



**CALIFORNIA STATE SCIENCE FAIR  
2005 PROJECT SUMMARY**

<b>Name(s)</b> <b>Jaron A. Mercer</b>	<b>Project Number</b> <b>J0324</b>
<b>Project Title</b> <b>Eye Dominance in Depth Perception</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> The purpose of my experiment was to determine whether the dominant or recessive eye is better in depth perception. After background research, I learned that based purely on sight abilities, neither eye is necessarily better than the other. Though I learned that both eyes were the same, I ended up hypothesizing that the dominant eye would have an advantage in depth perception because it would be more accustomed to being used alone.</p> <p><b>Methods/Materials</b> I constructed a testing box to actually measure depth perception. The box consisted of two poles that could slide back and forth (students would attempt to align them with one eye closed) and rulers on either side (to measure depth perception and put it into numbers). The test consisted of two steps: determining the dominant and recessive eye, and gauging the depth perception abilities of each one.</p> <p><b>Results</b> After compiling all of the data, my test said that the recessive eye had better results than the dominant. The recessive eye, on average, was 2.3 cm off on the alignment, where the dominant was about 3.1 cm.</p> <p><b>Conclusions/Discussion</b> In the end, I concluded on matters I never anticipated my project would involve. I could not find a scientific explanation as to why the recessive eye would be better at depth perception, but I did notice that nearly all the subjects chose to use their dominant eye first. Then when asked to use their recessive eye, I believe they were more practiced with the test itself and performed better. This suggests that perhaps depth perception can actually be practiced, learned, and improved. I also noticed another pattern in the data: the older and more mature the subjects grew, the better their results. This seemed to note that possibly, if the subject range was expanded, the data may show an increase in the ability of depth perception in subjects as they matured, and then a gradual decrease as they aged. Before the day of the state fair, I will expand my subject range to include 2nd and 3rd grade.</p>	
<b>Summary Statement</b> I initially set out to see if the dominant eye was better at depth perception, and ended up discovering that perhaps depth perception can be learned and improved.	
<b>Help Received</b> Parents helped gather materials for box; Teachers at Julian Elementary School allowed me to pass out permission slips and test students during school.	