



CALIFORNIA STATE SCIENCE FAIR
2011 PROJECT SUMMARY

Name(s) Vivian N. Nedeltchev	Project Number 31558
Project Title What Is the Strongest Shape?	
Abstract Objectives/Goals The objective of my project was to determine which 3-dimensional shape best withstood Static and dynamic forces. Methods/Materials I made four simple experiments to test the resistance to static and dynamic forces. I constructed 12 different shapes of equal area using twenty-four popsicle sticks and the same amount of glue. Each shape was tested with four experiments fifteen times. In the first two experiments I determined the resistance to static force; one testing piont force, one testing the holding force. The results were measured in Newtons. In the second two experiments I determined the dynamic force. In one of my tests I found the force it takes to break each shape, and the other test I found the lateral force. The results were measured in Joules. Results After I took the mean of each experiment I found the "A" shape had the most resistance to static and dynamic forces. The "A" shape is the stongest. Conclusions/Discussion While the results did not support my hypothesis I obtained my objective, to determine which 3-Dimensional shape best withstood static and dynamic forces. My projecthelps to find a more durable more earthquake resistant building.	
Summary Statement My project determines which shape best withstoods static and dynamic forces with four different experiments which I repeated fifteen times, with twelve different shapes each constucted of 24 popsicle sticks and the same amount of glue&area.	
Help Received I would like to thank my mom for purchasing all the materials necessary,taking pictures and inspiring my idea.I would like to thank the principals of my school and the high school for letting me use the weights.I would like to thank Dr Barbara Hoeling,Dr. Richard B Franklin, Dr. Margaret Rise, and Mr. Vince Rosse	