



California Science Center
CALIFORNIA STATE SCIENCE FAIR
2001 PROJECT SUMMARY

Your Name (List all student names if multiple authors.)

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Chris Wyman**

Science Fair Use Only

J0102

Project Title (Limit: 120 characters. Those beyond 120 will be ignored. See pg. 9)

Bridge Structures

Division

X **Junior (6-8)** _ **Senior (9-12)**

Preferred Category (See page 5 for descriptions.)

1 - Applied Mechanics/ Structures & Mechanisms/ Manufacturing

Abstract (Include Objective, Methods, Results, Conclusion. See samples on page 14.)

Use no attachments. Only text inside these boxes will be used for category assignment or given to your judges.

OBJECTIVE/GOAL: Our project was to determine, of the following three bridges (Semi-Pony Girder, Queen Post, and Pratt Truss), which will withstand the most weight when the weight is applied from above.

MATERIALS AND METHODS: Three model bridges were built from popsicle sticks using the Semi-Pony Girder, Queen Post, and Pratt Truss designs. The bridges were weighed individually and their weights recorded. Bridges were placed on a table and weight was added. Using books as weights, the weight was added one at a time until the bridge structure gave way. The weight of the books was recorded and used for comparison later.

RESULTS: Our results showed that the Semi-Pony Girder held the most weight and in our experiment showed it to be the strongest. Of the remaining two bridges, the Queen Post was the weakest.

CONCLUSION: Two of us thought the Semi-Pony Girder would be the strongest. One thought the Pratt Truss would hold the most weight, while the remaining member thought the Queen Post would win. Our results showed that the Semi-Pony Girder won the weight test due to the structural design and it included more popsicle sticks.

Summary Statement (In one sentence, state what your project is about.)

We are testing for bridge structure design out of the following three bridges: Queen Post, Pratt Truss, and Semi-Pony Girder.

Help Received in Doing Project (e.g. Mother helped type report; Neighbor helped wire board; Used lab equipment at university X under the supervision of Dr. Y; Participant in NSF Young Scholars Program) See Display Regulation #8 on page 4.

Mrs. Owens & Mrs. Wyman typed the information.