



**CALIFORNIA STATE SCIENCE FAIR  
2012 PROJECT SUMMARY**

<b>Name(s)</b> <b>Colin D. Aziz</b>	<b>Project Number</b> <b>J1802</b>
<b>Project Title</b> <b>The Violin Sound Post</b>	
<b>Abstract</b> <b>Objectives/Goals</b> The purpose of my science fair project was to see how the position of the sound post affects the tone quality of the violin's note. My hypothesis for the project was that when changing the position of the sound post, there will be no effect human ear. However, an audio analysis program will pick up a change. <b>Methods/Materials</b> The constants in my experiment was the violin tune, length of the note, and the violin itself. Also, my control group with the sound post in the normal position. The variable in my experiment was the position of the sound post. The way I measured the responding or dependent variable was by playing the notes into program measured with Hz or Hertz. I tuned the notes to the appropriate hertz, played each note multiple times into the program, and recorded the data. I did this for each note and sound post position, multiple times. <b>Results</b> The results of the experiment matched up to the scientific aspects of how violin works, which really surprised me. The results shows that my hypothesis is correct because, since the changes were small, I, nor my mentor heard them, but my computer picked them up. Because the sound post in a violin acts like a fulcrum that bridge rocks on, its position controls the balance and tension of notes. The original position of the sound post was under the A string. When the post was moved to the right, everything changed, except the E string because it was right above the post. When it was moved left, the opposite happened, only the E string was off. Finally, when moving it forward and back, the sound posts is still in the the same mine so, the A string did not change, but all the other strings did. <b>Conclusions/Discussion</b> If I was going to do this experiment again in the future, or expand on this experiment, I would measure in different forms of units such as decibels for volume. Or, I would test how the different types of wood violins are made of effect the quality. I was very happy about how the experiment turned out, and how I could contribute to the debate on the proper position of the sound post.	
<b>Summary Statement</b> I shifted the sound post in a violin to various position changing the quality and tone of notes.	
<b>Help Received</b> My mentor, James Wimmer, helped me move the sound post (because if moved improperly, it can really damage the instrument). But besides that, i did everything.	