



**CALIFORNIA STATE SCIENCE FAIR
2005 PROJECT SUMMARY**

Name(s) Sidney S. Choi	Project Number S0307
Project Title Factors that Can Enhance or Degrade Memory	
Abstract Objectives/Goals The purpose of this experiment is to measure the influence different factors can have on the process of memorizing and recalling word lists. Methods/Materials There are three different factors that will be experimented on. In the first, the test subjects will be listening to light rock while memorizing a word list for fifteen minutes. In the second, the test subjects will be taking a 20 minute walk prior to memorizing. In the third, they will eat a variety of fruits for 20 minutes then immediately start memorizing. All three results will be compared to the results in a prior experiment in which the subjects memorize the word list in a controlled environment. Results Listening to music during the process of memorization yields results 6.79% worse than those from the controlled experiment. The method in which fruit was consumed before memorizing yielded results almost 10% worse than those from the controlled experiment. Walking 20 minutes before memorizing, however, has yielded results 3.48% better than those from the controlled experiment. Conclusions/Discussion Adding factors to the process of memorization can have either an enhancing or adverse effect. 1. Walking before memorizing could increase the concentration of oxygen in blood and thus resulting in higher performance. 2. Listening to music seems to lower the subject's level of attention, resulting in lower performance. 3. Memorizing immediately after eating could cause a drop of blood circulation in the brain, thus resulting in lower performance.	
Summary Statement The purpose of this project is to understand how different factors that can affect the process of memorization.	
Help Received Parents assisted in the poster design. Mr. Marxmiller provided helpful comments and advice. Students and some school staff members assisted as being test subjects. The school assisted me by providing a location to conduct my experiments.	