CALIFORNIA STATE SCIENCE FAIR
2014 PROJECT SUMMARY

Name(s)
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Project Number
J0327

Project Title
A Comparative Analysis of Different Bridge Spans

Abstract

Objectives/Goals
The goal of my project was to find out what types of bridges can hold the most weight, and which are best for different distances.

Methods/Materials
Popsicle sticks, glue, wire, and string were used to build a truss, cantilever, and suspension bridge. Each of the nine bridges were placed across two tables, and below them I suspended a bucket, to which I added weight until the bridge broke. I then weighed the bucket to see how much weight each bridge had held. I repeated this process three times for each bridge.

Results
My results show that the Suspension Bridge held, on average 14.6 pounds, the truss 11.3 pounds, and the cantilever 8 pounds.

Conclusions/Discussion
My experiments proved my hypothesis right, I thought that the suspension bridge would hold the most weight, the cantilever the least, and the truss somewhere in the middle. I think that the Suspension bridge could be used for carrying heavy loads a far distance, where as the truss or cantilever would be better to be used for shorter distances or lighter loads.

Summary Statement
For my project, I tested which type of bridge could hold the most weight.

Help Received
My father let me use his apartment to do my tests in and helped take pictures while I was testing.