



**CALIFORNIA STATE SCIENCE FAIR
2005 PROJECT SUMMARY**

Name(s) William M. Wright	Project Number J0345
Project Title Music to My Ears	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals My purpose is to try to find out which type of music, Jazz or Classical, is better for aiding in mathematical performance. I am testing this by isolating two factors that those two types of music each have (chord progressions and backbeats), and that dictate the style of the music. In addition, I mixed the two factors to see if a mixed combination is actually better for studying than the actual style of the music. Using only these two factors helps to eliminate the many inconsistent factors music ordinarily contains, and allows more strict controls to be put into place.</p> <p>The pieces that I chose to break down were: a Mozart piece for classical and a basic stereotypical Jazz-Blues progression. These pieces allowed me to touch onto the highly studied work of Mozart and the Blues progression to which much of Jazz music is made of.</p> <p>Methods/Materials My experimental method was to give the subjects a series of simple math tests which consisted of simple facts of addition, subtraction, multiplication, and division. While they were taking these tests, they had in the background the computer generated chord progressions and backbeats. Then, I calculated the average seconds it took them per correct problem. The materials that I used were a computer, Finale music writing program, math tests designed by me, and the human test subjects.</p> <p>Results My results were that Jazz progressions w/ Jazz backbeats was the best, followed closely by Jazz progressions w/ Classical backbeats. The Classical progressions w/ Jazz backbeats was 3rd and Classical progressions w/ Classical backbeats was the worst of the musical combinations. Silence was the worst of all, and all other music types outperformed silence by at least 9%.</p> <p>Conclusions/Discussion In my testing, I found that the Jazz combination was the best. This contradicts the Mozart theory, but still supports the studies that show that music aides mathematical performance, as all of the combinations still did significantly better than silence. My results show that, based on the factors I tested, the performance of students during test taking could be increased by simply quiet Jazz or Classical music in the background.</p>	
Summary Statement Finding which combination of chord progressions and backbeats will enhance mathatical performance the most.	
Help Received I participated in the Cunha Science Fair Tutorial to get my ideas organized and I got help from the band teacher, Ms. PS on learning Finale music program.	