



**CALIFORNIA STATE SCIENCE FAIR
2008 PROJECT SUMMARY**

Name(s) Nathan K. Tsang	Project Number S0320
Project Title The Effect of Background Noise on Memory	
Abstract Objectives/Goals The objective of my project is to determine if background noise affects a person's ability to memorize words. Methods/Materials Empty classroom, ten copies of the three different memory tests (Each memory test consisting of 20 random words), ten blank sheets of paper, ten sharpened pencils, timer, speakers, and a controlled type of noise. Each participant studied a set of 20 random words for two minutes. After memorizing a set of words, the participants wrote down as many words as they remembered. This process was repeated two more times except different level of background noise were played while the participants studied the words. Their tests results for each set were collected. Results The average test score while listening to no noise was 14 words remembered. The average test score while listening to little noise was 10.9 words remembered, and the average test score while listening to loud background noise was 7.9 words remembered. This data shows that background noise negatively affects the ability to concentrate and memorize words. Conclusions/Discussion My hypothesis, that background noise affects memory, was proven correct by my experiment. Judging by my t Stat and t Critical values, my data is extremely valid. There were no outliers in test scores because the standard deviation for each set of words was below 2.5 words remembered. Almost all of the participants looked for patterns to memorize words when listening to background noise.	
Summary Statement My project is about finding out how different levels of background noise affects memory, the human mind, and the ability to concentrate.	
Help Received Teacher gave feedback on report; Neighbor helped edit report.	