



**CALIFORNIA STATE SCIENCE FAIR
2002 PROJECT SUMMARY**

Name(s) Tripti Bhattacharya	Project Number 22220
Project Title Keep the Noise Down!	
Objectives/Goals The purpose of my experiment was to determine whether there was a relationship between the density of a material and the intensity of sound it blocked. Abstract Methods/Materials To conduct this experiment, I bought tiles of plastic, wood, glass, and stone all of the same thickness, and found their density. I then constructed a soundproof box of wood. I placed a five minute recording of a drill in one end and a sound meter on the other side. I then placed the material in between the two at a fixed distance. By turning on the tape, I was able to measure the amount of sound let through the material and calculate the amount of sound blocked out. I performed a series of four trials for each of the materials. Results The densest material blocked out the most sound, while the least dense materials blocked out the least sound. Conclusions/Discussion Using a form of statistical analysis, I was able to determine that there was a definite correlation between density and the intensity of a sound that a material blocks. This seems to suggest that denser walls are more soundproof than other walls.	
Summary Statement My project attempted to see whether there is a relationship between the density of a material and the intensity of sound it blocks	
Help Received Father helped construct the soundproof box, teacher(Mr. Francis Lee) taught me the statistics	