to make this experiment work.

Methods/Materials
Research began last December. Little did we know that finding information on parachutes would be so difficult. We researched different shapes of parachutes, how to make a parachute, how parachutes work, and several other factors necessary to be able to create a parachute of our own. We will find the drag coefficient by using a set of mathematical formulas. We performed our experiment indoors. We tested different weights on each and every parachute (or cluster of parachutes) we dropped. · 2 boards
· red and blue paint
· sponge
· windbreaker material
· fishing line
· washers
· binders
· calculator
· triple-beam balance
· water
· camera
· string

Results
Our data is displayed on many graphs. Based on our data and research, it is easy to see that the drag coefficients of single and clustered parachutes vary greatly. After many hours of calculating our data, we found that overall our experiment supports our hypothesis. There are a couple instances when our drag coefficients do not decrease steadily; instead, there are little bumps where they rise just a little before they continue to fall.

Conclusions/Discussion
Our first thoughts when discovering this project was that the drag coefficient of a parachute will increase

Summary Statement
An experiment designed to test the drag coefficients of single and clustered parachutes.

Help Received