



**CALIFORNIA STATE SCIENCE FAIR  
2011 PROJECT SUMMARY**

<b>Name(s)</b> <b>Devon N. Anable</b>	<b>Project Number</b> <b>J0702</b>
<b>Project Title</b> <b>Technology: Could It Compromise Human Memory?</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> The objective is to determine if memory is affected by recording information on a keyboard versus handwriting. This study is particularly relevant in today's society, as keyboarding has rapidly become an every day activity for most people. I believe that subjects will remember words better after writing than after typing.</p> <p><b>Methods/Materials</b> Thirty subjects were informed of what I was testing for and completed a total of six trials each. Each trial consisted of 10 four or five letter words, which had been randomly selected from third grade spelling lists and were read out loud to the subjects at 3-second intervals. Subjects recorded the words either by handwriting or typing them and were then given 30 seconds to verbally recall as many words as possible. The data was carefully recorded and analyzed.</p> <p><b>Results</b> Recall was significantly higher for writing trials than for typing. Subjects recalled an average of 6.44 words after writing and 5.86 words after typing. In addition, there was a noted difference in results for adult subjects versus youth subjects, with adults recalling an average of 1.05 more words in the writing trials than in the typing trials, and youths recalling an average of just .13 more words in the writing trials than in the typing trials.</p> <p><b>Conclusions/Discussion</b> The results support the hypothesis that writing helps people remember information better than typing does. Further analysis found that the disparity between words remembered in typing and writing trials was nearly ten times larger in the adult subject group than in the youth group. All of the subjects who expressed a preference for the keyboard were youths and whether or not a subject is comfortable with the mechanics of the note taking does seem to have an effect on their ability to memorize the material and warrants further study. The more complicated processes involved with handwriting were found to aid with memory in both subject groups.</p>	
<b>Summary Statement</b> I want to know if typing effects memory differently than writing does.	
<b>Help Received</b> Parents helped with timing of subjects, Mother proofread write-up	