CALIFORNIA STATE SCIENCE FAIR
2009 PROJECT SUMMARY

Name(s)
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Project Number
J0208

Project Title
Shake, Rattle, and Fold

Abstract

Objectives/Goals
My objective is to determine what type of structure will hold the most weight during the static and seismic experiments. My hypothesis is that structure C, with the two diagonal cross beams, will hold the most weight

Methods/Materials
Five structure types with identical size and varying supports were constructed. I built an earthquake table and tested the various structures to discover the maximum weight that each structure could hold during the static and seismic experiments. I tested each structure 8 times.

Results
Structure C (the structure with two cross beams) held the most weight in both the static and the seismic tests. Structure D (the structure with one cross beam) almost held as much weight as structure C. All of the structures held more weight during the static test than they did during the seismic test.

Conclusions/Discussion
The results of my experiment supported my hypothesis. Structure C did hold the most weight. I learned that forming triangles in structures is very important because triangles are extremely strong shapes and can greatly improve the strength of the structure.

Summary Statement
My project determines what type of structure can hold the most weight during static and seismic experiments.

Help Received
My dad helped me build the earthquake table by using the tools that were too dangerous for me to use. My mom recorded data while I tested the structures. My mom edited my research report, and my sister helped me with the Bibliography.