



**CALIFORNIA STATE SCIENCE FAIR
2010 PROJECT SUMMARY**

Name(s) Tyler J. Stephens	Project Number J0631
Project Title The Effects of Classical and Rock Music on Memory	
Objectives/Goals To see if listening to Classical music helps improve memory and if hard rock music will be disruptive to learning and memory. To test this, I used a mouse model.	
Abstract	
Methods/Materials <ol style="list-style-type: none">1. Separate mice into three cages, 12 per cage.2. Mark each mouse 1-12.3. Mark cages Control, Mozart, or Rock and Roll.4. Run mice through classic maze on day 1 as test run to get mice used to maze. Use food at end as incentive and clean maze with water between each mouse.5. Repeat Step 4 on day 4,6 and 11. Using stopwatch, record time mouse takes to complete maze in lab notebook.6. On Day 13 move each group into 3 separate rooms.7. Load iPod #1 (Mozart) with the following songs from iTunes:Sonata in B-flat major; Turkish March; Eine Kleine Nachtmusik; Symphony No. 33 in B-flat major; Symphony No.40 in G minor.8. Load iPod #2 (Rock and Roll) with the following songs from iTunes: Party Hard by Andrew W.K.; Welcome to the Jungle by Guns and Roses; Cyanide by Metallica; Master of Puppets by Metallica.9. Play Mozart music to Mozart group, Rock and Roll music to the Rock and Roll group and no music to the control group for 10 hours each day on level 10 of iPod player. Record time music is turned on and off each day in lab notebook.10. Repeat step 4 on day 16, 19, 22, 26, 29, 33 and 36. Record results.11. Feed (same amount) and water mice at the end of each day, after music is turned off. If it is a day they are running through the maze, feed and water after the maze run.	
Results <p>The results showed that the Mozart and Rock and Roll mice performed significantly better than mice that did not have music. Days 16-22, both groups performed over 50% better than the mice in silence, but then the Mozart mice began to outperform both groups and by day 36 the Mozart mice had an 80% increase in performance over the Control (silence) mice while the Rock and Roll mice only had a 45% increase over the Control.</p>	
Conclusions/Discussion <p>From these results it seems that listening to some form of music is better for your memory and learning than silence. However, the Mozart music has an advantage over the Rock and Roll with long term</p>	
Summary Statement <p>The effects of Classical and Rock music on memory using female mice as a model.</p>	
Help Received <p>Mother helped type & charts and run some of mice through maze, also gave advice and oversaw mouse work</p>	