



**CALIFORNIA STATE SCIENCE FAIR
2009 PROJECT SUMMARY**

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Project Title Rosin vs. No Rosin: The Big Showdown	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals Horsehair with rosin will be the best materials to use on the bow to produce the clearest and most solid sound on the violin.</p> <p>Methods/Materials Using an inexpensive bow, play the violin without rosin on the bow. Record by describing the type or level of sound the violin makes. Rosin the same bow 100 times. Play and record the sound. Take the bow apart and replace the horsehair with surgical thread, gold thread, fishing line and dental floss and repeat the same procedure, first without rosin and then by applying rosin to each material and recording the sound it makes.</p> <p>Results Horsehair without rosin produced little sound and a hint of scratchiness. The bow slid across the string and there was no friction. With rosin, the sound was clear and there was much friction between the bow and the string. Surgical thread without rosin produced a scratchy and hollow sound and there was no friction between the bow and string. With rosin, the sound was wavering and hollow. There was little friction. Gold thread without rosin, produced a light, feathery sound, but there was still little to no friction. As the thread was being rosined, it squeaked. With rosin, the sound was much louder and clearer, but not quite as clear as the horsehair with rosin. Dental floss without rosin produced little friction. The coating on the dental floss rubbed off on the string. As the bow was being rosined, the dental floss gradually deteriorated and started to fall apart. The sound was no different. It was just a little, wavering sound, though not as hollow as some of the other materials.</p> <p>Conclusions/Discussion Horsehair proved to be the best material out of all the materials that I used. Rosin clearly was needed to produce sound. Without rosin, all materials made little if any sound and slid across the string, producing a minimal amount of friction and therefore, a scratchy or hollow sound was made. With rosin, the sound was better on most of the materials I used, but the best example of a distinction between using rosin and not using rosin occurred with the horsehair.</p>	
Summary Statement I wanted to determine whether rosin was needed to produce a solid, clear tone on the violin using various materials including horsehair.	
Help Received My mom helped with research, disassembly/assembly of the bow; Mrs. Wilson gave me suggestions; my friend's mom supplied the surgical thread; California Keyboard for advice on disassembling the bow.	