



**CALIFORNIA STATE SCIENCE FAIR
2008 PROJECT SUMMARY**

Name(s) Ashton W. Pomrehn	Project Number J1127
Project Title Crossed Hand-Eye Dominance: How Does It Affect Free-Throw Shooting?	
Abstract Objectives/Goals My project was to determine whether crossed hand-eye dominance has an effect on free-throw shooting. Methods/Materials I received the help of three subject groups with different levels of free-throw shooting experience: highly skilled, medium-skilled, and unskilled. For each participant I tested which eye was dominant, which hand was dominant, and the number of free throws made out of 15 tries. I calculated the average free-throw shooting percentage for each participant, separated the crossed hand-eye from the congruent hand-eye dominant participants, then calculated the average free-throw shooting percentage for each group by adding the percentages together and dividing by the number of participants in the group. Results My hypothesis was proven correct in the highly skilled and medium-skilled groups. In the lowest skilled group, the congruent (same-sided) hand-eye dominant participants had the higher average free-throw shooting percentage. Conclusions/Discussion First, I found that crossed hand-eye dominance is not very common. For example, in two of the groups only 6 out of 27 tested were crossed hand-eye dominant. In conclusion, crossed hand-eye dominance seems to have a positive effect on free-throw shooting. However, even where my hypothesis was proven correct, the difference between the groups was not as great as I expected.	
Summary Statement My project explores the effect of crossed hand-eye dominance on shooting free throws.	
Help Received Support from Humboldt State University and Sunny Brae Middle School; Mom helped type, format spreadsheet, and design backboard	