CALIFORNIA STATE SCIENCE FAIR
2004 PROJECT SUMMARY

Name(s)
Emily J. Biagini-Lee

Project Number
J0102

Project Title
It Doesn't Take a Rocket Scientist

Abstract

Objectives/Goals
I wanted to see how weight, length and fin size affected the flight distance of home-made rockets. My hypothesis was that the medium body lenghth, with the medium fin and tip weight would fly the farthest.

Methods/Materials
I built three body lengths out of cardstock, and three sizes of fins for each body, also out of cardstock. I attached one of three weights to the tip using pennies. The rockets were each launched using a store-bought launcher, in random order, 5 times each.

Results
The small rocket body with the small fin size and the least amount of weight yielded the best results. The small rockets averaged 70 feet. The medium-sized rocket with the medium fin size and the medium weight averaged 60 feet. The large-sized rockets with the large fin size and the heavy weight averaged 40 feet.

Conclusions/Discussion
I found that the smallest rocket, fin sizes, and tip-weight tended to fly the farthest. This is not what I predicted. I think NASA can use this information to build rockets that fly farther.

Summary Statement
This project determines whether and how three variables affect the distance that a rocket will launch - body length, fin size, and tip weight.

Help Received
While I launched the rockets, my neighbor and parents helped to measure their landing, since sometimes they bounced forward or backward. My family helped tape some of my rockets.