



**CALIFORNIA STATE SCIENCE FAIR
2002 PROJECT SUMMARY**

Name(s) Anthony Chang	Project Number 22408
Project Title Comparing Different Types of Wood to Determine Which One Has the Greatest Anchor Strength	
Objectives/Goals The objective of my project is to test different types of wood to determine which one has the best anchor strength. Abstract Methods/Materials Drive a 16d nail 1/2 inch into a (12x1 1/2x3/4 inch) piece of wood. Use vice grips with a hook welded onto the side, and attach them to the head of the nail. Suspend the wood over two level tables with the nail head pointed downward. Hang the testing apparatus on the hook, then pour sand into the bucket. Stop pouring sand when the nail pulls out of the wood. Weigh the bucket on a bathroom scale. Test 10 samples of each wood type. Results Red oak held an average of 109.5 pounds, and therefore is determined to have the greatest anchor strength. Pine held the least average weight at 24.7 pounds. Conclusions/Discussion I think Red Oak held more weight because it was hard, and compressed together. I think Pine held the least amount because it was kind of wet, and soft. Oak may have the greatest anchor strength, but it was hard to drive the nail into it. Therefore it is better to buy wood that has an average anchor strength for construction, because it would be easier to drive nails into it.	
Summary Statement Finding which type of wood has the greatest anchor strength	
Help Received Teacher helped me design and set-up experiment	