



**CALIFORNIA STATE SCIENCE FAIR
2007 PROJECT SUMMARY**

Name(s) Sven F. Bomer	Project Number J0605
Project Title Juggling: Which Learn Faster, Left-handers, or Right-handers?	
Abstract Objectives/Goals The objective of this project was to learn about the art of juggling. Especially in comparison to other sports, juggling is relatively unexplored, and this project was designed to help jugglers learn more about this pastime. In addition, it may also help obtain more information about the functions of the brain, and about juggling in relation to handedness. Methods/Materials During the experimentation phase of this project, 15 left-handers and 15 right-handers (based on the hand used for writing) were tested. They received the same instructions and introductions to juggling, and time to practice. Each person received three homemade juggling balls, each consisting of ½ a cup of rice in a plastic bag with two balloons wrapped around. After practicing, the participants recorded the data on the forms handed out. Results Once the data was recorded and organized, it was clear that there was virtually no difference in the juggling abilities of the left and right-handed subjects. The subjects had varied data, but most of them, both left and right-handed, had results of a 0-2 catch improvement. The results showed that the average for left-handers was 5.33 catches and 5.625 for right-handers, a difference of less than 0.3 catches. Conclusions/Discussion The results clearly matched the hypothesis from the beginning of the experiment. There was only a miniscule difference in the averages, almost certainly caused by the small test size, showing that left and right-handers have equal juggling abilities. This suggests that juggling requires both hemishperes of the brain, making it a dual-brain activity.	
Summary Statement In my project, I investigated the learning abilities of left and right-handed subjects while juggling.	
Help Received My mom drove me around numerous times for all of the supplies, and my dad helped me figure out how to use Microsoft Excel to graph all of the data. Mr. Morrow, my PE teacher, helped by taking time out of two of his classes, and most importantly, Mrs. Gillum helped by guiding me through the project.	