# CALIFORNIA STATE SCIENCE FAIR
## 2005 PROJECT SUMMARY

**Name(s)**
Edwin W. Young

**Project Number**
**J1538**

**Project Title**
## Tired of Noise? Here's a Solution!

**Abstract**

**Objectives/Goals**
The objective of my project is to find out the best sound absorbing pattern.

**Methods/Materials**
Insulative styrofoam was cut under the supervision of a parent, and tested by lining all four sides of a box. A tuner was placed on one side, a microphone on the other, and a towel was placed over the top. To test it, the microphone was connected to a computer, which was running the program Cool Edit Pro#. After each pattern was tested, they were switched for the next pattern.

**Results**
The rectangular and triangular patterns absorbed the most sound before reflection. The peaked surface proved to be the worst absorber.

**Conclusions/Discussion**
Sound pollution in large cities has become a problem since the early 20th century. Using such infrastructure in buildings near congested freeways, airports, and other areas could potentially reduce the number of people going deaf each day. At only 80 dB, the triangular and rectangular surfaces were able to absorb sound at a higher rate than a flat, peaked, or semi-circular pattern. These patterns for insulative materials should be heavily used near areas where loud noises are a commonplace.

**Summary Statement**
This project was to find out the best insulative pattern for urban development near noisy areas.

**Help Received**
Thanks to my teacher, Mr. Post, for his advice, and my music teacher, Mr. Boulton, for letting me borrow his equipment.