



**CALIFORNIA STATE SCIENCE FAIR
2002 PROJECT SUMMARY**

Name(s) Casey R. Bruckenstein	Project Number 22238
Project Title Buffest Brick	
Abstract Objectives/Goals The purpose of my project was to test a homemade brick and to see which material added to that brick would make it the strongest. The materials I added were cloth, wire, straw and Nycon (a strengthening material used for concrete). One of the five bricks I made, did not have any material added to it, to make this a controlled variable. Methods/Materials Five bricks were made using wood molds of the same size. The cement, sand and water were carefully measured and half the mixture was poured into these molds. The different materials were laid onto the concrete and the remaining half of the mixture was pressed on top of the materials making a solid brick. Five sets of bricks, for a total of 25 bricks were made several days apart and set aside for 14 days to let them cure. I tested each brick by using water as a weight. A brick was laid across two saw horses and a metal bar was placed on top of the middle of the brick. Chains were hung on the metal bar and around a large water tank. Water was then poured into the tank to add weight and eventually break the brick. I then converted the amount it took to break each brick into pounds. Results My hypothesis was correct except for the cloth brick. The brick with the cloth was the weakest and I think that was because the cloth acted like a shield in between the two concrete layers which made it weaker. The brick with the Nycon added to it consistently took the most amount of weight to break and the brick with the wire was the second strongest. Conclusions/Discussion This turned out to be a very complicated procedure because I originally thought it would take 50 pounds of water to break my bricks. I had to modify my testing apparatus 3 different times to finally break the first brick. The strongest brick took 891 pounds to break and I was very surprised how tough concrete can be.	
Summary Statement Adding four different materials to a homemade brick, I tested to see which brick would be the toughest.	
Help Received Parents helped with testing apparatus; Mother helped with back board.	