



**CALIFORNIA STATE SCIENCE FAIR
2009 PROJECT SUMMARY**

Name(s) Matthew Descala; Ricky Mattus	Project Number J2210
Project Title Guitar Comparisons: Are the More Expensive Guitars Really Better than the Less Expensive Guitars?	
Objectives/Goals To determine if the quality of the guitar (where manufactured, type of materials used) is directly related to the cost of the guitar?	
Abstract Methods/Materials Experimental method: All guitars were recorded in the same key. All recordings were done exactly the same. The recordings were measured for volume and decibel range by a computer program call Audacity. The recordings were then played to a sample of people, most of which had a musical background. This was a blind study and the people surveyed had to rate the recordings for clarity, volume, sound quality and their overall preference of guitar.	
Results The results of the blind study were combined and plotted on a bar graph. Then an average of the results for each item measured was charted for comparison. It was concluded from the blind survey that where the guitar was made, what material it was made of and the price of the guitar did have a direct correlation to the quality of sound, volume, and clarity. See attached chart It was also concluded that the computer program Audacity results were almost identical to the blind study results, which supports the hypothesis that the quality of sound, materials and manufacturing directly correlate to the manufacturers suggested price of the guitar.	
Conclusions/Discussion The significant results were that both the computer program Audacity and the blind survey of musicians supported the hypothesis. The most expensive guitar had the best sound and decibel levels in the program Audacity. The most expensive guitar was preferred by greater than 70% of the people surveyed. The average ratings for sound quality, clarity, volume was best with the most expensive guitar. The other guitar ranked nearly identical with the price of the guitar. The findings show that the quality of wood and manufacturing of guitars and the price of guitars is directly related to the sound quality.	
Summary Statement Comparing the sound quality of guitars based upon materials used and price of the guitars.	
Help Received	