CALIFORNIA STATE SCIENCE FAIR
2015 PROJECT SUMMARY

Name(s)
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Project Number
35853

Project Title
Which Bridge?

Abstract

Objectives/Goals
Compare 3 bridge designs with regards to their ability to hold a fixed amount of weight. The 3 bridge designs were Arch, Cable-stay, and Beam. We also considered the amount of time and resources it took to make each bridge.

Methods/Materials
Balsa, Pine and Bass wood
Scale
I-bolts
String
Bottles of water

Results
The arch design had the least sag with a fixed weight, Cable-stay was second while the Beam designed sagged the most. The Beam was easiest to build with the least resources with Arch being second and Cable-stay being third.

Conclusions/Discussion
Bridges using the arch design are the strongest but moderately difficult to build. We think the arch bridge is strongest because it is supported at 4 different points.

Summary Statement
The varying strength of bridges based on their design

Help Received
Parents helped refine idea. Teacher helped with board appearance