



**CALIFORNIA STATE SCIENCE FAIR
2017 PROJECT SUMMARY**

Name(s) Mariko L. Costantini	Project Number S0302
Project Title Does Wood Type Affect the Tone of an Acoustic Guitar?	
Abstract Objectives/Goals The goal of this experiment is to discover if the wood type of an acoustic guitar will affect its tone. Methods/Materials This project involved five varying types of wood, guitar tuning keys and bridge, strings, and varying power tools. Results It was concluded that the wood type did not have a significant effect regarding the volume. However, it had a large impact on the sustain. For example, particle board had very low sustain compared to the other woods which is why it would not be used to make a guitar. Conclusions/Discussion Based on the data collected, the tone of an acoustic guitar is based on the type of wood it is made out of. While I was unable to hit the strings with the exact same amount of force every time throughout the hundreds of trials, it was indicated that the sustain varied based on the wood type. Thus it can be concluded that the tone of an acoustic guitar, in terms of sustain, is affected by its wood type.	
Summary Statement I showed through trials in terms of sustain and volume that the tone of an acoustic guitar is affected by wood type.	
Help Received None. I designed and constructed the project myself.	