



**CALIFORNIA STATE SCIENCE FAIR
2005 PROJECT SUMMARY**

Name(s) Kelly E. Gomez	Project Number J0314
Project Title Memory Matters: Who Has a Better Memory: Elementary or Middle School Students?	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals My science fair experiment was to measure the differences in the ability to memorize numbers, images and lists from elementary aged students to middle school students. In order to measure memory in these students, I recruited volunteers from ages 6-9 (elementary students) and ages 10-13 (middle school students) and ran them through a series of tests.</p> <p>Methods/Materials The first three tests were on memorizing a series of numbers. The last two tests were on memorizing a list of words and series of images. When I tested them, they were to study numbers for 15 seconds, I then had them hold up their pencils for 15 seconds to allow the same amount of time to pass. This time was used to allow the students to store the information in their short term memory. Then they were asked to write down what they remembered. When they viewed a list of words that contained ten words and a series of images that contained nine images, I had them study and store information for 30 seconds.</p> <p>Results I will refer to the elementary aged students as Group A and I will refer to the middle school students as Group B. In test #1 a two digit number was viewed. Group B had a 100% recall rate and Group A a 81% rate. In test #2 a four digit number was viewed. Group B had a 100% recall rate and Group A had a 81% recall rate. In test #3, the students were shown a six digit number. Group B had a 43% recall rate and Group A had a 18% recall rate. In test #4, the students were shown nine images. Group A had a 61% recall rate, Group B a 71% recall rate. In test #5, students viewed a list of 10 words. Group B had a 70% recall rate and Group A had a 60% recall rate.</p> <p>Conclusions/Discussion The test results reflected what my background information had suggested. The older students, when the results were averaged out, were able to recall numbers with more digits more readily than the younger students. The older students, when the results were averaged were able to recall a larger number of words and images than the younger students. My question was answered. The brain capacity does grow from elementary aged students to middle school students, therefore middle school students have better memory than elementary students.</p>	
Summary Statement My project tested and measured the short term memory of elementary and middle school students.	
Help Received My mother helped with editing and photography; Extended care students at San Carlos school participated in memory tests.	