



**CALIFORNIA STATE SCIENCE FAIR  
2005 PROJECT SUMMARY**

<b>Name(s)</b> Shannon L. McCarthy	<b>Project Number</b> <b>J0323</b>
<b>Project Title</b> <b>Who Has the Upper Hand?</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> The brain is transfused so that left-handed people are right-brained and right-handed people are left-brained. It has been a controversy between scientists whether there is a correlation between the two hemispheres of the brain, and the ability to have an advantage in mathematics. It was my goal to see whether there is an advantage for left-handed students as thought by some scientists, or whether this is a common myth.</p> <p><b>Methods/Materials</b> For this project, the students were given 20 min, for 20 problem test, which is a short amount of time to see which problems the students would try to solve in that time. I used 80 students, 20 left-handed girls, 20 left-handed boys and the same amount for the genders of the opposite hand.</p> <p><b>Results</b> When the left-handed girls compared to the right-handed girls, the lefties got about 4 problems more correct per test whereas for the boys, the right-handed boys did better than the left-handed boys by about 1 problem. When looking at the two handed students altogether (without gender comparison) the lefties did better per test by about 1 problem. Observing how the two handed subjects completed their tests, the left-handed students did the problems in order, which was clear because of the limited amount of time they were given. All of the problems they did not solve were at the end. The right-handed students did the problems out of order, completing the problems with similarities between them first.</p> <p><b>Conclusions/Discussion</b> In conclusion, it was clear that the left-handed subjects had a slight advantage as a whole, but what was amazing was the difference in test scores between the girls. It was also clear that left-handed students learn mathematics in a different way than right-handed students. This was seen because left-handed students learn whole concepts, whereas right-handed students learn chunks of information at a time. This may influence the way that math is taught by teachers in schools.</p>	
<b>Summary Statement</b> Whether handedness correlates with an advantage in mathematics.	
<b>Help Received</b> Math teachers helped to distribute tests to students; Science teacher helped to find students to test	